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Appendix 11: Data to support Chapter 18

Biographical notes on contributors

Anthea Boylston has been carrying out contract work on human remains from archaeological sites for the past fourteen years. She has worked for archaeological units all over the country and on collections dating to all periods from the prehistoric to the post-medieval. She was involved in the excavation and post-excavation analysis of the first mass grave from a known battle to be found in Britain. This resulted in a multidisciplinary study in collaboration with members of staff from the Royal Armouries. She recently participated in a project collaborating with the curatorial staff of the Norton Priory Museum and Gardens linking evidence of disease on the skeleton with the medicinal plants utilised for treatment in the medieval period which was televised in the *Hidden Gardens* series on BBC2. Since completing her Master's Degree at the University of Bradford in 1991 Anthea has participated in undergraduate and postgraduate teaching in the Department of Archaeological Sciences and in instructing palaeopathologists from all over the world on short courses in the Biological Anthropology Research Centre laboratory.

Rob Janaway graduated in Archaeological Conservation from University College, Cardiff, in 1979. He worked for the Bath Museums Service and as an Archaeological Conservator at the University of Leeds before joining the staff of Bradford University in 1986, where he is a Lecturer in Archaeological Sciences. Rob has worked on a wide range of archaeological projects both in the field and the laboratory and has a special interest in textiles, taphonomy and materials degradation.

Margaret Judd received her PhD in Anthropology from the University of Alberta (2000), MSc in Osteology, Funerary Archaeology and Paleopathology from the University of Bradford (1994) and BA (Archaeology) from the Wilfrid Laurier University (1993). Following four years of a Postdoctoral Fellowship and a curatorial position with the Department of Ancient Egypt and Sudan at the British Museum, Margaret joined the Department of Anthropology at the University of Pittsburgh in 2004, where she now offers many new courses in Bioarchaeology. Dr Judd excavated extensively in Sudan with the British Museum for ten years, which resulted in the publication of two skeletal reports and numerous refereed journal articles. The analyses found that trauma and osteoarthritis were positively correlated with increased agricultural activity. Methods of distinguishing between multiple injuries due to interpersonal violence and those due to accident were also developed. Dr Judd plans to extend her research on ancient occupational activity and health hazards, particularly among children, into the mining communities of the Ural Mountain region.

James Kenny was educated in Chichester and at Newcastle University. He has worked professionally in archaeology since 1983, first for West Sussex County Council and then for Chichester District Council's Archaeology Unit and its successor the contracting unit Southern Archaeology (Chichester) Ltd. Since 1998 he has been employed as Chichester District Council's Archaeology Officer.

Frances Lee (Yarroll) studied for an MA in Funerary Archaeology and Palaeopathology at the University of Sheffield and then worked as Research Assistant for Dr Keith Manchester, Department of Archaeological Sciences, Bradford. Since moving to Shropshire she has combined working as a freelance osteoarchaeologist with employment at Shropshire Archives developing online resources for lifelong learners. She is now the Education Officer for Shrewsbury Museums Service, developing and delivering archaeological resources for schools.

Mary Lewis is a Lecturer in Palaeohealth at the University of Reading. She obtained an MSc in Osteology, Palaeopathology and Funerary Archaeology (1994) and a PhD in Biological Anthropology (1999) from the University of Bradford. Mary specialises in the study of ancient diseases and in particular, children's skeletal remains. Mary's recent publications include the changing pattern of health of children from rural to industrial environments: *Urbanisation and Child Health in Medieval and Post-Medieval England* (2002), and the personal identification of children in forensic anthropology. She has contributed to scientific journals and books on leprosy, environmental archaeology and forensic anthropology, and is author of *The Bioarchaeology of Children* (Cambridge University Press, 2007).

John Magilton graduated in history and archaeology from Southampton University in 1972. An injury to a colleague made him a reluctant pioneer of medieval cemetery archaeology when in 1973 he became director of excavations for the then newly formed York Archaeological Trust at St Helen-on-the-Walls, York, a site published with Jean D Dawes in 1980 (*The Cemetery of St Helen-on-the-Walls, Aldwark,* The Archaeology of York 7/1). A busy but unspectacular four years at Doncaster Museum was followed by a move to North Warwickshire to direct rescue excavations of a Romano-Celtic temple and settlement at Coleshill in conjunction with Birmingham University's Department of Archaeology. A spin-off from research to write up the site was an MPhil thesis on religion in late Roman Britain, for which he was awarded the University's Constance Naden medal in 1985. After a brief spell

as research associate in Birmingham's Department of Geography he returned to urban archaeology, this time in Lincoln, and moved from there to Chichester as District Archaeologist, in which capacity he was responsible for the excavations reported on in this book as well as a late Roman cemetery published in *Chichester Excavations 8* (1993). The privatisation of the local authority's former archaeological unit as Southern Archaeology, of which he was director, was not ultimately a success and he has been working as a consultant for the last six years, mainly writing up his own backlog excavations and occasionally other people's. He is a member of the Groupe de Göttingen (now Historia Leprosorum), an international body for the study of leprosy in antiquity.

Keith Manchester qualified in medicine at St Bartholomew's Hospital, London, and entered medical practice in Bradford in 1964. In 1978 he was appointed Honorary Visiting Lecturer and Research Fellow in Palaeopathology at the University of Bradford. His specialisation has been in the palaeopathology of leprosy and tuberculosis, based on clinical and radiological experience of the diseases. With research grants from SERC and The Wellcome Trust, he and Charlotte Roberts have conducted research in this specialty and have published widely. He wrote *The Archaeology of Disease*, which appeared in 1983. The 2nd and 3rd editions, co-authored with Charlotte Roberts, were published subsequently in both the UK and USA.

Alan R Ogden trained as a dental surgeon and spent twelve years in general and hospital practice. He was then a Lecturer/Associate Specialist in Restorative Dentistry at Leeds Dental Institute for twenty years, with a special interest in dental implants. After early retirement and a lifelong interest in Archaeology, he trained in Human Osteology and Palaeopathology and has been a Contract Osteologist/Research Fellow at the University of Bradford since 2001. He has run postgraduate courses on *Musculo-Skeletal Anatomy* and *Archaeology of Human Remains*, has lectured regularly on the palaeopathology of teeth and jaws, and been part of the team instructing international palaeopathologists on the biennial short course in the Biological Anthropology Research Centre laboratory. He has produced skeletal reports on human bone assemblages from all periods including Bronze Age burials from the British Museum excavations at Sidon in the Lebanon. Alan is currently writing a chapter on dental palaeopathology for a new advanced textbook and is re-examining 30 neolithic skulls and cremations excavated from barrows in the Yorkshire Wolds by J R Mortimer in the 19th century and preserved in Hull Museum. His special research interests are the palaeopathology of teeth and jaws, facial reconstruction, especially of the mouth, and rhinomaxillary syndrome in leprosy.

Donald Ortner is a biological anthropologist in the Department of Anthropology, National Museum of Natural History, Smithsonian Institution where he has worked during most of his professional career. In 1988 he was appointed a Visiting Professor in the Department of Archaeological Sciences at the University of Bradford. He has been conducting research on disease in archeological human skeletal remains for more than 40 years and is the author of more than 125 scientific papers, many of which are on the subject of human disease. He is the co-author of *Identification of Pathological Conditions in Human Skeletal Remains* (1981), a second edition of which was published by Academic Press in January 2003. He is currently conducting research on the antiquity of infectious diseases, such as tuberculosis and brucellosis, which have domestic animal vectors. His current major book project is completion of a monograph on the human remains from the Early Bronze Age site of Bâb edh-Dhrâ in Jordan. He holds a PhD degree from the University of Kansas and an Honorary DSc degree from the University of Bradford. He has served on several boards and review panels most recently as vice-chairman of the Bioarchaeology Panel of the Wellcome Trust and from 1999 to 2001 was president of the Palaeopathology Association.

Rebecca Storm is currently a PhD research student at the Biological Anthropology Research Centre (BARC), Department of Archaeological Sciences, University of Bradford. Her thesis is entitled *The Human Skeletal Asymmetry: A Biometrical Study of Fluctuating Asymmetry to Assess Health and Social Status of English Populations from the 7th to the 19th Centuries*. She gained BAs from the University of Colorado in Anthropology and History and completed her MSc entitled *Metrical Analysis of Asymmetry and Hand Preference in the Pectoral Girdle and Upper Arm as Observed in the Skeleton* at the University Bradford in 2000. Her research interests include fluctuating asymmetry, biomechanics, forensic anthropology and palaeopathology.

Judi Sture heads the Graduate School at the University of Bradford. She lectures in, and develops, postgraduate research training programmes across the University, and has written on this subject for UKGRAD, the national association for postgraduate research. She received her PhD in Archaeology and Anthropology from the University of Durham in 2001, and her BSc in Archaeology from the University of Bradford in 1997. Judi's PhD focused on developmental defects of the axial skeleton and their associations with environmental factors. Previously, she worked as a registered nurse at various hospitals in the north of England. She is actively engaged in social, educational and health research in the Yorkshire area, and her current projects include *Bradford Babies: Growing Up In Bradford*, a major longitudinal birth cohort study funded by the UK government, the European Union and other sponsors. Judi is building on the findings of her PhD research by investigating developmental defects and environmental factors in Bradford's various ethnic communities via the Bradford Babies project.

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Catalogue of graves

Notes

Column 1 These are skeleton numbers assigned on excavation. Where the remains of more than one individual were subsequently identified in the same grave pit they were numbered 32a, 32b etc.

Column 2 Sex is M = male, F = female, S = subadult, SM = subadult male, U = unclassified.

Column 3 Ages are 0–1, 1–2.5, 2.5–6.5, 6.6–10.5, 10.6–14.5 and 14.6–17 years, A-Y = adult young, A-Mi = adult middle, A-Ma = adult mature and A = adult.

Column 4 Subdivisions of the cemetery, from south-west to north-east (A1, A2, B1, B2).

Column 5 These are the relative stratigraphic positions of graves within each area. I = primary, II = intermediate, III = latest. Note that the latest burials in Area A may well pre-date the earliest in Area B.

Column 6 These are the figure numbers used in this publication to illustrate the burial in question.

Column 7 Diseases resulting in skeletal change noted here are L = leprosy, T = tuberculosis, R = rib lesions, S = syphilis.

Column 8 The presence of nails assumed to be from coffins.

Column 9 All other finds in grave pits. They are more fully described in Chapter 8, which records small finds, some probably disturbed from graves, in all contexts. EM **=** 'ear muff' stones.

Column 10 Burial positions: A, Arms straight by sides; B, Hands below chin, as if in prayer; C, Arms folded across body; D, Hands in pelvic region, wrists sometimes crossed (totals, excluding hybrids: A=31 (15%), B=10 (5%), C=105 (54%), D=48 (26%).

Column 11 Coffin shapes: A, rectangular; B, shaped.

1	2	3	4	5	6	7	8	9	10	11
No	**Sex**	**Age**	**Area**	**Phase**	**Figure**	**Disease**	**Coffin nails**	**Other finds**	**Arms**	**Coffin shapes**
1	M	Adult	A2	III	7.15		1			
2	M	Adult Mi-Ma	A2	I	7.13		1		C	
3	M	Adult	A2	?I	7.13		1			
4	M	Adult	A2	III	7.15	L	–		D	
5	M	Adult Y-Mi	B1	I	7.17		–		D	
6	M	Adult Mi	A2	II	7.14		10			
7	M	Adult Ma	A2	I	7.13		–			
8	M	Adult Y	A2	I	7.13	LR	1			
9	M	Adult Y	A2	III	7.15	L	2		D	
10	M	Adult Mi-Ma	A2	I	7.13	L	1		C	
11	M	Adult Ma	A2	III	7.15		2			
12	M	Adult Ma	A2	I	7.13	?L	–			
13	M	Adult Ma	A2	III	7.15		3			
14	M	Adult	A2	III	7.15		–			
15	M	Adult Mi	A2	II	7.14		7			
16	?F	Adult	A2	?II	7.14		–			
17	U	Adult	A2	I	7.13	L	1			
18	M	Adult Ma	A2	III	7.15	R	1		D	
19	M	Adult Y-Mi	A2	III	7.15	L	9		C	A
20	M	Adult Mi	A2	I	7.13		–			
21	M	Adult Y	A2	II	7.14	L	22		C	B
22	M	Adult Y	A2	III	7.15	L	–		C	
23	M	Adult Ma	A2	I	7.13		2		D	
24	M	Adult Ma	A2	III	7.15	L	2			

1	2	3	4	5	6	7	8	9	10	11
No	**Sex**	**Age**	**Area**	**Phase**	**Figure**	**Disease**	**Coffin nails**	**Other finds**	**Arms**	**Coffin shapes**
25	M	Adult Ma	A2	III	7.15		–	lace tag	C	
26	M	Adult Mi	A2	III	7.15	LR	–			
27	?M	Adult Ma	A2	II	7.14		–			
28	M	Adult Mi-Ma	A2	I	7.13		–	wood	CD	
29	?F	Adult Y	A2	?II	7.14		–			
30	F	Adult Ma	A2	III	7.15		4			
31	M	Adult Y	A2	III	7.15	LR	–			
32a	?M	Adult Mi	A2	?	7.15, 7.16		1			
32b	M	Adult	A2	III	7.15, 7.16	?L	–			
33	?M	Adult Mi	A2	II	7.14, 7.16	L	1			
34	?M	Adult Y	A2	II	7.14, 7.16	L	–			
35	M	Adult Mi	A2	III	7.15, 7.16	L	–			
36	U	Adult	A2	III	7.15, 7.16		–			
37	?M	Adult	A2	I	7.13		–			
38	F	Adult Y	A2	III	7.15		1		A	
39	F	Adult Y	B2	I	7.17		10	EM	D	
40	F	Adult Ma	B2	I	7.17	?L	20	EM	D	
41	M	Adult Y	B2	I	7.17		9	EM	C	
42	F	Adult Ma	B2	I	7.17		–			
43	?M	Adult Y-Mi	B2	I	7.17		–	EM	B	
44	M	Adult Mi	B2	I	7.17	L	–		C	
45	M	Adult Ma	B2	I	7.17		15	EM	CD	
46	M	Adult Ma	A2	III	7.15		–		C	
47	M	Adult Y	A2	II	7.14	L	2			
48	M	Adult Ma	A2	III	7.15	L	3		C	
49	M	Adult Mi	A2	III	7.15		1			
50	M	Adult Mi	A2	III	7.15	L	19	EM	C	A
51	M	Adult	A2	II	7.14	?L	1			
52	U	Adult	A2	III	7.15		–			
53	S	6.6–10.5	A2	II	7.14	TR	–		D	
54	F	Adult Ma	B2	I	7.17	L	1		D	
55	M	Adult Ma	A2	III	7.15		–		A	
56	M	Adult Ma	A2	III	7.15		6		CD	
57	M	Adult Ma	A2	I	7.13		–			
58	M	Adult Mi	A2	I	7.13	L	–		A	
59	U	Adult	A2	II	7.14		–			
60	U	Adult Y	A2	III	7.15		–			
61	M	Adult Mi	A2	III	7.15	?L	4		A	
62	U	Adult	A2	I	7.13	L	–			
63	M	Adult Ma	A2	III	7.15		2		C	
64	M	Adult Y	A2	II	7.14	L	7		C	
65	?M	Adult Mi	B2	I	7.17		35	EM	C	A
66	M	Adult Ma	A2	III	7.15		–			
67a	S	0–1	B2	I	7.17		9		A	B

1	2	3	4	5	6	7	8	9	10	11
No	**Sex**	**Age**	**Area**	**Phase**	**Figure**	**Disease**	**Coffin nails**	**Other finds**	**Arms**	**Coffin shapes**
67b	S	1–2.5	B2	I						
68	S	0–1	B2	I	7.17		4		A	
69	S	1–2.5	B2	I	7.17		11		C	A
70	U	Adult	A2	I	7.13	L	–			
71	U	Adult Ma	A2	III	7.15		–			
72	?M	Adult Ma	A2	III	7.5, 7.15		–		C	
73	M	Adult Mi-Ma	A2	II	7.14		1		C	
74	M	Adult Mi-Ma	A2	I	7.13	L	–			
75	M	Adult Ma	A2	I	7.13		–	pin		
76	F	Adult Ma	B2	I	7.17		20	EM	C	A
77	?F	Adult Ma	A2	II	7.14	LS	11		C	B
78	M	Adult Y-Mi	A2	I	7.13	L	–		C	
79	M	Adult Ma	A2	I	7.13		–		B	
80	S	1–2.5	B2	I	7.17		4			B
81	M	Adult Ma	B2	I	7.17		–		C	
82	M	Adult Ma	B2	I	7.17		2	buckle		
83	M	Adult Mi	A2	I	7.13	L	9		A	
84	M	Adult Ma	A2	I	7.13		1		C	
85	F	Adult Mi-Ma	B2	I	7.17	L	2			
86	S	2.5–6.5	B2	I	7.17		–			
87	F	A–Ma	B2	I	7.17		2	EM		
88	M	Adult Y-Mi	A2	I	7.13	L	1		C	
89	M	Adult Mi	B2	I	7.17		2			
90	S	14.6–17	B2	I	7.17		–		C	
91	M	Adult Y	B1	I	7.17		–			
92	F	Adult Y-Mi	B1	I	7.17		9		C	A
93	S	2.5–6.5	B1	I	7.17		10			A
94	F	Adult Ma	B1	I	7.17		–	lace tag	C	
95	S	1–2.5	B1	I	7.17		1			
96	S	0–1	B1	I	7.17		–			
97	S	1–2.5	B1	I	7.17		–			
98	M	Adult Y-Mi	B1	III	7.19		–		A	
99	S	0–1	B1	I	7.17		5			
100	M	Adult Y	B1	I	7.17		17			A
101	U	Adult	B2	?I	7.17		1			
102	S	2.5–6.5	B2	?I	7.17		3			
103	S	?	B1	I	7.17		–			
104	?M	Adult Mi-Ma	B1	I	7.17	T	14		C	
105	S	1–2.5	B1	I	7.17		7			B
106	S?M	14.6–17	B2	I	7.17	?TR	3		C	
107	S	1–2.5	B1	I	7.17		14			
108	F	Adult Mi	B1	I	7.17		26	Stone; EM	C	A
109	M	Adult Mi	B2	I	7.17		7	EM	C	
110	S	1–2.5	B1	I	7.17		10			

1	2	3	4	5	6	7	8	9	10	11
No	**Sex**	**Age**	**Area**	**Phase**	**Figure**	**Disease**	**Coffin nails**	**Other finds**	**Arms**	**Coffin shapes**
111	?M	Adult Ma	B2	I	7.17		–			
112	S	2.5–6.5	B1	I	7.17		17			B
113a	M	Adult	B1	III	7.19		–			
113b	S	6.6–10.5	B1				–			
113c	M	Adult	B1				–			
114	S	2.5–6.5	B1	I	7.17		13			
115	M	Adult Ma	A2	II	7.3, 7.4, 7.14	L	–		A	
116	S	1–2.5	B1	I	7.17		8			
117	M	Adult Ma	B1	I	7.17	L	3		C	
118	M	Adult Y	B1	II	7.18		–	pin		
119	F	Adult Y	B1	III	7.19		15		A	
120	S	1–2.5	B1	I	7.17		15			B
121	S	2.5–6.5	B2	III	7.19	R	6			
122	S	6.6–10.5	B1	I	7.17		1			
123	M	Adult Ma	B1	I	7.17		1			
124	F	Adult Y	B1	III	7.19		26	buckle	D	B
125	S	2.5–6.5	B1	I	7.17		5			B
126	M	Adult Ma	B2	I	7.17		30		BC	A
127	S	1–2.5	B1	I	7.17		5			
128	M	Adult Mi-Ma	A2	II	7.6	L	–		C	
129	M	Adult Y-Mi	B1	III	7.19		2		C	
130a	?M	Adult	B1	I	7.17		–			
130b	S	10.6–14.5	B1	I	7.17		–			
131	F	Adult Mi-Ma	B2	I	7.17		1	EM	C	
132	S	2.5–6.5	B1	I	7.17		8	peg tile		
133	F	Adult Y	B1	I	7.17		–			
134	M	Adult Mi-Ma	B2	I	7.17		17		C	B
135	F	Adult Y-Mi	A2	I	7.1, 7.13		26		A	B
136	F	Adult Mi	B2	III	7.19		2		B	
137a	F	Adult Ma	A2	III	7.15	T	–			
137b	M	Adult Mi	A2	III	7.15		–	pin	C	
137c	M	Adult	A2	III	7.15		–			
138	F	Adult Y	B1	II	7.18		7		B	
139	F	Adult Mi-Ma	B2	I	7.17		12	EM	D	A
140	S	2.5–6.5	B2	I	7.17		3			
141	M	Adult Mi	B2	I	7.17		6	EM	C	
142	F	Adult Mi	B2	I	7.17	R	3	EM	C	
143	M	Adult Mi-Ma	B2	I	7.17		5	EM		
144	F	Adult Ma	B1	III	7.19	L	8	3 pins	A	
145	M	Adult Y-Mi	A2	III	7.15, 7.32		14	pin	A	B
146	M	Adult Y-Mi	A2	II	7.14	R	–		C	
147	M	Adult	B1	I	7.17		7			
148	M	Adult Y	A2	II	7.14	LR	–		A	
149	M	Adult Ma	B2	I	7.17		15	EM	D	A

1	2	3	4	5	6	7	8	9	10	11
No	**Sex**	**Age**	**Area**	**Phase**	**Figure**	**Disease**	**Coffin nails**	**Other finds**	**Arms**	**Coffin shapes**
150	F	Adult Ma	B2	I	7.17	TR	13	EM	C	
151	?F	Adult Ma	B2	I	7.17	L	–		B	
152	S	2.5–6.5	B2	I	7.17		8			
153	S	10.6–14.5	B2	I	7.17		–			
154	S	1–2.5	B1	II	7.18		16			
155	F	Adult Ma	A2	?I	7.13		17			
156	S	1–2.5	B1	I	7.17		9			
157	M	Adult Ma	B2	I	7.17		–	EM	A	
158	M	Adult Y	A2	II	7.14	L	2		C	
159	S	1–2.5	B1	?I	7.17		10			
160	F	Adult Mi	B1	I	7.17		13	EM	C	
161	S	1–2.5	B1	I	7.17		1			
162	S	1–2.5	B1	I	7.17		–			
163	S	6.6–10.5	B1	II	7.18		3		A	
164	S	1–2.5	B1	I	7.17		5			
165	M	Adult Ma	B2	I	7.17	L	–	EM	D	
166	S	6.6–10.5	B2	I	7.17		–		D	
167	M	Adult Y	B2	I	7.17	?L	1		D	
168	?F	Adult Ma	B1	I	7.17		–		C	
169	S	1–2.5	B1	I	7.17		–			
170	S	6.6–10.5	B1	II	7.18		–			
171a	F	Adult Ma	B1	III	7.19		2		A	
171b	U?M	Adult Mi-Ma	B1	III	7.19					
172	M	Adult Mi-Ma	B2	I	7.17		–		A	
173	S	2.5–6.5	B2	III	7.19		6			
174	F	Adult Mi-Ma	B2	I	7.17		15		C	
175	M	Adult Ma	B1	I	7.17		1	pin		
176	F	Adult Mi-Ma	A2	I	7.1, 7.13		5	8 pins		
177	F	Adult Y	B1	II	7.18		7	pin	AD	
178	M	Adult Ma	B1	I	7.17		1			
179	S	2.5–6.5	B2	III	7.19		5			
180	S	2.5–6.5	B1	I	7.17		1			
181	S	6.6–10.5	B2	I	7.17		7			
182	S	6.6–10.5	B2	III	7.19		5			
183	S	?	B1	III	7.19		–			
184	F	Adult Mi	BI	III	7.19		2		B	
185	?M	Adult Ma	B1	II	7.18		–			
186	?F	Adult Y	B1	III	7.19		–		C	
187	M	Adult Y	B2	I	7.17	LR	2		C	
188	S	1–2.5	B2	I	7.17		–	EM		
189	F	Adult Ma	B2	I	7.17		6		C	
190	F	Adult Mi	B2	I	7.17		11		BC	A
191	S	0–1	B1	I	7.17		8			
192	S	6.6–10.5	B1	I	7.17		13			

1	2	3	4	5	6	7	8	9	10	11
No	**Sex**	**Age**	**Area**	**Phase**	**Figure**	**Disease**	**Coffin nails**	**Other finds**	**Arms**	**Coffin shapes**
193	M	Adult Ma	B2	I	7.17		5	EM	C	
194	S	6.6–10.5	B1	II	7.18		–			
195	M	Adult Y	B1	I	7.17	L	8			
196	M	Adult Ma	B2	I	7.17	L	8	EM	C	
197	?M	Adult Y	B2	I	7.17	R	8			
198	M	Adult Y-Mi	B1	I	7.17		3		C	
199	M	Adult Mi	B1	I	7.17	?L	16	EM	A	B
200	S	10.6–14.5	B2	I	7.17		13	EM	C	B
201	M	Adult Ma	B2	I	7.17		10		C	
202	?F	Adult Mi	B1	III	7.19	L	16		A	
203	U	Adult Mi-Ma	B2	III	7.19	?T	1			
204	S	1–2.5	B1	I	7.17		17			A
205	F	Adult Mi-Ma	B2	I	7.17		11		D	B
206	S	2.5–6.5	B1	I	7.17		15	EM	D	
207	S	?	B1	?II	7.18		1			
208	F	Adult Mi-Ma	B2	I	7.17		8			
209	M	Adult Y	B2	I	7.17		30		B	B
210	S	2.5–6.5	B2	I	7.17		11			
211	S	10.6–14.5	B2	I	7.17	?T	5		A	
212	S	6.6–10.5	B2	I	7.17		12		C	A
213	S	0–1	B2	I	7.17		15			
214	F	Adult Mi	B2	I	7.17		4		C	
215	S	6.6–10.5	B2	I	7.17		10		D	
216	M	Adult Mi-Ma	B2	I	7.17		6		C	A
217	F	Adult Mi	B1	I	7.17		7		C	
218	S	6.6–10.5	B1	I	7.17		5		C	
219	S	0–1	B2	I	7.17		5			
220	S	6.6–10.5	B2	I	7.17		10	EM		A
221	S	2.5–6.5	B2	I	7.17		7			B
222	F	Adult Ma	B2	I	7.17		20		C	
223	U	Adult Ma	B2	I	7.17		4		D	
224	S	1–2.5	B1	I	7.17		3			
225	M	Adult Mi	B2	I	7.17		1		C	
226	S	10.6–14.5	B2	I	7.17		14	EM	C	A
227	?M	Adult	B1	?I	7.17	?L	–			
228	S	6.6–10.5	B2	I	7.17	R	8		D	
229	F	Adult	B1	I	7.17		4			B
230	F	Adult Y-Mi	B1	I	7.17		34			
231	S	2.5–6.5	B2	I	7.17		–			
232	S	2.5–6.5	B2	I	7.17		4			
233	M	Adult Y	B2	I	7.17		4	EM	C	
234	U	Adult	B1	II	7.18		8			
235	M	Adult	B1	I	7.17	L	–			
236	F	Adult Ma	B2	I	7.17		9		D	

1	2	3	4	5	6	7	8	9	10	11
No	**Sex**	**Age**	**Area**	**Phase**	**Figure**	**Disease**	**Coffin nails**	**Other finds**	**Arms**	**Coffin shapes**
237	S	2.5–6.5	B2	I	7.17		7	EM	C	
238	F	Adult Y	B2	I	7.17		14	EM	C	
239	F	Adult Y-Mi	B2	I	7.17	?TR	9	EM		
240	S	10.6–14.5	B1	I	7.17		6			A
241	M	Adult Mi	B2	III	7.19		–		D	
242	S	1–2.5	B2	I	7.17		8			
243	?M	Adult Mi	B1	II	7.18		–			
244	M	Adult Ma	B1	III	7.19		–	buckle	D	
245	S	2.5–6.5	B2	I	7.17		10			
246	?M	Adult Mi-Ma	B2	I	7.17		–		C	
247	M	Adult Mi	B2	I	7.17		–			
248	S	0–1	B2	I	7.17		–			
249	S	2.5–6.5	B2	I	7.17		3	EM		
250	F	Adult Mi	B2	I	7.17		30	EM	C	B
251	?F	Adult Mi	B1	I	7.17, 7.37	L	4	EM	D	
252	F	Adult Ma	B2	I	7.17		17		C	
253	M	Adult Ma	B2	I	7.17		16			
254	M	Adult Mi	B2	I	7.17		21	Roman tile; EM		A
255	M	Adult Y	B1	I	7.17		7	EM		
256	M	Adult Y	B2	III	7.19		23	cross		
257	F	Adult Y	B2	I	7.17		20	Roman coin	C	
258	S?M	14.6–17	B2	II	7.18		–			
259	M	Adult Y	B2	I	7.17		20			
260	F	Adult Ma	B2	I	7.17		8			
261	?F	Adult Mi	B2	I	7.17		9	EM	C	
262	S	0–1	B1	?I	7.17		5			
263	S	2.5–6.5	B2	I	7.17		6			
264	F	Adult Ma	B2	I	7.17		20			A
265	F	Adult Mi	B1	I	7.17		13		C	
266	S	0–1	B2	I	7.17		7			
267	?M	Adult Mi	B2	I	7.17		20	wire	D	
268	M	Adult Y	B1	?III	7.19		8	EM	C	B
269	S	10.6–14.5	B2	I	7.17		5		C	
270	S	0–1	B2	I	7.17		12			
271	?M	Adult Mi	B2	I	7.17		24	EM	D	B
272	F	Adult Y	B2	I	7.17		1			
273	M	Adult Ma	B2	I	7.17	L	–		C	
274	F	Adult Ma	B2	I	7.17	?L	9		D	
275	M	Adult Y	B2	I	7.17	?L	6		D	B
276	M	Adult Mi	B2	I	7.17		20		C	
277	?M	Adult Y	B1	I	7.17	S	–		D	
278	S	10.6–14.5	B2	I	7.17	?T	9			B
279	F	Adult Ma	B2	I	7.17		–		C	

1	2	3	4	5	6	7	8	9	10	11
No	**Sex**	**Age**	**Area**	**Phase**	**Figure**	**Disease**	**Coffin nails**	**Other finds**	**Arms**	**Coffin shapes**
280	M	Adult Mi	B2	I	7.17		12		C	
281	S	0–1	B2	I	7.17		6	wood; EM		
282	M	Adult Mi	B2	I	7.17		7		D	B
283	F	Adult Mi	B2	I	7.17		–			
284	F	A Ma	B2	I	7.17		18	EM	C	B
285	S	6.6–10.5	B2	I	7.17		17		C	B
286	?F	Adult	B1	I	7.17		13			
287	M	Adult Ma	B2	I	7.17		10		C	A
288	F	Adult Ma	B2	I	7.17		15		D	
289	?M	Adult	B2	I	7.17		21			
290	M	Adult Mi	B2	I	7.17		8		A	B
291	M	Adult Y	B2	I	7.17	L?T	–		C	
292	M	Adult Y	B2	I	7.17		3		C	
293	S	10.6–14.5	B2	I	7.17		7		C	
294	S	10.6–14.5	B2	I	7.17		24		C	
295	M	Adult Y-Mi	B2	I	7.17	R	9	EM	CD	
296	S	2.5–6.5	B2	I	7.17		6		C	
297	S	6.5–10.5	B2	I	7.17		5	lace tag?	C	
298	F	Adult Mi	B2	I	7.17		10		C	B
299	F	Adult Y-Mi	B2	I	7.17	L	11	EM	C	B
300	M	Adult Ma	B2	I	7.17		12	EM	A	
301	F	Adult Ma	B2	I	7.17	L	–		C	
302	S	1–2.5	B2	I	7.17		–			
303	S	0–1	B2	I	7.17		8			
304	F	Adult Ma	B2	I	7.17		–		AD	
305	?F	Adult	B2	I	7.17		15			A
306	F	Adult Mi	B2	I	7.17	L	18			
307	F	Adult Ma	B2	I	7.17	TR	4	EM	D	
308	S	2.5–6.5	B2	I	7.17		10	EM		
309	F	Adult Ma	B2	I	7.17		11			B
310	S	2.5–6.5	B2	I	7.17		4			
311a	F	Adult Y	B2	I	7.17		25	EM	C	
311b	M	Adult Y	B2	I						
312	SM	14.6–17	B2	I	7.17		13		D	A
313a	S?M	10.6–14.5	B2	I	7.17		4		A	
313b	F	Adult Ma	B2	I						
313c	M	Adult Y	B2	I						
314	?M	Adult Y-Mi	B2	I	7.17	R	17	EM	D	
315	M	Adult Ma	B2	I	7.17		7		A	B
316	M	Adult Y	B2	I	7.17		8		C	
317	M	Adult Mi	B2	I	7.17		6	EM	C	
318	S	0–1	B2	I	7.17		–			
319	SM	14.6–17	B2	I	7.17		–			
320	S	2.5–6.5	B2	I	7.17		5			

1	2	3	4	5	6	7	8	9	10	11
No	**Sex**	**Age**	**Area**	**Phase**	**Figure**	**Disease**	**Coffin nails**	**Other finds**	**Arms**	**Coffin shapes**
321	S	0–1	B2	I	7.17		10			
322	S	0–1	B2	I	7.17		10			A
323	S	0–1	B2	I	7.17		12			B
324	S	1–2.5	B2	I	7.17		–			
325	M	Adult Y-Mi	B2	I	7.17	LR	10		C	
326	M	Adult Mi	B2	I	7.17, 7.35		1	EM	B	
327	F	Adult Mi	B2	I	7.17		–		C	
328	M	Adult Y	B2	I	7.17		4		D	
329	M	Adult Y-Mi	B2	I	7.17		–			
330	M	Adult Ma	B2	I	7.17	L	–		C	
331	M	Adult ?Mi	A2	I	7.13	?TR	–			
332	M	Adult Mi-Ma	A1	I	7.13, 7.32	L	–		A	
333	M	Adult Ma	A1	I	7.13		1		A	
334	S	14.6–17	A1	?I	7.13		–			
335	M	Adult Ma	A2	I	7.13, 7.33		6		C	
336	M	Adult Mi	A2	I	7.13	L	3			
337	M	Adult Ma	A1	III	7.15		–		A	
338	M	Adult Y	A1	I	7.13	L	8			
339	F	Adult Y	A1	I	7.13	L	3		C	
340	M	Adult Y	A2	I	7.13	L	14		D	B
341	?M	Adult Y	A1	I	7.13	LR	–		D	
342	M	Adult Mi-Ma	A1	I	7.13	L	–			
343	U	Adult Ma	A1	I	7.13	S	–		D	
344	M	Adult Y	A1	I	7.13		2		C	
345	M	Adult Mi	A1	I	7.13	L	21		CD	B
346	M	Adult Y-Mi	A1	I	7.13	L	5	?EM	A	B
347	M	Adult Y	A1	III	7.15	L	4			
348	M	Adult Mi-Ma	A1	III	7.15	?L	–		C	
349	M	Adult Ma	A1	I	7.13		11	EM	C	A
350	M	Adult Y-Mi	A1	I	7.13	L	9		C	A
351	M	Adult Y	A1	I	7.13	L	–		D	
352	M	Adult ?Mi	A1	I	7.13	?L	–		A	
353	M	Adult Mi-Ma	A1	II	7.14	L	–	?EM	D	
354	M	Adult Mi	A2	I	7.13	L	–			
355	M	Adult Y	A1	I	7.13		–			
356	M	Adult Ma	A1	II	7.14		–			
357	M	Adult Ma	A1	I	7.13		–		C	
358	?F	Adult Ma	A1	III	7.15		–		C	
359	M	Adult Y	A1	I	7.13	?L	14		C	B
360	?M	Adult Y	A1	I	7.13	L	6		C	
361	M	Adult Ma	A1	I	7.13	?T	–			
362	M	Adult Ma	A1	III	7.15		–		B	
363	M	Adult Ma	A1	I	7.13		–	?EM	D	
364	M	Adult Ma	A1	I	7.13		–		C	

1	2	3	4	5	6	7	8	9	10	11
No	**Sex**	**Age**	**Area**	**Phase**	**Figure**	**Disease**	**Coffin nails**	**Other finds**	**Arms**	**Coffin shapes**
365	F	Adult Y	A1	I	7.13	LR	4	?EM	D	
366	M	Adult Mi-Ma	A1	I	7.13	L	–		D	
367	M	Adult Ma	A1	I	7.13, 7.34	?L	–		D	
368	M	Adult Ma	A1	III	7.15		–	?EM	D	
369	M	Adult Y	A1	I	7.13	L	5		A	
370	?M	Adult Y	A1	I	7.13	?L	8		C	
371	M	Adult Mi	A1	I	7.13	L	4		D	
372	?M	Adult Y-Mi	A1	I	7.13	L	10		B	B
373	M	Adult Mi	A1	I	7.13	L	1		D	
374	M	Adult Y	A1	I	7.13	L	2		D	
375	M	Adult	B2	II			–			
376	M	Adult	B2	II			–			
377	M	Adult Mi	B2	II			–			
378	M	Adult	B2	II		L	–			
379	M	Adult Mi	B2	II			–			
380	M	Adult	B2	II			–			

Catalogue of skeletons

Key to tooth diagrams: U = unerupted; O = erupting; R = root only; X = absent ante-mortem; / = absent post-mortem; A = abscess; C = caries; I = impacted

S1 (A)	SEX: Male.	AGE: Adult.	STATURE: 177.15cm ± 3.37 (5ft 9¾in).

BONE PRESERVATION
Fair. Skull fragmentary. Cervical vertebrae and upper arms are absent.
PATHOLOGY
Developmental: Sacralisation of L5.
Infection: Periosteal reactive bone on L and R tibiae, L fibula, L and R m.tarsals.
Schmorl's nodes: T6–12.
DJD: Early degenerative change to thoracic vertebrae.
Remodelling: Concentric atrophy to phalanges. Claw toe deformity to m.tarsals.

S2 (A)	SEX: Male.	AGE: Adult, middle to mature, 40 years+	STATURE: 172.23cm ±2.99 (5ft 7¾in).

BONE PRESERVATION
Good. Body more or less complete. 5th cervical and small bones of hand and feet absent.
DENTITION

		A			A					A				A	NP
/	/	X	X	X	/	/	/	/	/	/	X	5	X	7	X
X	X	X	5	4	3	2	1	1	2	3	4	X	X	X	X
				c		c	c	c	c	c	c				
									A						

Calculus, periodontal disease, alveolar recession and crowding.
PATHOLOGY
Developmental: Sacralised L6.
Infection: Right maxillary sinusitis. Woven subperiosteal bone to L and R tibiae.
Trauma: Compression fracture of 4th lumbar and R tibia lateral condyle. Oblique fracture 3rd L m.carpal, 2nd and 3rd m.tarsals. Lower cervical vertebrae also show some compression.
Schmorl's nodes: T2–3 and T7–12.
Osteochondritis dissecans: L and R 1st phalanges.
DJD: Spinal: widespread osteoarthritis of the apophyseal joints. Spondylosis of cervical, upper thoracic and lower lumbar vertebrae. Widespread osteoarthritis occurring at elbows, wrists, calcaneocuboid joint and 1st m.tarsal. Erosive lesions to m.carpals. and L and R m.tarsophalangeal joint.
Neoplastic: L humerus – small compact nodule of cortical bone.

S3 (A)	SEX: Male.	AGE: Adult.	STATURE: Undetermined.

BONE PRESERVATION
Poor. The body is very fragmentary and incomplete. The skull, L shoulder and lower arm, R lower leg and feet are all absent.
DENTITION

3	

Calculus.
PATHOLOGY
Hyperostosis: Ossification of costal cartilage.
DJD: L hip – small area of erosion.

Trauma: Compression fracture to 1st lumbar vertebra. R 1st m.carpal – possible subluxation. Soft tissue damage to distal end of L tibia.
ASSOCIATED MATERIAL
Fragments of animal bone ranging from small rodents to cattle/sheep.

S4 (A)	SEX: Male.	AGE: Adult.	STATURE: 177.6cm ± 3.27 (5ft 10in).

BONE PRESERVATION
Fair. The body is incomplete, the skull, thoracic cage, L humerus, ulna and foot are noticeably absent.
DENTITION

			c	c			A					c	c		
X	X	6	5	4	3	X	/	1	X	3	X	5	6	X	X
X	X	X	5	4	3	2	/	/	2	3	4	5	6	X	X
			.								c				
											A				

Periodontal disease, alveolar recession and enamel hypoplasia present. Periosteal reactive bone on the maxilla.
PATHOLOGY
Infection: Maxilla – bone reaction to the palatal aspect only.
Trauma: Ligamentous damage to distal end of L and R tibiae. Enthesopathies Achilles tendon L calcaneum.
Miscellaneous: Depression right of sagittal suture.

S6 (A)	SEX: Male.	AGE: Adult, middle, 30–40 years.	STATURE: Undetermined.

BONE PRESERVATION
Good. Anterior aspect of the skull, upper left arm and phalanges are absent.
DENTITION

													c		
													7		
8	7	6	5	4	/	/	1	/	/	/	4	X	6	7	8
														c	c

Periodontal disease and alveolar recession present.

PATHOLOGY
Infection: Subperiosteal reactive bone to L and R tibiae and fibulae and swelling to the midshaft. L and R 1st m.tarsal and R 5th m.tarsal – subperiosteal reaction.
Schmorl's nodes: T9–L4.
Hyperostosis: Ossification of costal cartilage.
DJD: Degenerative change to L acetabulum

S7 (A)	SEX: Male.	AGE: Adult, mature.	STATURE: Undetermined.

BONE PRESERVATION
Fair/poor. The bone condition is fair but the body very fragmentary and only partially represented. The left leg and arm and right forearm in particular are absent.
DENTITION

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

Periodontal disease and alveolar recession are present.
PATHOLOGY
DJD: Osteophytic new bone to the R scapula, humerus and phalanges of the hand. Osteoarthritis of the left hip (acetabulum). Large vertebral osteophyte projecting from the anterior aspect of 3rd lumbar vertebra.
Hyperostosis: Ossification of the costal cartilage.
ASSOCIATED MATERIAL
Extra fragment of R scapula (? part of **S13** or **S16**). Animal bone, fragment of skull, and an oyster shell. **Context 20** is part of this skeleton.

S8 (A)	SEX: Male.	AGE: Adult, young.	STATURE: Undetermined.

BONE PRESERVATION
Fair. Body incomplete. The skull is absent and upper body fragmentary but the legs are well preserved and mostly complete.
PATHOLOGY
Infection: **Leprosy (LL).** Subperiosteal reaction to tibiae, fibulae, tarsals and m.tarsals. Septic destruction with ankylosis of the L 1st m.tarsal/1st cuneiform joint with secondary arthritis and compression of 1st cuneiform. Concentric remodelling 2 proximal phalanges. Volar groove 1 proximal phalanx.
Non-specific: Widespread subperiosteal reactive new bone – 2 ribs, L ulna, 2nd L m.carpal, L and R femora, L and R tibiae and fibulae, tarsal and m.tarsals.
Trauma: Perimortal trauma to L proximal ulna (2 helical fractures and small cut marks). Spondylolysis – L5. R4th m.tarsal – well-healed fracture of midshaft. Ligamentous damage to distal end of L and R tibiae and fibulae.
Schmorl's nodes: T8 and T9.
DJD: L 3rd m.tarsal – subluxation of 1 phalangeal joint. L 5th m.tarsophalangeal joint – early erosion.
ASSOCIATED MATERIAL
Fragment of animal rib.

S9 (A)	SEX: Male.	AGE: Adult, young, 17–25 years.	STATURE: 168.3cm ± 3.37 (5ft 6¼in).

BONE PRESERVATION
Good/fair. The left forearm is absent and there is post-mortem fragmentation.
DENTITION

8	7	6	5	4	3	/	/	/	2	3	4	5	6	7	NP
NP	7	6	5	4	3	2	1	1	2	3	4	5	6	7	NP

Calculus, alveolar recession moderate. Enamel hypoplasia.
PATHOLOGY
Infection: **Leprosy (LL)**. Rhinomaxillary change: inflammatory change to the palatal and nasal aspect of maxilla with early perforation of the palate. Remodelling of the nasal margins and loss of anterior nasal spine.

Non-specific: L and R tibial shaft – subperiosteal new bone. Low-grade chronic infection visible as erosion to head of L and R 5th m.tarsal.
Trauma: Well-healed fracture to L clavicle.
Schmorl's node (linear): T9.
Degenerative: Osteoarthritis of vertebral facet of T11 and 12. Spondylosis T8–10.
PUBLICATION
Rhinomaxillary changes illustrated in Andersen and Manchester 1992, 124, fig 4 and 127, fig 8.

S10 (A)	SEX: Male.	AGE: Adult, middle to mature, 40 years+	STATURE: 176.5cm ± 4.05 (5ft 9½in).

BONE PRESERVATION
Good/fair. The body is complete but the skull and long bones are fragmentary.
DENTITION

											A				
c			c			c	c		c		c		c	c	c
8	7	X	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

Calculus, alveolar recession, periodontal disease and enamel hypoplasia present.
PATHOLOGY
Developmental: Sacralisation of first coccygeal vertebra.
Infection: **Leprosy (LL).** Rhinomaxillary change: inflammatory change to palatal and nasal aspect of the maxilla.
Non-specific: L and R tibiae and L fibula – subperiosteal reactive bone.
Schmorl's nodes: T6–L1.
Neoplasm: Button osteoma on occipital bone.
DJD: Spinal osteoarthritis to cervical and thoracic vertebrae. Vertebral osteophytosis T12. Osteoarthritis of R acromioclavicular joint. Degenerative change to 3 L ribs and 5 R ribs, and to the left acetabulum.
Hyperostosis: Ossification of costal cartilage.

S11 (A)	SEX: Male.	AGE: Adult, mature, 45 years+	STATURE: 171.5cm ± 4.05 (5ft 7½in)

BONE PRESERVATION
Fair. The body is fragmentary and incomplete. The upper legs are noticeably absent.
DENTITION

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

Periodontal disease and alveolar recession present.
PATHOLOGY
Congenital defect: To the manubrium. Supernumerary vertebra.
Infection: Low-grade septic change to the R 2nd m.tarsal resulting in destruction to the distal artic surface. Diagnosis undecided. Volar groove to single proximal phalanx (hand).
3 proximal phalanges (feet) have concentric remodelling.
Trauma: Fracture 1 L rib. Ligamentous damage to distal end of R tibia and fibula.
Schmorl's nodes: T7–T12 and L3.
DJD: Osteoarthritis of C2–T7. Spondylosis of cervicals, L5 and S1. Osteoarthritis of the R acromioclavicular joint and R elbow. Degenerative change to 4 left and 3 right ribs.
Hyperostosis: Ossification of the costal cartilage. Ossification of the thyroid cartilage.
ASSOCIATED MATERIAL
Oyster shell.

S12 (A)	SEX: Male.	AGE: Adult, mature.	STATURE: 165.8cm ± 3.37 (5ft 5¼in).

BONE PRESERVATION
Good. The body is incomplete: the lower arms hips and trunk absent. The bone is also very porous in appearance.
DENTITION

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

Calculus: Slight. Periodontal disease, alveolar recession.
PATHOLOGY
Infection: **? Leprosy (LL).** Early rhinomaxillary change: inflammatory change to the palate, resorption between the central maxillary incisors. Pitting to the L nasal antrum, and new bone formation to the internal plate of the ethmoid.
Trauma: L fibula – well-healed fracture. Compression fracture of T5.
DJD: Spinal: osteoarthritis of C2–5. **Ankylosing spondylitis** with fusion of C5–7 (bodies and apophyseal joints) with kyphosis (most of spine missing). Ossification of ligaments on extant thoracic vertebrae.
Hyperostosis: Ossification of thyroid cartilage.

S13 (A)	SEX: Male.	AGE: Adult, mature.	STATURE: 167.8cm ± 2.99 (5ft 6in)

BONE PRESERVATION
Good, but the upper part of the body is absent.
PATHOLOGY
Developmental: Sacralised 1st coccygeal vertebra.
Schmorl's nodes: L1–5.
DJD: Osteoarthritis and vertebral osteophytosis of L1–3. Severe hypertrophic osteoarthritis of L and R hips ? secondary to Perthes' disease. Joints are transfixed with the individual forced into a sitting position.
ASSOCIATED MATERIAL
Extra R 2nd m.carpal – adult (?**S16**).

S14 (A)	SEX: Male.	AGE: Adult.	STATURE: 169.9cm ± 2.99 (5ft 6¾in)

BONE PRESERVATION
Good, but the body is incomplete. The pelvis, legs and left forearm only were recovered.
PATHOLOGY
Developmental: Unfused sacralisation of L5.
DJD: Osteoarthritis, spondylosis and vertebral osteophytosis of L4 and 5. Osteoarthritis affecting the R elbow, L wrist and L knee. Early degenerative change to 1st m.carpophalangeal joint, and 3 interphalangeal joints (hand).
ASSOCIATED MATERIAL
Extra L and R innominate, probably male.

S15 (A)	SEX: Male.	AGE: Adult, middle.	STATURE: 166.3cm ± 2.99 (5ft 5½in)

BONE PRESERVATION
Good. Skull, L and R pectoral girdle and upper arm absent.
PATHOLOGY
Developmental: Fused 1st coccygeal vertebra.
Trauma: Ossified subperiosteal haematoma to L tibia, soft tissue trauma at attachment of interosseous ligament of L and R tibia and fibula, and at attachment of semitendinous and long head of biceps on the R innominate.
Schmorl's nodes: T9–L2.
DJD: Osteoarthritis of thoracic, lumbar and 1st sacral vertebrae, also to attachment of 3L and 3R ribs, and to

R 1st m.tarsophalangeal joint. Osteoarthritis of L and R hip joint. Spondylosis T9, L1, L3–sacrum. Osteophytosis to L talus, navicular and cuboid, these would have eventually led to fusion.
Hyperostosis: Ossification of ligaments on m.tarsal shafts.

S16 (A)	SEX: Female?	AGE: Adult.	STATURE: Undetermined.

BONE PRESERVATION
Poor and the body only partially represented: L and R humeri, L ulna, L m.carpals and phalanges, fragments of L and R innominate and femora present.
PATHOLOGY
DJD: Osteoarthritis 12th thoracic. Early degenerative change to the R acetabulum.
ASSOCIATED MATERIAL
Extra R humerus. Animal bone (rib).

S17 (A)	SEX: Unknown.	AGE: Adult.	STATURE: Male: 159.8cm ± 3.37 (5ft 2¾in) Female: 154.9cm ± 3.66 (5ft 1in)

BONE PRESERVATION
Good, but lower leg and feet only survive.
PATHOLOGY
Infection: **Leprosy.** Lesions compatible with secondary infection to a leprous individual (LL). Widespread subperiosteal new bone with a molten lead appearance to both tibiae and fibulae. Subperiosteal reaction to L and R feet including m.tarsal shafts. Osteolytic destruction of the distal articular surface of L and R 1st m.tarsals, the result of ulceration. Septic change to 1 interphalangeal joint. Destruction and remodelling to the R 2nd m.tarsal with small erosive lesion to the head. Some loss, possibly as a result of osteolysis. Tarsal disintegration: L calcaneum and talus change in angle of tarsals and osteophytic lipping and pitting to some articular surfaces. Extra articular facets. Early tarsal bars to L and R tali and 1st cuneiforms. Concentric atrophy 2–3 proximal phalanges.
Andersen *et al* (1994) illustrate septic changes to the feet.

S18 (A)	SEX: Male.	AGE: Adult, mature.	STATURE: 168.3cm ± 3.37 (5ft 6¼in).

BONE PRESERVATION
Fair. The body is mainly complete but for the face, which is fragmentary. Frontal bone found in with **S20**.
DENTITION

X	X	X	X	X	/	/	/	/	/	/	X	X	X	X	X
								?A		A					

PATHOLOGY
Infection: L and R tibiae localised area of periosteal reactive bone. Subperiosteal reaction 6 L ribs 2 R ribs.
Trauma: Clay shoveller's fracture of spinous process of T1. Also fracture to spinous process of 1st thoracic. Ankylosis of T4–5. 4 R ribs healed fractures (includes 1st). Oblique fracture to L clavicle. Hairline fracture to the proximal articular surface 1st proximal phalanx (foot) (part of **S18** found with **S20**). Shallow depression to centre of frontal bone, result of healed depression fracture.
DJD: Spondylosis – C2–T1, T7–8 and T11, associated with marginal osteophytes to C3–L5. Osteoarthritis (widespread) of cervical and thoracic vertebrae, 2 R ribs, R acromioclavicular joint, both elbow joints, L and R wrists, both hands and the right hip. Osteophytosis of L glenoid cavity and phalanges of hand. Degenerative change to L acromioclavicular joint and L hip. Incipient osteoarthritis of L temporomandibular joint.
DISH: ossification of right anterior longitudinal ligament on the vertebrae, causing ankylosis of T12 to L2 inclusive. Hyperostosis: compact bone on the visceral surface of ribs.Enthesopathies of L and R patellae, L and R femora (feature of DISH).
ASSOCIATED MATERIAL
Extra R parietal bone, L ulna, patella and sacrum belonging to an adult male (part of **S20**).

S19 (A)	SEX: Male.	AGE: Adult, young to middle.	STATURE: 169cm ± 2.99 (5ft 5½in).

BONE PRESERVATION
Good. Body complete but for the L carpals and 2nd and 3rd cuneiforms.
DENTITION

														A	
														c	
8	7	6	5	4	3	/	/	/	/	3	4	5	6	7	8
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
	c														

Calculus, periodontal disease and alveolar recession. Enamel hypoplasia.
PATHOLOGY
Developmental: Sacralised L6 fused to S1. Partially fused 1st coccygeal vertebra.
Infection: **Leprosy (LL).** Rhinomaxillary change: resorption of the alveolar bone to maxillary central incisors. Inflammatory change to palatal and nasal aspect of the maxilla, vomer pitting. Thinning of the palate. Resorption of the nasal spine. Nasal septum and nasal concha resorbed. The nasal aperture remodelled and rounded in appearance. Bilateral frontal grooves.
Non-specific: Very slight subperiosteal change to R tibia, L and R fibulae. New woven bone to R 4th m.tarsal.
Schmorl's nodes: 7th, 11th and 12th thoracic.
DJD: Degenerative change to L vertebral facet of T9.
Osteochondritis dissecans: To proximal articular surface of the L and R 1st proximal phalanx.
Hyperostosis: Ossification of the costal cartilage – manubrium and sternum.

S20 (A)	SEX: Male.	AGE: Adult, middle.	STATURE: 166.8cm ± 3.37 (5ft 5¾in).

BONE PRESERVATION
Good, but the body incomplete and fragmentary. The facial bones, left arm, L upper leg and R lower leg are absent.
DENTITION

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

*Calculus, e*namel hypoplasia.
PATHOLOGY
Exostosis: Close to L auditory meatus.
Infection: Localised subperiosteal reactive bone to L tibial shaft. Expansion of distal end of shaft.
Trauma: L2 spondylolysis unilateral (L). Ossified haematoma R femoral shaft.
DJD: Osteoarthritis of thoracic vertebrae.
Hyperostosis: Manubrium – ossification to the clavicular notch.
ASSOCIATED MATERIAL
Frontal bone, part of **S18** (see above).

S21 (A)	SEX: Male.	AGE: Adult, young, 20–25 years.	STATURE: 176.5cm ± 2.99 (5ft 9½in).

BONE PRESERVATION
Good. The body is complete and well preserved with little fragmentation.
DENTITION

									?A			c	A		
8	7	6	5	4	3	/	1	1	/	3	4	5	/	7	8
8	7	6	5	4	3	2	1	1	2	3	4	5	X	7	8
			c												
			A												

PATHOLOGY
Developmental: Small neural canal to L4 and 5.
Infection: **Leprosy (LL).** Rhinomaxillary change: anterior nasal spine resorbed, slight resorption of the alveolar bone around the central incisors. Remodelling of the nasal aperture and nasal septum. Inflammatory change to the palatal and nasal aspect of the maxilla and nasal conchae.
Non specific: New bone to R maxillary sinus. Subperiosteal reactive woven bone to L and R femoral shafts and patellae. L and R tibiae and fibulae – molten appearance to subperiosteal new bone on the shafts. L and R tibiae – swelling to distal end of shaft – osteitis. L m.tarsals subperiosteal reactive bone to the shaft. L patella has ? soft tissue lesion on the anterior aspect of the patella (? Bursitis). To a lesser extent on R patella. 2 proximal phalanges (foot) destruction of the proximal articular surface by longstanding infection. Tarsal bars to R and L tali, R 2nd cuneiform, and L navicular, cuboid and 3rd cuneiform. 2nd–5th L m.tarsals have a ridge of bone on the proximal end of shaft. Tapering to the distal ends of m.tarsal shafts due to osteolysis. 3 L proximal phalanges – cup and peg deformity.
General health: Pitting to orbital roof. Harris lines L and R femora.
Schmorl's nodes: T6–12.
Osteochondritis dissecans: R 1st m.tarsal (head).
Cysts: Para-articular cysts to R 1st m.carpal, and to R 3rd cuneiform.
ASSOCIATED MATERIAL
Fragments of skull of an adult including the condyle of mandible and 1st m.carpal. Probably part of **S20**.
PUBLICATION
Thin sectioned by Schultz and Roberts (2002, 91).
Andersen *et al* (1994, 24) illustrate subperiosteal new bone on 1st metatarsal.

S22 (A)	SEX: Male.	AGE: Adult, young.	STATURE: 166.1cm ± 2.99 (5ft 5½in).

BONE PRESERVATION
Good. The body is complete and the preservation excellent.
DENTITION

		A													
		c										c			
/	7	6	5	4	3	/	/	/	2	3	4	5	6	7	/
NP	7	X	5	4	3	2	1	1	2	3	4	5	X	7	8
	c														

Calculus, and enamel hypoplasia.
PATHOLOGY
Infection: **Leprosy (LL).** Rhinomaxillary change: inflammatory change to the roof of the palate. The anterior nasal spine and nasal septum appear to be damaged. Slight resorption to the alveolar bone at the position of the maxillary central incisors. R navicular has very slight flattening.
Non-specific: Subperiosteal reactive bone to L 3rd cuneiform. Tarsal disintegration to the L navicular visible as compression or flattening of the bone. Exostosis to L 3rd cuneiform. Flattening to head of L and R tali. Remodelling of distal end of m.tarsal shafts. Concentric atrophy to shaft of the proximal phalanges
Schmorl's nodes: L2 and impression to T10–L1.

S23 (A) and **Context 50**	SEX: Male.	AGE: Adult, mature.	STATURE: 175.1cm ± 3.37 (5ft 9in).

BONE PRESERVATION
Fair: the body is fragmentary and incomplete, the L forearm, L and R hands are absent. Facial bones found in Context 50.
DENTITION

8	7	X	X	X	3	X	/	/	/	3	4	5	X	X	/
c	c														

Calculus, periodontal disease and alveolar recession. Enamel hypoplasia.
PATHOLOGY

Developmental: Small developmental pit to base of 1st proximal phalanx.
Infection: Destruction of R 3rd m.tarsal, result of chronic septic change. Cupping of base of 4 proximal articular surfaces, possibly the result of neuropathic damage. Possible tarsal bar to R talus.
Schmorl's node: T7.
DJD: Degenerative change to vertebral facet of T1.
Hyperostosis: Ossification of costal cartilage: 1 rib in Context 50.
Cyst: R 1st m.tarsal para-articular cyst to head.

S24 (A) and **Context 52**	SEX: Male.	AGE: Adult, mature.	STATURE: 173cm ± 2.99 (5ft 8in).

BONE PRESERVATION
Fair. The body is fragmentary. The skull, upper arms, upper trunk and left hand are conspicuously absent.
PATHOLOGY
Developmental: Sacrum – cleft neural arch of S1.
Infection: **Leprosy (bilateral = LL).** Molten subperiosteal reactive bone to L and R tibiae and fibulae. R fibula shaft exhibits a small sinus, the result of osteomyelitis. Subperiosteal reactive bone to L and R calcaneum, metatarsal shafts, L and R 1st proximal phalanges and R metacarpal.
DJD: T12 osteoarthritis to L vertebral facet.
ASSOCIATED MATERIAL
Extra right fibula has subperiosteal change to the lateral aspect of the shaft. Fragments of animal bone and rib.

S25 (A)	SEX: Male.	AGE: Adult, mature.	STATURE: 179.7cm ± 3.37 (5ft 10¾in).

BONE PRESERVATION
Fair. Body complete with a high degree of post-mortem fragmentation, especially to the ribs.
DENTITION

				c	c	?A	c								
X	X	X	X	4	3	/	1	X	/	/	/	X	X	X	X
X	X	X	X	X	/	X	X	X	X	3	/	X	X	X	X
										c					

Periodontal disease and alveolar recession considerable. Enamel hypoplasia.
PATHOLOGY
Developmental: Sacralisation of L6. Supernumerary vertebra. Pit in distal R tibial articular surface.
Infection: L maxillary sinusitis. R temporal bone – mastoiditis. Slight subperiosteal reactive bone to shaft of L tibia and fibula, R 3rd–5th and L 5th m.tarsal.
Trauma: Oblique fracture of midshaft of L clavicle
Schmorl's nodes: T9–L1.
DJD: Pitting to L and R temporomandibular joint. Osteoarthritis of cervical and thoracic vertebrae. Spondylosis of C4–7 and L1. Degenerative change to L and R hips, ribs, R wrist, L and R acromioclavicular, L auricular surface and L and R femoral heads. Osteophytic lipping to margins of joints; widespread change to L auricular surface.
?Gout: Erosion and destruction to the L 1st m.tarsophalangeal joint (punched-out appearance).
Neoplastic: Button osteoma on frontal bone.
Volar groove: 1 1st proximal phalanx and one other.
Hyperostosis: Ossification of thyroid cartilage. Ossified ligament on shaft of m.carpals.
Enthesopathies: L humerus.
ASSOCIATED MATERIAL
Accessory R 1st m.tarsal (adult).

S26 (A)	SEX: Male.	AGE: Adult, middle.	STATURE: 170.9cm ± 4.55 (5ft 7¼in)

BONE PRESERVATION
Fair: the skull is absent but for the jaws, the legs are absent.
DENTITION

X										c			c		X
NP	7	6	5	4	3	2	1	1	/	3	4	5	6	7	NP
NP	7					2	/	/	/	3	4	5	6	7	NP
											c	c	c		

*C*alculus and alveolar recession considerable. Enamel hypoplasia.
PATHOLOGY
Infection: **Leprosy (LL).** Rhinomaxillary inflammatory change to nasal aperture and lateral aspect of the wall. Remodelling of nasal aperture.
Non-specific: Subperiosteal reactive bone on visceral aspect of 5 R ribs.
DJD: Erosive lesion to L acetabulum.

S27 (A)	SEX: ? Male.	AGE: Adult, mature.	STATURE: 171.2cm ± 4.05 (5ft 7¼in).

BONE PRESERVATION
Good/fair. The bone preservation is good, but the body is very fragmentary. Only the upper part of the body is present and the right arm is missing.
DENTITION

8	7	X	X	X	/	/	/	1	/	/	X	X	X	X	–

Enamel hypoplasia.
PATHOLOGY
Developmental: 1 R lumbar rib.
Schmorl's nodes: T7–L2.
DJD: Osteoarthritis of thoracic vertebrae. Spondylosis T5–7.
Osteochondritis dissecans: R 1st m.carpal.
Tarsal bar: R 1st m.tarsal.
Miscellaneous: Pitting to the palate.

S28 (A) and **Context 55B**	SEX: Male.	AGE: Adult, middle to mature.	STATURE: 173.6cm ± 4.05 (5ft 8¼in).

BONE PRESERVATION
Good/fair. The skull and cervical vertebrae are absent.
DENTITION

		c	c	c	c					c	c		A		
/	X	6	5	4	3	/	/	/	/	3	4	X	X	X	/
X	X	X	X	/	/	/	/	/							
A	A	A	A												

Periodontal disease and alveolar recession.
PATHOLOGY
Developmental: Sacralisation of L6.
Infection: Subperiosteal reactive bone to L humerus, ulna, tibia and fibula shafts, R femoral, tibial and fibula shafts, and to shaft of R 4th m.tarsal.
Schmorl's nodes: T6–L1.
DJD: Osteoarthritis of 2 L ribs, L and R acromioclavicular joint. Degenerative change to L elbow joint and L acetabulum (hip). Spondylosis of C6.

Osteochondritis dissecans: L tibia distal articular surface, medial condyle of R femur, R tibial lateral condyle, R navicular.
ASSOCIATED MATERIAL
Proximal phalanx of hand and animal bone, part of S22.

S29 (A) and **Context 55C**	SEX: Female?	AGE: Adult, young.	STATURE: Undetermined.

BONE PRESERVATION
Good. The mandible, trunk and upper arms are present.
DENTITION

						A	A	A		A					
NP	7	6	5	4	3	/	/	/	2	/	4	5	6	/	/
8	–	6	5	4	3	2	1	1	/	3	4	5	6	7	NP
													c		

*C*alculus and periodontal disease present. Enamel hypoplasia.
PATHOLOGY
DJD: Early degenerative change to R acromioclavicular joint.

S30 (A)	SEX: Female.	AGE: Adult, mature.	STATURE: 158.8cm ± 3.72cm (5ft 2½in).

BONE PRESERVATION
Fair/poor. The skull is absent and the rest of the body is very fragmentary.
DENTITION

						/		/	/	X	X	X	X	–	–

PATHOLOGY
Infection: L and R calcanea swelling to heel and subperiosteal reactive bone.
Trauma: Compression fractures T3, T5–8 and T11–12 result of osteoporosis.
DJD: Early degenerative change to L elbow joint (radius), L and R hip joint and auricular surface.
Osteochondritis dissecans: R superior apophyseal joint of axis.
Osteoporosis: Widespread.
Tarsal Bar: Beginning to L and R tali.
Miscellaneous: L femoral neck at same height as greater trochanter.

S31 (A)	SEX: Male.	AGE: Adult, young, 18–21 years.	STATURE: Undetermined.

BONE PRESERVATION
Good. The body is complete but for the right foot and the bone condition is good.
DENTITION

															O
8	7	6	/	4	/	/	–	–	/	3	4	5	6	7	8
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
O	c											c?		c	

Calculus Slight. Enamel hypoplasia.
PATHOLOGY
Developmental: Supernumerary vertebra.
Infection: **Leprosy (LL).** Rhinomaxillary change: resorption of anterior nasal spine and alveolar bone around the central maxilla. Inflammatory change to conchae, septum and palate (nasal and palatine).
Non-specific: Osteitis of distal L tibia. Subperiosteal reactive bone on L and R fibulae. Volar grooves to 2 proximal phalanges.

Trauma: Well-healed fracture of R tibia (distal). Probable well-healed fracture of 12th left rib.
Schmorl's nodes: T7–8.
DJD: Osteoarthritis of R 1st m.carpal.
Miscellaneous: 10 L and R ribs have multiple depressions to the visceral aspect of the ribs, no evidence for inflammatory change. T11–L1 – irregularity and concavity to the anterior aspect of the body.
Cribra orbitalia: Pitting in the roof of the orbits.
ASSOCIATED MATERIAL
Extra R temporal bone and R navicular.

S32a (A)	SEX: Male?	AGE: Adult, middle.	STATURE: 167.4cm ± 2.99 (5ft 6in).

BONE PRESERVATION
Good but for some post-mortem fragmentation. The carpals and foot bones are absent.
DENTITION

												A	A			
						c		c	c	c	c	c				
*X	X	X	/	/	3	2	1	1	2	3	4	5	X	X	X	
X	7	X	5	4	3	/	/	/	2	3	4	5	X	X	/	
A?	c		c	c								c				

Calculus, periodontal disease and alveolar recession. Enamel hypoplasia.
PATHOLOGY
Infection: Osteitis of midshaft of R femur. Maxillary sinusitis L and R.
Schmorl's nodes: T8–10.
DJD: Degenerative change to the vertebral facet of 11th thoracic and head of 12th rib, L and R acromioclavicular joint, L and R hip joint with osteophytosis of the articular surface of the R patella.
Osteochondritis dissecans: R talus.
Miscellaneous: Exostosis from the dorsum sellae. Bulging of the superior aspect of the frontal bone. Antemortem depression to proximal end of midshaft of R femur.
ASSOCIATED MATERIAL
2 proximal phalanges of the hand.

S32b (A) and **Context 55E**	SEX: Male.	AGE: Adult.	STATURE: Undetermined.

BONE PRESERVATION
Fair/poor. The body is incomplete and very fragmentary although the extant bone is in reasonable condition. The lower body is largely absent.
DENTITION

X	X	X	X	4	/	2	–	–	–	/	/	/	X	X	X	

Periodontal disease and alveolar recession.
PATHOLOGY
Infection: **? Leprosy.** L 5th and R 1st m.tarsal have suffered destruction of the head, the result of ulceration. Volar groove to proximal phalanx.
Trauma: Fractures 2 left ribs.
DJD: Spondylosis and vertebral osteophytosis of 5th lumbar. Degenerative change to head of 2 L ribs
ASSOCIATED MATERIAL
Animal bone, m.podial.

S33 (A)	SEX: Male?	AGE: Adult, middle.	STATURE: 170.6cm ± 4.05 (5ft 7in).

BONE PRESERVATION
Good/fair. Only the upper part of the body including the upper arms is present. Bone condition good, but high post-mortem fragmentation.
DENTITION

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

Calculus, periodontal disease to the maxilla. Enamel hypoplasia.
PATHOLOGY
Infection: **Leprosy (LL).** Rhinomaxillary change – pitting and inflammatory change with early perforation of the palate. Inflammatory reaction to the nasal septum. Alveolar resorption of the maxilla slight. Atrophy to nasal spine, and remodelling.
Non-specific: R maxillary sinusitis.
Neoplastic: Button osteoma on frontal bone
COMMENT
Lower body probably in **Context 55**.

S34 (A)	SEX: Male?	AGE: Adult, young.	STATURE: 173.9cm ± 4.05 (5ft 8½in).

BONE PRESERVATION
Good. Skull, upper torso, L arm and upper L leg present.
DENTITION

/	7	6	5	4	3		1	1		3	4	5	6	7	8
8	7	6	5	4	R	R	1	1	/	R	R	/	6	7	8

Calculus and alveolar recession slight. Enamel hypoplasia.
PATHOLOGY
Infection: **Leprosy (LL).** Early rhinomaxillary change. Remodelling of the nasal aspect of the maxilla. Rounding of the R nasal aperture. Early alveolar recession. Infective bone along the nasal septum and thickened floor to the nasal cavity, with slight pitting to R concha. L and R maxillary sinusitis.
Schmorl's nodes: T7–8.
Publication
Ortner (2002, 75) cites this as having typical rhinomaxillary changes.

S35 (A)	SEX: Male.	AGE: Adult, middle.	STATURE: 170.9cm ± 3.27 (5ft 7¼in).

The lower legs of S35 were excavated in 1993 as context S354 but they are included here as the two contexts were from the same individual.

BONE PRESERVATION
Good. Body more or less complete (lower legs = **S35**).
DENTITION

c										?A		c	A		c?
8	7	6	5	4	3	2	/	/	/	3	4	5	6	X	8
/	7	6	5	4	3	2	1	1	2	3	4	5	/	–	–
	?c														

Calculus, periodontal disease and alveolar recession (slight). Enamel hypoplasia.
PATHOLOGY
Developmental: 1st lumbar facets for ribs, 1st thoracic L transverse process vestigial. Manubrium double facet, R humerus (distal) – pit.
Infection: **Leprosy (LL).** Inflammatory change to L and R tibiae and fibulae with extra cortical new bone,

molten appearance. Osteitis of R and L fibulae and R tibia. The R tibia and fibula are ankylosed by a mass of porotic new bone. Chronic longstanding infection to talonavicular and tibiotalar joints. Tarsal disintegration with destruction of R calcaneum by chronic longstanding infection with draining sinus. Tarsal bar to L talus. Pseudarthrosis between the tibia and fibula. L and R maxillary sinusitis.
Trauma: L frontal bone has depressed fracture.
Spondylolysis: Unilateral T3.
Schmorl's nodes: T9–12 and L1–4.
DJD: Spondylosis – T9.
Hyperostosis: T5–12 between apophyseal joints. T7, 9, 10, 11 exostoses projecting back into neural canal.
Publication
Ortner (2002, 75) cites this as an example of destructive pathological remodelling.

S36 (A)	SEX: unknown but robust.	AGE: Adult.	STATURE: Undetermined

BONE PRESERVATION
Fair. Fragments of long bones of lower leg only.
PATHOLOGY
Trauma: Possible ossified haematoma to the R tibia, smoothed and remodelled area of new bone occurring at the attachment of the sartorius and tibialis anterior.

S37 (A) and Context **55D**	SEX: Male?	AGE: Adult.	STATURE: 190.04cm ± 2.99 (6ft 2¾in).

BONE PRESERVATION
Good. Lower body complete, most of skull, upper vertebrae and rib cage absent.
PATHOLOGY
DJD: Osteoarthritis to odontoid facet of axis.
Neoplastic: Button osteoma – frontal bone.

S38 (A)	SEX: Female.	AGE: Adult, young.	STATURE: 163.1cm ± 3.55 (5ft 4¼in).

BONE PRESERVATION
Good. Body well preserved. L and R hands, clavicle and sternum are all absent.
DENTITION

					A					c					
X	X	X	X	X	/	X	X	X	/	3	X	X	X	X	/
X	X	X	X	4	3	/	/	/	2	/	X	X	X	7	NP
				c	c			A	c	A	A			c	

Calculus, periodontal disease associated with alveolar recession. Enamel hypoplasia.
PATHOLOGY
Developmental: Unusual and elongated skull, result of late premature fusion probably occurring between 8–10 years (scaphocephaly). Small amount of new bone to the shaft of the R and L tibia and L fibula, well remodelled, distal growth defect.
Schmorl's nodes: T4–11 and L1–4.
ASSOCIATED MATERIAL
Extra fragments of distal end of R humeral shaft, fragment of **S51**.

S39 (B)	SEX: Female	AGE: Adult, young.	STATURE: 161.1cm ± 4.25 (5ft 5½in).

BONE PRESERVATION
Poor. Body is complete but for the cervical vertebrae. However, the bone is weathered and fragmentary.
DENTITION

O															O
8	7	6	5	/	3	/	/	/	/	3	4	5	6	7	8
8	7	6	5	/	3	2	1	/	2	3	/	5	6	7	8
													?c		?c

Enamel hypoplasia widespread.
PATHOLOGY
Cribra orbitalia: Pitting to L orbit and healing lesion to R orbit.
Infection: Widespread pitting to hard palate, slight alveolar resorption. L maxillary sinusitis.
Schmorl's nodes: T 6, T8, L1 and L2.
Tarsal bar: Incipient to L navicular.

S40 (B)	SEX: Female.	AGE: Adult, mature.	STATURE: 162.7cm ± 3.55 (5ft 4in).

BONE PRESERVATION
Fair. The body is more or less complete but fragmentary, particularly the vertebrae and ribs.
DENTITION

														c	
8	7	6	5	4	3	X	1	1	2	3	4	5	6	7	X
NP	7	X	5	4	3	2	1	/	2	3	4	5	6	7	8
	c												c		

Periodontal disease and alveolar recession present. Enamel hypoplasia.
PATHOLOGY
Developmental: Auditory torus.
Cribra orbitalia: Well-healed lesion to L and R orbits.
Soft tisue trauma: Raising of periosteum at attachment of interosseous membrane (R tibia and fibula).
Infection: **? Leprosy**. Early rhinomaxillary change to the palatal surface, atrophy to anterior nasal spine, nasal aperture remodelled, oral surface pitting. Small amount of new bone to the L and R maxillary sinus. Reactive bone well remodelled to the shaft of the L tibia and fibula. Ulceration to 4th m.tarsal.
DJD: Degenerative change to R temporomandibular joint, L and R hip (acetabula), and change to auricular surface. Osteophytic lipping to R femoral head. Osteoarthritis of T6. Marginal vertebral osteophytosis of L3–4. Early spondylosis of L5 and S1.
Schmorl's nodes: T3–4, 7, 11.
ASSOCIATED MATERIAL
Animal phalanx.

S41 (B)	SEX: Male.	AGE: Adult, young.	STATURE: 177.6cm ± 2.99 (5ft 10in).

BONE PRESERVATION
Fair. The body is incomplete the cervical and thoracic vertebrae and most of the ribs are absent. Some weathering of the long bones.
DENTITION

	A	A	c		*					O*	c	c			
8	X	/	5	4	3	2	1	1	2	3	4	5	X	X	8
NP	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
										O					

Calculus, periodontal disease and enamel hypoplasia. L and R maxilla have what appears to be a socket for a supernumerary tooth between the canine and 1st premolar.
PATHOLOGY
Developmental: Pit in R glenoid cavity.
Cribra orbitalia: Pitting in orbits with some remodelling.
Infection: R maxillary sinusitis – result of draining apical abscess. Localised subperiosteal new bone to the shaft of L and R tibia being remodelled. Chronic infection of joint between 4th m.tarsal and 3rd cuneiform and subperiosteal reactive bone to m.tarsals.
Remodelling: To the proximal articular surface of 1 middle phalanx.
ASSOCIATED MATERIAL
Animal bone.

S42 (B)	SEX: Female.	AGE: Adult, mature.	STATURE: 158.8cm ± 3.55 (5ft 2½in).

BONE PRESERVATION
Good/fair. Bone condition good and body reasonably complete. However, there is a high degree of post-mortem fragmentation.
DENTITION

				c	c						A				c
–	7	6	/	4	3	2	/	/	2	/	/	5	X	X	8
X	X	X	5	4	3	/	X	X	/	3	4	5	X	7	8
			C								c			c	c
			A										A	A	

Calculus, periodontal disease associated with alveolar recession. Enamel hypoplasia.
PATHOLOGY
Developmental: Pit to L talus.
Cribra orbitalia: 'Pepper pot' lesion extending into the diploe, marked in L orbit.
Infection: Subperiosteal reactive bone surrounding the L 2nd molar. Woven bone R orbit.
Schmorl's nodes: T5, 6, 8–11 and L1.
DJD: Osteoarthritis of thoracic vertebrae, spondylosis of C6–7. Osteoarthritis of 1st L rib. Degenerative change to L and R acromioclavicular joint.

S43 (B)	SEX: Male?	AGE: Adult, young to middle.	STATURE: 158.1cm ± 2.99 (5ft 2¼in).

BONE PRESERVATION
Good. Body complete but for the smaller bones of the hands and feet.
DENTITION

													c		
NP	7	X	5	/	/	/	1	1	/	/	4	5	6	/	NP
NP	7	6	5	4	3	2	/	/	2	3	4	5	X	7	
		c	c									c		c	

Calculus, periodontal disease and alveolar recession. Enamel hypoplasia. Possible leprogenic odontoplasia.
PATHOLOGY
Infection: L and R maxillary sinusitis. R tibia and fibula and L tibia – lamellar bone.
Trauma: Probable well-healed fracture to distal end of R fibula shaft.
Soft tissue trauma: L humerus – damage to cuff tendons. Exostosis on distal end of R tibia. L innominate – soft tissue change to visceral aspect of the anterior iliac spine. Enthesopathy of right distal tibiofibular ligament.
DJD: Early degenerative change to 2 L ribs and 2 R ribs. Osteophytic lipping to R humeral head. Degenerative change to L and R hip joint (acetabula). Vertebral osteophytosis T6–7, 10, 11, L3–4.
Volar grooves: 3 R proximal phalanges.
Hyperostosis: L and R metatarsals.

S44 (B)	SEX: Male.	AGE: Adult, middle.	STATURE: 168.6cm ± 2.99 (5ft 6¼in).

BONE PRESERVATION
Good/fair. Complete body but for the patellae.
DENTITION

		A													
	c	c													
NP	7	6	5	4	3	2	1	1	2	3	4	5	6	7	NP
NP	7	6	5	4	3	2	1	1	2	3	4	5	X	7	NP
		c													

Calculus, periodontal disease and alveolar recession present.
PATHOLOGY
Developmental: Synostosis of manubrium and sternum. Developmental pit to distal L humerus. Pit to the proximal articular surface of R radius.
Infection: **Leprosy**. Well-remodelled subperiosteal bone to dorsal aspect of L and R fibula shafts. Remodelling of L 2nd m.carpal the result of claw hand deformity. 2 proximal phalanges and 3 middle phalanges have volar grooves. Early disintegration and tarsal bars to the tarsals with concentric remodelling to the phalanges. Radiographs show remodelling: 3 proximal phalanges, 2 R m.tarsals.
DJD: Degenerative change to L temporomandibular joint, L and R acromioclavicular joint and R hip (acetabulum). Osteoarthritis of 1 thoracic and 1 lumbar vertebrae.
Schmorl's nodes: T7.
Osteochondritis dissecans: ? healing lesion to R navicular.
Miscellaneous: R ulna – foramina enlarged to the proximal articular surface. L tibia – deep insertion for the soleus muscle. L talus enlarged for groove for flexor hallucis longus. Tarsal bar.
ASSOCIATED MATERIAL
Animal bone.

S45 (B)	SEX: Male.	AGE: Adult, mature.	STATURE: 164.4cm ± 2.99 (5ft 4¾in).

BONE PRESERVATION
Good. Body complete but for the patellae, some weathering to the bone shaft with an almost gnawed appearance – acid etched.
DENTITION

						A									
X	7	X	X	4	/	/	/	1	/	3	4	5	X	X	8
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
												c	c		
													A		

Periodontal disease and alveolar recession. Enamel hypoplasia.
PATHOLOGY
Developmental: split in L and R scaphoids, sacralised L5 or partially sacralised 1st coccygeal.
Infection: L and R maxillary sinusitis.
Schmorl's nodes: T5–L3. In 2nd and 3rd lumbar vertebrae lesions perforate the trabecular bone.
DJD: Small vertebral osteophytes to lower thoracic and upper lumbar vertebrae. Osteophytic lipping to tubercle of 2 left and 1 right rib. Early degenerative change to L hip. Cyst to head of L 1st m.tarsal.
Hyperostosis: Ossification of thyroid cartilage.
ASSOCIATED MATERIAL
Extra 2nd right cuneiform.

S46 (A)	SEX: Male.	AGE: Adult, mature.	STATURE: 167.5cm ± 2.99 (5ft 6in).

BONE PRESERVATION
Fair. The right hand is absent, some weathering and post-mortem fragmentation.
DENTITION

X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	–
X	X	X	X	4	/	X	X	X	X	X	/	X	X	X	X
											A				

The only tooth exhibits alveolar recession.
PATHOLOGY
Developmental: Sacralised 1st coccygeal.
General health: Thickened diploe and porosity of cranial vault.
Infection: L and R maxillary sinusitis. L and R tibia – small amount of subperiosteal reactive bone, molten lead appearance.
Trauma: Slight wedging of the 1st lumbar vertebra. Fractures to 3 R ribs, well healed. Well-healed fracture of proximal end of R humerus flattening the head, with associated soft tissue trauma. R innominate – enthesopathies for reflected head of rectus femoris, the iliofemoral ligament on L and R femora and at the attachment of the talofibular ligament.
Schmorl's nodes: L3.
Neoplastic: Occipital bone – button osteoma.
DJD: Osteoarthritis of cervical vertebrae, L shoulder and L ankle joint (talus). Spondylosis of C5–6 associated with marginal osteophytes which also affect T12, L2 and L5. Degenerative change to 1 L and 3 R ribs, L and R acromioclavicular joint. Early change to R and L elbow joint, L and R hip and R ankle joint (talus). Small area of erosion to L and R patellae.
Miscellaneous: Bowing of L fibula.

S47 (A)	SEX: Male.	AGE: Adult, young, 17–25 years	STATURE: Undetermined.

BONE PRESERVATION
Good. Bone condition excellent. The R arm and feet are absent.
DENTITION

															O
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

Calculus: Slight. Enamel hypoplasia.
PATHOLOGY
Cribra orbitalia: 'Pepper pot' lesion to orbits.
Infection: **Leprosy.** Bilateral change **(LL).** Pitting and inflammatory change to palate. Subperiosteal reactive bone to L and R tibiae and osteitis of fibulae.
Schmorl's nodes: T5, T6 and T8.
ASSOCIATED MATERIAL
Proximal phalanx (adult), probably from **S46** or **S48**.

S48 (A)	SEX: Male.	AGE: Adult, mature.	STATURE: 178.3cm ± 2.99 (5ft 10in).

BONE PRESERVATION
Good. The body is complete but for the L and R feet.
DENTITION

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

Periodontal disease and enamel hypoplasia.

PATHOLOGY
Developmental: Sacralised L6 with cleft neural arch of L6 and S1.
Infection: **Leprosy (LL).** Rhinomaxillary change – resorption of the nasal spine, and remodelling of the nasal aperture and new bone. Inflammatory change to nasal and palatal aspect of maxilla.
Non-specific: Subperiosteal reactive bone, molten in appearance L and R tibiae and fibulae. Osteitis of R fibula, reactive bone to L calcaneum, cuboid, navicular, and L m.tarsals swollen to twice their normal size as a result of osteomyelitis, with lytic destruction due to chronic infection. 1st proximal phalanx – osteitis. L foot – tarsal bars to L tarsals.
Trauma: Fractures of 3 R ribs, callus almost forms a bridge.
Schmorl's nodes: T8–9.
DJD: Spondylosis of anterior aspect of T5–6, 8–10.
Osteochondritis dissecans: L talus.
ASSOCIATED MATERIAL
Mandibular incisor, probably **S47**.
Publication
Ortner (2002, 78, fig 3) cites this as an example of remodelling of the piriform aperture.
Thin sectioned by Schultz and Roberts (2002, 91).

S49 (A)	SEX: Male.	AGE: Adult, middle.	STATURE: 173.5cm ± 2.99 (5ft 8¼in).

BONE PRESERVATION
Fair. The body is incomplete and fragmentary. The skull, neck and left upper arm are absent.
PATHOLOGY
Infection: Subperiosteal reactive bone L and R tibiae and fibulae, L 5th m.tarsal, R 1st and 5th m.tarsal. Slight remodelling of m.tarsals.
Schmorl's nodes: L2, 4–5.
DJD: Early degenerative change to R hip joint.
ASSOCIATED MATERIAL
Poorly preserved fragments of L humerus, clavicle, carpal and m.carpal, femur, tibia, fibula and L m.tarsal, part of **S59**.

S50 (A)	SEX: Male.	AGE: Adult, middle.	STATURE: 169.2cm ± 2.99 (5ft 6½in).

BONE PRESERVATION
Good/fair. The body is complete.
DENTITION

												c			
X	X	X	/	4	/	2	/	/	/	3	4	5	X	7	NP
/	7	6	5	/	3	2	/	/	2	3	4	5	/	7	NP
														?A	

Calculus, periodontal disease and alveolar recession considerable. Enamel hypoplasia.
PATHOLOGY
Infection: **Leprosy (LL).** Rhinomaxillary change: resorption of the alveolar bone and anterior nasal spine. Inflammatory change to nasal and palatal aspect of maxilla and nasal septum. Pitting and troughing to nasal aperture. R maxillary sinusitis.
Non-specific: Reactive bone to L ulna and radius and L 2nd and 3rd m.carpal. Woven bone to R talus and 3rd cuneiform, R 2nd m.tarsal. Osteomyelitis of 3rd R m.carpal. L and R tibiae and fibulae – reactive bone with molten lead appearance. L calcaneum – depression to bone with possible early ulceration. Destruction of head of L 5th m.tarsal – ulceration. Remodelling of m.tarsal shafts and all proximal phalanges (radiograph).
DJD: Degenerative change to 2 L ribs, L and R acromioclavicular joint and apophyseal joints of upper to mid-thoracic vertebrae.
Osteoarthritis of 3rd L m.carpophalangeal joint.
Osteochondritis dissecans: Small lesion to R navicular.
Cysts: Para-articular cysts to R talus, 1st and 3rd cuneiforms, large cyst to head of R 4th m.tarsal leaving a shell. Cyst to anterior margin of distal articular surface of L femur.

S51 (A) and **Context 81B**	SEX: Male.	AGE: Adult.	STATURE: Undetermined.

BONE PRESERVATION
Fair/poor. The body is fragmentary. The left side of the body is reasonably well represented but the skull and R side are absent. Post-mortem damage and fragmentation and some slight weathering have occurred. In 81B – R femur, innominate, distal end of radius, ulna and clavicles.
PATHOLOGY
Infection: **? Leprosy**. Incomplete but probably leprous **(LL).** Subperiosteal reactive bone and sinuses to L femur. Reactive bone molten in appearance to L and R tibiae, fibulae.
Schmorl's nodes: T8–L2.

S52 (A)	SEX: Unknown.	AGE: Adult.	STATURE: 71.35cm ± 3.37 (5ft 7½in).

BONE PRESERVATION
Good. The long bones of the lower leg, patellae, calcaneum and talus only are present.
PATHOLOGY
Trauma: Well-healed oblique fracture of R fibula shaft.

S53 (A)	SEX: Unknown.	AGE: Child, 6.5–10.5 (*c* 7.5 years).	STATURE: Undetermined.

BONE PRESERVATION:
Good. The body is very fragile and fragmentary.
DENTITION

			c	c			c				A		c
7	6	e	4	c	b	1	1	b	c	4	5	6	7
7	6	e	d	c	b	1	1	b	c	d	e	6	7
	c	c	c							c	c	c	

Periodontal disease. Very slight enamel hypoplasia to the permanent maxillary incisors.
PATHOLOGY
Infection: **Tuberculosis.** Right elbow joint destroyed by a purulent infection with an absence of bone formation. Abscess formation evident in the ulna, radius and distal humerus. Another long bone (identity unknown) also modified by infection. R.maxillary sinusitis.
Osteoporosis: Widespread, a combination of disuse atrophy of the R arm associated with infection.
ASSOCIATED MATERIAL
Fragments of rib, L ulna, R m.carpal and phalanges belonging to a robust adult, possibly part of **S148**. Fragment of animal bone.

S54 (B)	SEX: Female.	AGE: Adult, mature.	STATURE: 162.3cm ± 3.72 (5ft 3¾in).

BONE PRESERVATION
Good/fair. The body is more or less complete but with some fragmentation and slight weathering.
DENTITION

								c	c	c						
	X	6	X	/	–	–	–	1	2	3	4	–	–	–	–	
NP	7	X	5	4	3	2	1	/	2	3	4	5	X	7		
		A				c	A			c	c	c				

Periodontal disease and alveolar recession.
PATHOLOGY
Infection: **Leprosy (LL-bilateral).** New bone to R maxillary sinus. Reactive bone to L tibia and R fibula. Molten new bone to L and R m.tarsal shafts, remodelled.
Trauma: Fracture to head of 1st proximal phalanx. Soft tissue trauma R shoulder cuff tendon damage. Volar

grooves to 2 proximal phalanges. Tarsal bars to L and R tali, R navicular, R 2nd cuneiform. Remodelling to 1 distal hand phalanx as a result of claw finger deformity and 2 proximal foot phalanges. L calcaneum – extension of cuboid articular surface.
DJD: Osteoarthritis (widespread) of cervical, thoracic and lumbar vertebrae, also of right ankle (talus and cuboid), R elbow joint, 4 L ribs and 4 R ribs, L 1st and 2nd m.carpals. Spondylosis of C3–7, T8–L1. Marginal osteophytosis of all the vertebral bodies. Degenerative change to L and R acromioclavicular, L and R shoulder joint, L and R hip joint. Incipient degenerative change to L and R carpals.
Osteochondritis dissecans: To medial aspect of R femoral condyle.
Neoplastic: Exostosis or lump to lateral aspect of 3rd m.carpal shaft.
Endocrine: Hyperostosis frontalis interna.
Hyperostosis: Ossification of costal cartilage. Enthesopathy – R scapula exostosis to acromial spine at attachment of the cuff muscles.
ASSOCIATED MATERIAL
Extra m.tarsal, and animal bone. 1st m.tarsal destroyed by chronic infection. Secondary **leprous** change?

S55 (A)	SEX: Male.	AGE: Adult, mature.	STATURE: 170.8cm ± 2.99 (5ft 7¼in).

BONE PRESERVATION
Good to fair. Bone condition good, the skull is fragmentary but the mandible present. Feet by and large absent.
DENTITION:

X	X	X	X	X	/	/	/	/	/	/	/	X	X	X	X
					A										

Periodontal disease present.
PATHOLOGY
Infective: Possible infective lesion to R glenoid cavity.
Trauma: At least 4 R ribs have sustained 8 separate fractures. L ribs 2 fractures. 11th and 12th thoracic vertebrae – wedging and hairline fracture, result of compression fracture to the vertebral body.
Schmorl's node: T10, L1–3.
DJD: Osteoarthritis of cervical and thoracic vertebrae and of the R hip. Spondylosis of 5th–7th cervical. Vertebral osteophytes T8–10 and L4. Early degenerative change to L and R acromioclavicular joint and to L elbow joint. Degenerative change to the L hip joint.
Osteochondritis dissecans: Type lesion to L ulna, L tibia, R calcaneum.
Metabolic: L and R femora – slight bowing and also to L and R tibiae, possibly healed rickets.
Osteolytic: 3 small pits to the endocranial aspect of occipital bone.
Cyst: L 1st m.carpal. Large cyst to L talus.
Hyperostosis: Ossification of costal cartilage.
Miscellaneous: Exostosis inferior aspect of mandible close to mental tubercle.
ASSOCIATED MATERIAL
Extra R 4th m.carpal.

S56 (A)	SEX: Male.	AGE: Adult, mature.	STATURE: 164.7cm ± 2.99 (5ft 4¾in).

BONE PRESERVATION
Good. Body complete but for the R tibia and patella.
DENTITION

				A			A		c						
X	X	X	X	X	/	/	1	X	2	X	X	X	X	X	X
X	7	X	5	X	3	2	/	/	2	3	4	5	X	X	X
					c	c	A	X				c			

Calculus, periodontal disease associated with considerable alveolar resorption. Enamel hypoplasia widespread.
PATHOLOGY
Infection: L and R maxillary sinusitis.

Trauma: Spondylolysis – detachment of posterior arch of L4. Hairline fracture to distal end of shaft of R radius (healed).
DJD: Degenerative change to R mandibular condyle. Early degenerative change to acromioclavicular joints, L and R elbow (radii). Osteoarthritis of T7–8. Spondylosis of C4–5, T11, L4 and 5. Vertebral osteophytosis of C4–5, T7, 9–12 and L4.
Hyperostosis: Ossification of costal and thyroid cartilage. Enthesopathies on phalanges of hand, ischial tuberosity, around the auricular surface and of the Achilles tendon insertion on the calcanea.

S57 (A)	SEX: Male.	AGE: Adult, mature.	STATURE: 169.4cm ± 2.99 (5ft 6½in).

BONE PRESERVATION
Fair. Body is incomplete. Trunk, R forearms and R fibula are absent; the rest is fragmentary. Hole in frontal bone not a result of post-mortem damage.
DENTITION

			A										A	A	
			c											c	
/	X	X	5	4	3	2	/	1	2	3	4	/	X	7	/
8	7	6	5	4	/	/	/	/	/	/	4	5	6	7	8
								A							

Periodontal disease and alveolar recession. Enamel hypoplasia.
PATHOLOGY
Schmorl's nodes: T10–11.
Trauma: Well-healed fracture of nasal bones and of 1 L rib – sternal end of shaft. Soft tissue trauma to R ulna (proximal).
DJD: Change to L and R temporomandibular fossae, more marked in left. Osteoarthritis widespread to cervical, thoracic, lumbar and 1st sacral vertebrae. Spondylosis of C3–4, T4–7 and 9–11, L1–S1 associated with marginal osteophytes. Osteoarthritis of 2 L ribs, L elbow joint, R ankle, L and R sternoclavicular joints. Degenerative change to R 3rd m.tarsal and L shoulder joint.
Early DISH: Fusion of T9–10 with candle-wax appearance of ossification of R anterior ligament. Enthesopathies of 3 proximal phalanges, L and R innominate, L fibula. Prominent *linea aspera*. L foot – early dorsal bars (enthesopathies).
ASSOCIATED MATERIAL
R temporal bone probably from a male adult and 1st proximal phalanx.

S58 (A)	SEX: Male.	AGE: Adult, middle.	STATURE: 157.41± 2.99 (5ft 2in).

BONE PRESERVATION
Good: body complete.
DENTITION

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

Calculus, periodontal disease and alveolar recession. Overcrowding to the incisor region. Enamel hypoplasia.
PATHOLOGY
Congenital: hyperbrachycephalic. Abnormally short upper limbs and m.carpals, lower limbs – anterior bowing. Developmental pit to L and R distal articular surface of tibiae. Bipartite L 1st cuneiform.
Infection: **Leprosy (LL).** Rhinomaxillary change: inflammatory change to the palate, erosion of nasal septum and inflammatory change to R turbinate.
Non-specific: Chronic inflammatory change to L and R m.carpals. Slight subperiosteal reaction dorsal aspect of 3rd and 4th L m.carpals and thickening to R. Large bone flange to 5th R m.carpal. Subperiosteal reaction to 2 proximal phalanges, and total resorption to shaft of 1 proximal phalanx. L femur – probable osteomyelitic lesion distal end of shaft. L and R femora – inflammatory reaction distal end of shaft. Well-remodelled inflammatory change, molten lead appearance to L and R tibiae and fibulae. L foot – gross destruction to pressure points and ulceration to lateral aspect, associated with inflammatory change, ankylosis and septic arthritis between cuboid and 5th m.tarsal. Resorption to distal end of 5th m.tarsal. Articular surfaces between 3rd–

5th m.tarsal heads and 2nd–5th proximal phalanges destroyed by ulceration. Resorption of distal end of 1st proximal phalanx. R foot – little change, 2nd m.tarsal subperiosteal reaction to shaft.
Tarsal bars: L navicular, 2nd and 3rd cuneiform, R 2nd cuneiform and 2nd and 3rd m. tarsal.
Tarsal disintegration: L foot – cuboid/m.tarsal ankylosis. Early changes to R foot between navicular and cuneiform.
Trauma: Well-healed depressed fracture of R temporal bone – possibly traumatic. Fracture R clavicle.
Schmorl's nodes: T7–L4.
Enthesopathy: R patella.
DJD: Spinal: Degenerative change to joints of T3–5. Osteophytosis R shoulder joint. Early change to R elbow joint (humerus).
Neoplastic: Button osteoma on L and R parietal bone.
Osteochondritis dissecans: L calcaneum.

S59 (A)	SEX: Unknown.	AGE: Adult.	STATURE: Undetermined.

BONE PRESERVATION
Fair. Only the R shoulder and upper arm are present.

S60 (A)	SEX: Unknown.	AGE: Adult, young (epiphyseal line still visible).	STATURE: 153.17–158.25cm ± (5ft 0¼in–5ft 2¼in).

BONE PRESERVATION
Fair. The lower legs only, fragmentary.
PATHOLOGY
Infection: Inflammatory changes to the lower legs are visible as subperiosteal bone.
Hyperostosis: Enthesopathy of quadriceps on R patella.

S61 (A)	SEX: Male.	AGE: Adult, middle.	STATURE: 162.4cm ± 2.99 (5ft 4in).

BONE PRESERVATION
Good. The body is complete.
DENTITION

					A	A									
						c?				c		c			
–	X	X	/	/	3	/	/	/	2	/	4	X	6	7	X
NP	/	/	X	4	3	2	1	/	2	3	4	/	X	X	X
					c	c					c?				

Calculus, periodontal disease and alveolar recession. Enamel hypoplasia.
PATHOLOGY
Developmental: Cleft in L6 which is sacralised to S1.
Infection: **? Leprosy (LL-bilateral)**. Inflammatory change to nasal aperture. M.tarsals have concentric atrophy. R m.tarsal shows destruction of dorsal aspect of head due to chronic infection. Phalanges have concentric remodelling: 1 R proximal phalanx extension of base, result of hyperflexion. Well-remodelled inflammatory change to L and R tibiae and fibulae. R maxillary sinusitis.
Nerve thickening?: Pronounced groove for costoclavicular ligament, and deep groove to superior aspect of L 2nd rib.
Soft tissue trauma: Exostosis at attachment of vastus intermedius.
DJD: Early degenerative change to L elbow and L hip.
Hyperostosis: L 1st m.carpal – small area on shaft.
Para-articular cyst: R 1st m.carpal,
Miscellaneous: Femora cylindrical perhaps due to disuse atrophy.
ASSOCIATED MATERIAL
Animal bone and fragment of extra ulna.

S62 (A)	SEX: Unknown.	AGE: Adult.	STATURE: 165.6–169.1cm (5ft 5¼in–5ft 5¾in).

BONE PRESERVATION
Good. Bones of the lower leg and feet only are present.
PATHOLOGY
Infection: **Leprosy (LL).** L and R tibiae and fibulae – subperiosteal new bone with a molten appearance. Subperiosteal reactive bone also present on the L calcaneum. L foot – tarsal disintegration with destruction of the tarsal joints by low-grade infection, resulting in septic arthritis. There is evidence for a large ulcer destroying the proximal ends of the 2nd and 3rd m.tarsals. R foot – talus, navicular, 1st and 2nd cuneiform and cuboid exhibit tarsal bars. 2nd–5th m.tarsals complete destruction of the distal articular surface and shaft of bone, result of mid-foot ulceration. Extant phalanges exhibit concentric remodelling and absorption of the bone although the pattern is atypical.

S63 (A)	SEX: Male.	AGE: Adult, mature.	STATURE: 162.5cm ± 2.99 (5ft 4in).

BONE PRESERVATION
Good/fair. The skull, cervical and thoracic vertebrae and left lower leg are absent.
PATHOLOGY
Trauma: Hairline fracture to medial malleolus of R tibia.
Schmorl's nodes: 1 thoracic vertebra.
DJD: Degenerative change to 3rd m.carpal, R innominate, R 1st m.tarsal.

S64 (A)	SEX: Male.	AGE: Adult, 17–25 years.	STATURE: Undetermined.

BONE PRESERVATION
Fair. Body complete but fragmentary.
DENTITION

8	7	6	5	4	3	/	/	1	2	3	4	5	6	7	8
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
O															

Calculus. Enamel hypoplasia.
PATHOLOGY
Infection: **Leprosy (LL)**. Rhinomaxillary changes: inflammatory change to nasal and palatal aspect of the maxilla, resorption of the anterior nasal spine and exposure of the roots of the maxillary central incisors.
Non-specific: L and R maxillary sinusitis. Subperiosteal reactive bone is present on the L and R tibiae and fibulae, calcanea and R 5th m.tarsal. Tarsal bar to R talus
Schmorl's nodes: T9–L5.
PUBLICATION
Thin sectioned by Schultz and Roberts (2002, 91)

S65 (B)	SEX: Male?	AGE: Adult, middle, 35–45 years.	STATURE: 162.1cm ± 2.99 (5ft 3¾in).

BONE PRESERVATION
Fair. Body is well represented but for cervical and upper thoracic vertebrae. Some weathering and high degree of fragmentation.
DENTITION

c		c												c	
8	7	6	5	4	3	/	1	/	2	3	4	5	6	7	8
/	/	6	5	4	3	2	1	1	2	3	4	5	6	7	/

Calculus, periodontal disease and alveolar recession marked. Enamel hypoplasia.
PATHOLOGY
Infection: L maxillary sinusitis.

Trauma: 4th lumbar vertebra has spondylolysis and possible early spondylolisthesis to the 5th lumbar vertebra.
Cyst: Small cysts to tubercle of L and R radii.
Tarsal bars: Early to L talus and navicular.

S66 (A) and **Context 81B**	SEX: Male.	AGE: Adult, mature, 45 years+	STATURE: 176.6cm ± 3.27 (5ft 9½in).

BONE PRESERVATION
Fair. The left upper arm and trunk are absent and the skull is only fragmentary.
DENTITION

					c	c									
					3	2									
X	X	X	X	4	/	/	/	/	/		4	5	X	X	X
				c							c				

Alveolar recession considerable and widespread.
PATHOLOGY
Infection: Subperiosteal reactive bone to R clavicle.
Neoplastic: Button osteomas x2 L parietal bone.
Hyperostosis: Ossified ligament on the shafts of the 4th and 5th m.tarsals.
ASSOCIATED MATERIAL
Extra adult R femur, innominate.

S67a (B)	SEX: Unknown.	AGE: Infant, birth–1.0 year (43 weeks).	STATURE: Undetermined.

BONE PRESERVATION
Good. Some slight weathering but the body is complete.
DENTITION

					a	
6	e	d	/	/	1	
U	O				U	

S67b (B)	SEX: Unknown.	AGE: 1.0–2.5 (*c* 1.5 years).	STATURE: Undetermined.

BONE PRESERVATION
Good. Some slight weathering but the body is complete
PATHOLOGY
Metabolic: Healed bilateral *cribra orbitalia*.

S68 (B)	SEX: Unknown.	AGE: Infant, birth–1.0 year (*c* 0.4 years).	STATURE: Undetermined.

BONE PRESERVATION
Good/fair. The body is well represented.
DENTITION

		U	U	U		U	U					
		d	c	b		a	b					
–	e	d	c	b	/	/	/	/	d	–	–	
	U	U	U	U					U			

PATHOLOGY

Infection: Bilateral mastoiditis visible as osteolytic lesions with sclerotic margins to L and R temporal bone and R sphenoid.

S69 (B)	SEX: Unknown.	AGE: Child, 1.0–2.5 (*c* 2.5 years)	STATURE: Undetermined.

BONE PRESERVATION:
Good/fair. The body is more or less complete but weathered.
DENTITION

										U	
						a				e	
6	e	d	/	/	/	/	/	c	d	e	6
U										O	U

Metabolic: Mild bilateral *cribra orbitalia*.

S70 (A)	SEX: Unknown, but bones are robust.	AGE: Adult.	STATURE: 175.5–177.7cm (5ft 9in–5ft 10in).

BONE PRESERVATION
Good. Lower legs and feet only are present
PATHOLOGY
Infection: **Leprosy (LL)**. Subperiosteal reactive bone to L femur. L and R tibiae and fibulae with molten lead appearance. R fibula – periostitis and osteitis result of ulceration to the lower leg.
Osteochondritis dissecans: L talus and R calcaneum.

S71 (A) (Tomb 65)	SEX: Unknown.	AGE: Adult, mature.	STATURE: 154.4–157.9cm (5ft 0¾in–5ft 2in).

BONE PRESERVATION
Fair. Body below the waist only present. Very fragmentary.
PATHOLOGY
Developmental: R patella – accessory bone.
Infection: Inflammatory change and possible sinus to L tibia.
Trauma: Colles' fracture L and R radius, R ulna styloid process absent. Fracture 1st distal phalanx.
DJD: Osteoarthritis of one lower lumbar vertebra and of left wrist (lunate and triquetral). Degenerative change to L and R hip joint, L radius, ulna notch, L and R 1st m.carpal, 2 middle phalanges
Osteochondritis dissecans: R tibia – localised area of erosion to medial condyle.
Cysts: to head of 3rd and 4th R m.tarsal
Osteoporosis: Entire skeleton. M.tarsals remodelled with knife-edge deformity. Phalanges wasted (not concentric atrophy).

S72 (A) (Tomb 65)	SEX: Male?	AGE: Adult, mature.	STATURE: 167.2cm ± 4.05 (5ft 5¾in).

BONE PRESERVATION
Fair. Lower limb absent but for the feet; fragmentary – with some weathering.
DENTITION

–	–	–	X	X	3	2	/	/	/	/	X	X	X	–	–
X	X	X	/	4	3	2	–	1	2	3	4	5	X	X	X
											?A	c			

Calculus, periodontal disease and alveolar recession. Enamel hypoplasia.
PATHOLOGY
Infection: 1st distal L phalanx (foot) irregular bone – infection?

Trauma: Right 11th or 12th rib fracture well healed.
DJD: Osteoarthritis of cervical and thoracic vertebrae and also L ankle (talus). Spondylosis – C2–4, C7, T7–9, L2, S1. Osteophytosis T3, 7–8, L2–3. Degenerative change to 4 left and 1st right rib, L and R acromioclavicular joint, L and R lunates, L wrist (ulna), L and R 2nd m.carpals. Osteophytosis to L and R hip (acetabula). Erosion of L and R 1st m.tarsal and R talus.
Osteolytic: Lesion to vertebral body of T6, 9, 12 with cyst-like appearance.
Para-articular cysts: L scaphoid, L and R 2nd m.carpals.
Enthesopathy: L and R acetabula and enthesopathy of iliolumbar ligament.
Tarsal bar: L and R tali, cuboid, navicular.
Volar groove: 1st L and R proximal phalanx (foot).

S73 (A) and **Context 55A**	SEX: Male.	AGE: Adult, middle to mature, 40 years+	STATURE: 175.1cm ± 2.99 (5ft 9in).

BONE PRESERVATION
Good. Mandible, upper cervical and right forearm absent.
DENTITION

X	X	X	X	X	X	X	X	X	X	/	X	X	X	X	X

Periodontal disease and alveolar recession present.
PATHOLOGY
Developmental: Sacralised L6.
Trauma: R 1st m.tarsal has a well-healed fracture.
Schmorl's nodes: T5, 7–11 and L2.
DJD: Vertebral osteophytosis T4–L1. Degenerative change to L and R acromioclavicular joint.
Hyperostosis: Bone-producing individual. Hyperostosis of upper thoracic vertebrae (T3–8) with ossification of intervertebral disc. T6–10 candle-wax appearance – early DISH. Ossification of costal cartilage. Osteophytic lipping glenoid cavities, L and R humeri, L radius, ulna, phalanges, L and R acetabula; *linea aspe*ra pronounced. Enthesopathy of L and R patellae, L and R calcanea.
Concentric remodelling. Radiographs of m.tarsals and 8 proximal phalanges.
ASSOCIATED MATERIAL
Extra proximal phalanx (foot).

S74 (A)	SEX: Male.	AGE: Adult, 35 years±	STATURE: 171.8cm ± 4.05 (5ft 7¾in).

BONE PRESERVATION
Fair. Upper part of body and R femur only. High degree of fragmentation.
DENTITION

c	c											A	c		
8	7	6	5	4	3	/	1	1	/	3	4	5	/	7	NP
8	7	6	5	/	/	2	/	/	2	3	4	5	6	7	8
															c

Calculus, periodontal disease, alveolar recession and enamel hypoplasia.
PATHOLOGY
Developmental: Frontal plagiocephaly with torticollis.
Infection: **Leprosy (LL).** Rhinomaxillary change: alveolar resorption beginning around the maxillary incisors. Inflammatory change to the nasal and palatal aspect of the maxilla. Commencement of remodelling to the anterior nasal spine. L maxillary sinusitis.
Trauma: Possible Perthes' disease – mushroom appearance to the R femoral head with a short neck.
Schmorl's nodes: T5–6, 8.

S75 (A)	SEX: Male.	AGE: Adult, mature.	STATURE: 168.7cm ± 3.27 (5ft 6½in).

BONE PRESERVATION
Fair. The body is complete but for the R lower leg which is very fragmentary.
DENTITION

X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	/	3	2	/	/	2	/	X	X	X	X	X
					c	c			c						

Calculus, periodontal disease and marked alveolar recession.
PATHOLOGY
Schmorl's nodes: T10–12.
DJD: Early change to L and R mandibular condyles. Osteophytosis of 4 L and 3 R ribs. Osteoarthritis of cervical vertebrae. Degenerative change to T5–6. Spondylosis – C3–5, L5 and S1.
Hyperostosis: Bone-forming individual. Osteophytosis, particularly to R side of body on 2nd cervical–5th lumbar. Vertebral osteophytosis C3–6, T5–12, L2–5. Ossification of thyroid and costal cartilage. Enthesopathies of L and R scapulae at attachment of deltoid muscle, L and R humeri, L carpals, R 5th m.carpal, R and L femur, L tibia and R and L fibulae, L patella, L and R calcanea, 1st and 2nd cuneiform. R and L innominate – ossification of iliosacral ligament. Osteophytosis around glenoid cavity, L and R acetabula and L and R femoral head. Pronounced *linea aspera*.
ASSOCIATED MATERIAL
Neural arch of neonate/foetus.

S76 (B)	SEX: Female.	AGE: Adult, mature.	STATURE: 152.3cm ± 3.55 (5ft 0in).

BONE PRESERVATION
Fair/poor. The skull and long bones appear to have had the surface scraped off during excavation. Upper trunk is absent.
DENTITION

											A	c	c		
8	7	6	5	4	3	/	/	1	/	3	/	5	6	7	8
–	–	–	5	4	3	2	/	1	/	3	4	5	X	X	–

Periodontal disease and alveolar recession, enamel hypoplasia. Marked overbite to maxilla.
PATHOLOGY
Infection: Subperiosteal reaction on L femoral shaft. L and R maxillary sinusitis.
Soft tissue trauma: L humerus distal end of shaft, R femur at insertion of medial head of gastrocnemius.
Trauma: R ulna well-healed Colles' fracture.
Schmorl's nodes: T12–L3.
DJD: Spondylosis – S1, Fusion of T12 and S1 with loss of vertebral disk space. Early degenerative change to L hip joint. Osteolytic lesion L5 – penetrating the trabecular bone.
Osteochondritis dissecans: L humerus (distal).
ASSOCIATED MATERIAL
Animal bone.

S77 (A)	SEX: Female?	AGE: Adult, mature.	STATURE: 167.6–170.3cm (5ft 6in–5ft 7in).

BONE PRESERVATION
Fair/poor. Body complete but fragmentary and the bones weathered. Much of post-mortem fragmentation is result of osteoporosis.
DENTITION

NP			A	A									c	c	
X	7	X	5	4	/	/	/	/	2	3	4	5	X	7	peg
/	7	X	/	4	3	2	1	/	2	3	4	X	X	7	X
			?A												

Periodontal disease and alveolar recession (considerable). Attrition extreme and peg tooth. Enamel hypoplasia.
PATHOLOGY
Infection: **Leprosy (LL).** Rhinomaxillary change: resorption of alveolar process and anterior nasal spine, inflammatory change to nasal and palatal aspect of maxilla, enlarged palatine foramen.
Non-specific: R maxilla around premolars result of abscess. Subperiosteal new bone to L and R tibiae and fibulae molten appearance, 1 R and 4 L m.tarsals. Destruction of interphalangeal joint of proximal/middle phalanges (hand) result of claw finger deformity. Nerve thickening to L and R temporal bone auriculotemporal groove, and R frontal bone. Concentric remodelling to m.tarsals and phalanges. Cicatrising type lesion to R side of frontal bone and new bone to L parietal bone.
DJD: Degenerative change to R mandibular condyle, R acromioclavicular joint. R and L hip (acetabula), 1st L m.tarsal and styloid process of 3rd m.tarsal. Osteoarthritis of R shoulder (humerus). Osteophytosis of L trapezium and R scaphoid.
Miscellaneous: Hyperostosis frontalis interna.

S78 (A)	SEX: Male.	AGE: Adult, young to middle, 25–35 years.	STATURE: 174.4cm ± 2.99 (5ft 8¾in).

BONE PRESERVATION
Fair. The bones are all badly affected post-mortem; the most probable cause is acid etching.
DENTITION

													c	c	
							X	X			4	5	6	7	
X	X	6	5	4	3	2	1	1	/	3	4	5	6	X	X
											c				

Calculus, periodontal disease and alveolar recession.
PATHOLOGY
Developmental : Sacralised 1st coccygeal.
Infection: **Leprosy (LL).** Rhinomaxillary changes: inflammatory reaction to the palatal and nasal aspect. Damage to the anterior nasal spine. Central incisors lost ante-mortem, associated with alveolar resorption.
Non-specific: Subperiosteal reactive bone – L and R tibiae, L fibula. Erosive lesion to plantar surface of 1st distal phalanx (hand), result of infection. Concentric remodelling of 2 phalanges (feet).
Trauma: Compression fracture of 12th thoracic and 1st lumbar vertebrae.
DJD: Osteoarthritis of thoracic and lumbar vertebrae. Some slight spondylosis.
Early degenerative change to L acetabulum, R temporomandibular joint.
Osteochondritis dissecans: R humerus – capitulum.

S79 (A)	SEX: Male.	AGE: Adult, mature.	STATURE: 169.9cm ± 2.99 (5ft 6¾in).

BONE PRESERVATION
Good. Body is more or less complete but some post-mortem fragmentation has occurred.
DENTITION

			c	c						c	c	c			
X	X	X	5	4	3	2	1	1	2	3	4	5	X		
/	7	/	5	4	3	2	1	1	2	3	4	5	6	X	X
	c		c									c	c		
													A		

Calculus, periodontal disease, alveolar recession.
PATHOLOGY
Developmental: Sacralised 1st coccygeal.
Cribra orbitalia: Slight.
Trauma: Depression to the R parietal bone probably traumatic in origin. Cuff tendon damage to R shoulder joint. Ligamentous damage to R 3rd m.carpophalangeal joint and R talus.
Schmorl's nodes: T7–10, L1.
Neoplastic: Button osteomas – frontal bone.
DJD: Osteoarthritis cervical, thoracic and lumbar vertebrae and L and R acromioclavicular joint. Spondylosis and vertebral osteophytosis present throughout. 3rd and 4th lumbar are fused by stabilising osteophytes. Early degenerative change to R elbow (radius and ulna), 1st m.tarsal, ribs, L and R hip (acetabula).
Hyperostosis: Ossification of the costal cartilage.
Tarsal bars: R calcaneum, navicular and talus.
ASSOCIATED MATERIAL
Animal bone: rib and immature long bone.

S80 (B)	SEX: Unknown.	AGE: Child, 1.0–2.5 (*c* 1.8 years).	STATURE: Undetermined.

BONE PRESERVATION
Fair, although the long bones are eroded.
DENTITION

/	e	d	c	b	a	a	/	c	d	e	6
6	e	d	c	b	a	a	b	c	d	e	6

PATHOLOGY
Metabolic: Cribra orbitalia marked. Vascular endocranial lesions on the frontal, parietals and occipital bone.

S81 (B)	SEX: Male.	AGE: Adult, young to middle, 25–35 years.	STATURE: 175.1cm ± 3.37 (5ft 9in).

BONE PRESERVATION
Fair. The upper torso is absent.
DENTITION

	c														
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
8	7	6	5	4	3		1	/		3	4	/	6	7	8

Periodontal disease and alveolar recession slight.
PATHOLOGY
Trauma: Injury to R supraorbital ridge.

Schmorl's node: 1st lumbar vertebra.
DJD: Vertebral osteophytosis – T10–L5. Osteophytosis of L and R hip (acetabula). Ankylosis of the joint between distal R tibia and fibula.
Enthesopathy: Quadriceps on L and R patellae.
Miscellaneous: New bone at attachment of iliopubic eminence, cause unknown.
ASSOCIATED MATERIAL
Context 81B part of **66** see below

S82 (B)	SEX: Male.	AGE: Adult, mature.	STATURE: 167.5cm ± 4.05 (5ft 6in).

BONE PRESERVATION
Fair. Post-mortem fragmentation has occurred. The lower legs and face are absent.
DENTITION

X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Alveolar resorption complete.
PATHOLOGY
Developmental: R auditory meatus.
Soft tissue trauma: L femur at attachment of gluteus maximus.
Schmorl's nodes: T6, 11–12, L2.
Osteolytic: Lesion T7, 10, L4.
DJD: Osteoarthritis of cervical, thoracic, lumbar and 1st sacral vertebrae, including ankylosis and osteophytosis of C4–5 with loss of disc space. Vertebral osteophytosis T7–S1. Osteoarthritis of 3 L ribs, L 2nd and 3rd and R 1st–4th m.carpophalangeal joints, L and R hip joint (acetabula). Degenerative change to L and R shoulder (glenoid cavity), L and R elbows.
?Early DISH: T7–S1 ossification of ligament with candle-wax appearance (R side of vertebral body).
Hyperostosis: Ossification of costal cartilage. Hyperostosis of L and R acromioclavicular joint, L and R rotator cuff.
ASSOCIATED MATERIAL
Animal bone.

S83 (A)	SEX: Male.	AGE: Adult, middle.	STATURE: 174.8cm ± 2.99 (5ft 8¾in).

BONE PRESERVATION
Good. The body is complete but the skull is fragmentary.
DENTITION

		A	A												
		c	c												
8	7	6	5	4	3	2	1	1	2	3	4	5	–	7	NP
8	7	6	5	4	3	2	1	1	2	3	4	5	/	7	8
												c	A		

Calculus, periodontal disease, alveolar recession and enamel hypoplasia present.
PATHOLOGY
Infection: **Leprosy (LL).** Rhinomaxillary changes: inflammatory change to nasal and palatal aspect of maxilla, resorption of anterior nasal spine, destruction of nasal septum, early maxillary alveolar recession.
Non-specific: Subperiosteal reaction to mandible, L femoral shaft, L fibula. Osteomyelitis – R tibia with considerable periosteal reaction and thickening of shaft. L and R naviculars have tarsal bars.
Soft tissue trauma to R 2nd m.carpal and L tibia (proximal).
Trauma: Possible well-healed greenstick fracture of R clavicle. Fracture of 1 proximal phalanx and soft tissue trauma to another proximal phalanx (foot).
Cribra orbitalia: Bilateral, well remodelled.
Schmorl's nodes: T7–12.
DJD: Osteoarthritis of T8 and R knee. Osteophytosis of 4 L and 2 R ribs. Degenerative change to R and L acromioclavicular joint,
ASSOCIATED MATERIAL
Animal bone.

S84 (A)	SEX: Male.	AGE: Adult, mature.	STATURE: 170.4cm ± 2.99 (5ft 7in).

BONE PRESERVATION
Good. Body well represented, face absent, some fragmentation.
DENTITION

	7							1								
X	X	X	/	4	3	/	R	/	/	/	4	5	X	X	X	
											c	c				

Periodontal disease and alveolar recession marked.
PATHOLOGY
Infection: L maxillary sinusitis.
Trauma: Spondylolysis. L side only.
Schmorl's nodes: T7.
Osteolytic: L4 – 2 lesions with smooth walls.
DJD: Degenerative change to R temporomandibular joint. Osteoarthritis of cervical vertebrae. Spondylosis – 2nd cervical–3rd thoracic. Vertebral osteophytosis – C2, 5–7, L2.
Osteoarthritis: Osteoarthritis of acromioclavicular joints, R wrist (radius and ulna), 1st L and R rib. Osteophytosis L and R glenoid cavity. Degenerative change to 3 R ribs, R 1st distal phalanx (foot).
Osteochondritis dissecans: L talus and navicular.
Para-articular cysts: L and R 1st, L 2nd m.tarsal.
Tarsal bar: L talus.
Hyperostosis: Ossification of costal cartilage.
Enthesopathy: L and R tibiae and fibulae, calcanea.
ASSOCIATED MATERIAL
Animal bone.

S85 (B)	SEX: Female.	AGE: Adult, middle to mature, 35+	STATURE: 152.05cm ± 4.45 (4ft 11¾in).

BONE PRESERVATION
Good to fair. The lower legs are absent.
DENTITION

	A	?A		c					c		A					
X	/	/	5	4	/	/	/	/	2	/	/	/	X	X	X	
8	X	X	5	4	3	2	1	1	2	3	4	5	6	X	8	
c												c	c		c	

Calculus, periodontal disease, alveolar recession, enamel hypoplasia. L maxillary exostosis, possible tooth extraction.
PATHOLOGY
Infection: **Leprosy (LL).** Rhinomaxillary changes: inflammatory change nasal and oral aspect of the palate. R. maxillary sinusitis. Volar groove to 1 phalanx (hand).
Trauma: Cuff tendon damage to R shoulder joint.
DJD: Spondylosis of T10–11, L5, S1. Degenerative change to the apophyseal joints of L5 and L and R hip (acetabula). Vertebral osteophytosis of C4, T10–12 and L4–5.
Hyperostosis: Ossification of the costal cartilage.
ASSOCIATED MATERIAL
Animal bone – skull and immature long bone.

S86 (B)	SEX: Unknown.	AGE: Child, 2.6–6.5 (*c* 5 years).	STATURE: Undetermined.

BONE PRESERVATION
Fair. Skull, R and L arms and L ribs only.
DENTITION

e	d	c	b	a	a	b	c	d	e
e	d	c	b	a	a	b	c	d	e

PATHOLOGY
Metabolic: Mild bilateral *cribra orbitalia*.

S87 (B)	SEX: Female.	AGE: Mature.	STATURE: 161.1 cm ± 4.24 (5ft 3½in)

BONE PRESERVATION
Good/fair. The lower legs are absent but otherwise the body is complete. The skull and ribs are very fragmentary.
DENTITION

		c		A		A			A		A				
		6	/	4	3	/	/	/	X	X	/	/			
X	X	6	5	4	3	/	X	X	X	3	4	5	6	X	X
		A							A	A					

Calculus, periodontal disease, alveolar recession.
PATHOLOGY
Developmental: Sacralisation of 1st coccygeal.
Infection: Small amount of inflammatory new bone to the nasal aspect of the palatine process (? leprous change). Osteolytic lesion in the body of 3rd lumbar, result of a possible infection.
Schmorl's nodes: T8, 10.
DJD: Spondylosis of cervical vertebrae. Vertebral osteophytosis – T5–T10 and L4. Degenerative change to costal facets, R acromioclavicular joint. Osteophytosis of R carpals, phalanges and R hip (acetabulum).
Hyperosotosis: Ossification of the costal cartilage.
General health: Cribra orbitalia – some evidence for remodelling.
ASSOCIATED MATERIAL
Animal bone.

S88 (A)	SEX: Male.	AGE: Adult, young to middle.	STATURE: 180cm ± 2.99 (5ft 10¾in).

BONE PRESERVATION
Good. The body is complete.
DENTITION

	c	?A										?c	c	A	
8	7	X	5	/	/	/	/	/	/	3	4	5	6	X	8
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
		?c													

Enamel hypoplasia.
PATHOLOGY
Infection: **Leprosy (LL).** Rhinomaxillary changes: absorption of anterior nasal spine, nasal septum and alveolar bone around central incisors. Inflammatory change to palatal and nasal aspect of maxilla and the nasal conchae. Thickened and rounded nasal aperture.
Non-specific: L and R maxillary sinusitis. Subperiosteal reactive bone to L and R ulnae, radii, 2nd and 4th R m.carpals. L tibia and fibula, L calcaneum. Very active subperiosteal reactive bone to R tibia, fibula. L foot has mid-foot ulceration – chronic infection to head of L 2nd m.tarsal. Pencilling and loss of head of 3rd and 4th m.tarsal. Destruction to m.tarsophalangeal joint. Ankylosis of 1st middle and distal phalanx. 1st distal

– loss of bone and remodelling to distal end. R foot 5th R m.tarsal osteitis and periostitis with ulceration of m.tarsal head. 1st proximal phalanx destruction to head by osteomyelitis. 5th proximal phalanx – destruction to proximal end, chronic infection and ulceration. 2 distal phalanges tufted. Tarsal bars to L and R foot, R m.tarsal bar close to head. L navicular and 2nd cuneiform. 2 proximal phalanges – volar grooves. Concentric remodelling of phalanges and knife-edge appearance to m.tarsals. L and R frontal bone – nerve thickening for trigeminal nerve.
Trauma: L 1st proximal phalanx foot.
Schmorl's nodes: T10–12, L2.
DJD: R hip (acetabulum) small area of erosion.
General health: L fibula has Harris line.
ASSOCIATED MATERIAL
Animal bones.
PUBLICATION
Thin sectioned by Schultz and Roberts (2002, 92).
Rhinomaxillary changes illustrated in Andersen and Manchester 1992, 5, fig 5.
Andersen *et al* (1994) illustrate abscess cavity in base of 5th proximal phalanx.

S89 (B)	SEX: Male.	AGE: Adult, middle.	STATURE: 171.47–174.00cm ± 4.05 (5ft 7½in–5ft 8½in).

BONE PRESERVATION
Good/fair. The preservation is by and large good, but the body is incomplete. The lower legs, skull and right side of the trunk are absent.
DENTITION

8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	–

Calculus and enamel hypoplasia.
PATHOLOGY
Infection: Periosteal reactive bone to the distal end of the R radial shaft, and to the shafts of all the metatarsals.
Schmorl's nodes: T6–L4.
DJD: Osteoarthritis of thoracic vertebrae. Vertebral osteophytosis of T8 and T12. Sacroiliitis – unilateral, L side. Degenerative change to L acromioclavicular joint and to the R 1st m.carpal head.
Hyperostosis: Ossification of the 1st costal cartilage.
ASSOCIATED MATERIAL
Fragments of animal bone rib.

S90 (B)	SEX: Unknown.	AGE: Adolescent, 14.6–17.0 (15 years).	STATURE: Undetermined.

BONE PRESERVATION
Good. The body is complete.
DENTITION

U															U
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
U															U

Calculus: Moderate. Enamel hypoplasia.
PATHOLOGY
Metabolic: Severe *cribra orbitalia*.
Osteochondritis dissecans: Evident on epiphysis for the base of the L and R 1st m.tarsal.
Miscellaneous: The left femur is 7cm shorter than the right, may be the result of old trauma.

S91 (B)	SEX: Male.	AGE: Adult, young.	STATURE: 185.7cm ± 3.37 (6ft 1in).

BONE PRESERVATION
Good. Body is well preserved, but with a high degree of post-mortem fragmentation. The left femur and both feet are missing.
DENTITION

A	A												A		
c	c														
8	7	6	5	4	3	/	1	1	2	3	4	5	/	7	8
8	7	X	5	4	3	2	1	1	/	3	4	5	6	7	8
c	c												c		
A															

Calculus, periodontal disease, alveolar recession, enamel hypoplasia.
PATHOLOGY
Infection: L and R maxillary sinusitis. Some inflammatory change to palate. Osteitis and periostitis of L tibia and fibula. Subperiosteal reactive bone R tibia and L calcaneum.
Trauma: Wedging/compression fracture – 7th and 8th thoracic vertebrae.
Schmorl's nodes: T5–L3.
DJD: Osteophytosis of R knee (femur, patella). Osteoarthritis of left ankle (talus).
Miscellaneous: Sacrum – osteolytic lesion in the vertebral body. L tibia – lytic focus.
ASSOCIATED MATERIAL
Extra shaft of adult fibula.

S92 (B)	SEX: Female.	AGE: Adult, young to middle, 20–40 years.	STATURE: 160.8cm ± 3.55 (5ft 3¼in).

BONE PRESERVATION
Good. The body is complete.
DENTITION

	c	A											c		
NP	7	/	/	4	/	/	/	/	2	3	/	/	6	7	/
/	7	6	5	4	3	2	1	1	2	3	4	5	X	X	8
	c	c													

Enamel hypoplasia, crowding in the left mandibular incisor region.
PATHOLOGY
Infection: Osteitis – R tibia.
Schmorl's nodes: 9th–11th thoracic.
Cribra orbitalia: R orbit.

S93 (B)	SEX: Unknown.	AGE: Child, 2.6–6.5 (*c* 3 years).	STATURE: Undetermined.

BONE PRESERVATION
Fair/poor. The skull is well represented but weathered and with concretions. The long bones are fragmentary and weathered.
DENTITION

	U											U		
–	6	e	d	/	b	/	a	b	c	d	e	6		
		e	d	c	b	a	a	b	c	d				
U	U													

PATHOLOGY
Metabolic: Bilateral *cribra orbitalia*.

S94 (B)	SEX: Female.	AGE: Adult, mature.	STATURE: 162.3cm ± 3.55 (5ft 4in).

BONE PRESERVATION
Fair. High degree of post-mortem fragmentation. L side of body is well represented but R side and thoracic – sacrum absent.
DENTITION

		A	A	A	A	A			A		A				
					c		c	c		c					
X	X	/	/	/	3	/	1	1	/	3	/	X	X	X	X
/	X	X	/	4	3	/	1	1	2	3	/	5	X	X	X
				c	c		c	c	c			c			
				A		A					A	A			

Periodontal disease and alveolar recession. Enamel hypoplasia.
PATHOLOGY
Cribra orbitalia: L and R orbits.
Infection: L and R maxillary sinusitis
Trauma: L radius – well-healed fracture in mid-shaft region. L ulna – fracture to distal end.
DJD: Early degenerative change to R mandibular condyle.
Osteochondritis dissecans: L calcaneum.
Para-articular cyst: R capitate.

S95 (B)	SEX: Unknown.	AGE: Child, 1.0–2.5 years.	STATURE: Undetermined.

BONE PRESERVATION
Good/fair. The tibiae only survive.

S96 (B)	SEX: Unknown.	AGE: Infant, birth–1.0 (38–40 weeks).	STATURE: Undetermined.

BONE PRESERVATION
Fair. More or less complete, very fragmentary.

S97 (B)	SEX: Unknown.	AGE: Child, 1.0–2.5 years.	STATURE: Undetermined.

BONE PRESERVATION
Poor. High degree of post-mortem fragmentation.
Fragments of postcranial skeleton.

S98 (B)	SEX: Male.	AGE: Adult, young to middle, 25–40 years.	STATURE: 166.9cm ± 2.99 (5ft 5¾in).

BONE PRESERVATION
Good. The body is complete but for the manubrium and sternum. The skull is very fragmentary.
DENTITION

		A	A	A				A	A	A	c				
X	X	/	5	/	/	/	/	/	/	/	4	5	X	X	X
/	X	X	5	4	/	X	/	/	2	/	X	X	X	X	8
			c	c											c

Periodontal disease and alveolar recession. Enamel hypoplasia.

PATHOLOGY
Trauma: Fractures of the L and R clavicles, 2 R and 1 L ribs, L fibula. Compression fracture to R 1st m.carpal and R tibia (distal end). Possible Perthes' disease or slipped epiphysis – R femoral head and shallow acetabulum.
Schmorl's nodes: T5–12, L2–3.
DJD: Degenerative change to T5 and 6. Vertebral osteophytosis – T12 and L4. Osteoarthritis of L ankle (talus) and R 1st rib.
ASSOCIATED MATERIAL
Extra R hamate.

S99 (B)	SEX: Unknown.	AGE: Perinate, 36–38 weeks.	STATURE: Undetermined.

BONE PRESERVATION
Fair. Body is incomplete: the lower arm and legs are absent.
DENTITION

e	d	c	b	a	a	b	c	d	e
e	d	c	b	a	a	b	c	d	e

S100 (B)	SEX: Male.	AGE: Adult, young (18–25 years).	STATURE: 165.5cm ± 2.99 (5ft 5¼in).

BONE PRESERVATION
Good. Body complete but for the hands and feet; the bone cortex was frequently weathered.
DENTITION

															O?
8	7	6	5	4	3	2	1	1	/	3	4	5	6	7	8
8	7	6	/	4	3	2	1	1	2	3	4	5	6	7	8
													c		

Calculus, periodontal disease. Enamel hypoplasia. Impacted L 3rd maxillary molar.
PATHOLOGY
Healing *cribra orbitalia*.
ASSOCIATED MATERIAL
Infant, based on tibial diaphyseal length.

S101 (B)	SEX: Unknown.	AGE: Adult.	STATURE: Undetermined.

BONE PRESERVATION
Good. Feet only survive.

S102 (B)	SEX: Unknown.	AGE: Child, 2.6–6.5 years.	STATURE: Undetermined.

BONE PRESERVATION
Good/fair. Left leg only. Slight weathering.

S103 (B)	SEX: Unknown.	AGE: Child, young.	STATURE: Undetermined.

BONE PRESERVATION
Fair. Fragments of skull only. Some weathering.
PATHOLOGY
Infection: Cavitating lesion to mastoid, possible mastoiditis.

S104 (B)	SEX: Male?	AGE: Adult, middle to mature, 30+	STATURE: 162.1cm ± 3.27 (5ft 3¾in).

BONE PRESERVATION
Fair/poor. The body is incomplete, fragmentary and weathered. Only the skull is well preserved.
DENTITION

		c											c		
NP	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
NP	7	6	5	4	3	2	1	1	2	3	4	5	6	7	NP
			c												

Calculus and periodontal disease slight. Enamel hypoplasia. Malocclusion – overbite resulting in uneven wear.
PATHOLOGY
Developmental: Unusual skull form, pentagonal shape.
General health: Cribra orbitalia and enamel hypoplasia.
Infection: **Tuberculosis**. 4th and 5th lumbar have destructive infective lesion to vertebral body.
Non-specific: Subperiosteal reactive bone – L and R tibiae, L fibula and L calcaneum. L and R maxillary sinusitis.
DJD: Early erosive lesion to L temporomandibular fossa.
ASSOCIATED MATERIAL
Animal bone.

S105 (B)	SEX: Unknown.	AGE: Child, 1.0–2.5 (*c* 1.3 years).	STATURE: Undetermined.

BONE PRESERVATION
Good/fair. The skull is well preserved, the upper trunk is fair to poor, the rest of the body is absent.
DENTITION

U								O		O	U	
6	/	d	/	/	/	/	/	c	d	e	6	
6	e	/	c	b	/	a	b	/	d	e	6	
U	O		O	O			O			O	U	

PATHOLOGY
Metabolic: L and R orbits – hair-on-end *cribra orbitalia*. With hair-on-end endocranial lesions on the parietals.

S106 (B)	SEX: Male?	AGE: Adolescent, 14.6–17.0 (*c* 16.9 years).	STATURE: 177.8cm ± 3.37 (5ft 10in).

BONE PRESERVATION
Fair. The skeleton is more or less complete, but considerably weathered.
DENTITION

O					O										O
8	7	6	5	4	3	/	1	1	2	3	4	5	6	7	8
NP	7	6	5	4	3	2	/	1	2	3	4	5	6	7	8
*U							A								U

Enamel hypoplasia.
PATHOLOGY
Infection: L and R maxillary sinusitis. Chronic infection to vertebral bodies of 10th and 11th thoracic (**possible TB**), visible as osteolytic lesions associated with a sinus and little new bone formation. 2 left ribs – swelling to posterior angle of shaft.

Schmorl's nodes: T6–8.
DJD: Intervertebral osteochondrosis L5 and S1 (associated with TB lesion?)
Metabolic: Healed bilateral *cribra orbitalia*.

S107 (B)	SEX: Unknown.	AGE: 1.0–2.5 (*c* 1.5 years).	STATURE: Undetermined.

BONE PRESERVATION
Fair/ poor. The body is incomplete, fragmentary and weathered. The left leg is absent.
DENTITION

6	e	d	/	/	a										
6	e	d	/	b	/	/	/	c	d	e	6				

S108 (B)	SEX: Female.	AGE: Adult, middle, 35–45 years.	STATURE: 155.2cm ± 3.55 (5ft 1in).

BONE PRESERVATION
Fair. The body is complete but so badly weathered that pathological lesions may have been removed. Post-mortem fragmentation is moderate.
DENTITION

	c														
/	7	6	5	4	3	/	/	/	2	3	4	5	6	7	8
NP	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8

Calculus, periodontal disease, alveolar recession and enamel hypoplasia.
PATHOLOGY
General health: Cribra orbitalia, Harris lines to R humerus and L tibia.
Infection: Osteitis visible as swelling of R tibial midshaft.
Trauma: Compression fractures – T3–5 and R navicular.
Neoplastic: Osteolytic lesion on L ramus of mandible.
DJD: Osteoarthritis of cervical and lumbar vertebrae. Vertebral osteophytosis T3–T9 and T11, L4–sacrum. Degenerative change to L temporomandibular joint, R clavicle, R elbow (humerus). Osteophytosis – R ulna, L femur, tibia, fibula, L talus and cuboid.
Hyperostosis: 1st costal cartilage, m.tarsals.
Tarsal bar: R navicular.
ASSOCIATED MATERIAL
Extra fragment of axis –**? S104**.

S109 (B)	SEX: Male.	AGE: Adult, middle, 35–45 years.	STATURE: 157.9cm ± 2.99 (5ft 2 ¼in).

BONE PRESERVATION
Good/fair. The body is almost complete but has undergone some slight weathering.
DENTITION

	c														
NP	7	X	/	4	/	/	X	/	/	/	4	/	X	X	NP
NP	7	6	5	4	3	/	/	/	/	3	4	/	6	7	NP
	c	c											c	c	

Calculus, periodontal disease, alveolar recession. Enamel hypoplasia.
PATHOLOGY
Developmental: Unusual skull form, the result of premature fusion of sutures. Supernumerary vertebra. Occipital plagiocephaly with muscular torticollis.
Cribra orbitalia: Marked.
Schmorl's nodes: T9–L4.
DJD: Degenerative change to T5 and to 3 ribs. Vertebral osteophytosis L2–L5. Osteoarthritis of R 3rd m.carpophalangeal joint.

Osteochondritis dissecans: R tibia (distal)
Hyperostosis: Ossification of R 1st costal cartilage.

S110 (B)	SEX: Unknown.	AGE: Child, 1.0–2.5 years.	STATURE: Undetermined.

BONE PRESERVATION
Good, but only the left arm, R pubis, L fibula and m.tarsals present.

S111 (B)	SEX: Male?	AGE: Adult, mature, 45 years+	STATURE: Undetermined.

BONE PRESERVATION
The bone condition is good. However, only the back of the skull, maxilla, mandible, upper arms and upper trunk survive.
DENTITION

			A	A	A										
			/	5	4	3	/	/	/						
/	/	/	5	/	/	/	/	X	/	/	/	5	6	7	8
A	A												?A	c	c

Enamel hypoplasia.
PATHOLOGY
Infection: 7th thoracic.
DJD: Osteoarthritis to cervical and thoracic vertebrae. Spondylosis of C3–T7. Degenerative change to L and R shoulder joints.
Hyperostosis: Ossification of the thyroid cartilage.

S112 (B)	SEX: Unknown.	AGE: Child, 2.6–6.5 years.	STATURE: Undetermined.

BONE PRESERVATION
Good. Most of the body is present and well preserved.
DENTITION

6	e	d	/	/	/	/	/	/	d	e	6	/
6	e	d	/	/	/	/	/	/	d	e	6	U

ASSOCIATED MATERIAL
Animal bone – jaw and rib.

S113a (B)	SEX: Male.	AGE: Adult.	STATURE: Undetermined.

BONE PRESERVATION
Fair. Body is incomplete but bone in a reasonable condition.
PATHOLOGY
Trauma: R femur – soft tissue trauma to gluteus medius and minimus and the attachment of the psoas major.
Schmorl's nodes: 2 lower thoracic.
ASSOCIATED MATERIAL
S113b and **S113c**.

S113b (B)	SEX: Unknown.	AGE: Child (older).	STATURE: Undetermined.

BONE PRESERVATION
Fair/poor. The body is very fragmentary but with little weathering. Long bones and ribs are present.
ASSOCIATED MATERIAL
S113a and **S113c**.

S113c (B)	SEX: Male.	AGE: Adult.	STATURE: Undetermined.

BONE PRESERVATION
Fair but only fragments of legs and R radius.
ASSOCIATED MATERIAL
S113b and **S113a**.

S114 (B)	SEX: Unknown.	AGE: Child, 2.6–6.5 (*c* 4.8 years).	STATURE: Undetermined.

BONE PRESERVATION
Fair/poor. The body is reasonably complete but with a high degree of post-mortem fragmentation and weathering.
DENTITION

		c					U					O	U
		e					1	/	c	/	e	6	7
7	6	e	d	c	b	a	/	/	c	d	e	/	7
U	O		c										U

PATHOLOGY
Metabolic: Healed bilateral *cribra orbitalia*, extension of lesion suggests it was hair-on-end form.

S115 (A)	SEX: Male.	AGE: Adult, mature, 45+	STATURE: 158.5cm ± 2.99 (5ft 2¼in).

BONE PRESERVATION
Good/fair. The body is complete but some fragmentation has occurred.
DENTITION

					c					A					
–	–	–	/	/	3	/	/	/	/	/	X	X	X	X	X
NP	7	X	X	4	3	2	/	1	/	3	4	5	X	X	8
X												c			

Calculus, periodontal disease, alveolar recession. Enamel hypoplasia.
PATHOLOGY
Infection: **Leprosy (LL-bilateral)**. Possible early rhinomaxillary change. Pitting to palate and small localised area of subperiosteal reactive bone to L aspect of nasal aperture. Very slight resorption of the alveolar bone around central incisors.
Secondary: Hands: trauma, the result of leprous infection and anaesthesia, early destruction of L 3rd m. carpal (early septic arthropathy). Interphalangeal septic arthropathy resulting in destruction of joint – leprous osteomyelitis, scalloped appearance to shaft. Periosteal change to 1 proximal phalanx. Subperiosteal reactive bone to L and R tibial shaft and R fibula with considerable well remodelled new bone. Subperiosteal reactive bone to R calcaneum and widespread infection R cuboid (ulceration). Chronic infection to head of R 2nd m.tarsal, mass of bone probably remains of R 4th m.tarsal, remodelling and tapering of bone shafts. R 1st proximal and distal phalanx ankylosed – claw toe deformity. Tarsal bars: L navicular. Tarsal disintegration – R cuboid. Remodelling: L m.tarsals – tapering of shaft. Concentric remodelling of shaft of proximal phalanges. L and R frontal grooves.
Trauma: Nasal fracture. Parry fracture of L radius. Erosion of L ulna styloid process, result of subluxation, trauma and soft tissue trauma to brachialis and pronator teres. Colles' fracture R radius, small amount of

displacement, soft tissue trauma to R ulna. Compression fracture L lunate. R femur – fracture to distal end of midshaft – still remodelling.
Schmorl's nodes: 10th thoracic and 1st lumbar.
DJD: Change to L temporomandibular condyle. Osteoarthritis to cervical and thoracic vertebrae – joints of 3rd, 4th, 6th, 7th cervical, 3rd–5th thoracic, 4th lumbar and to vertebral facet of 1st and 10th thoracic. Spondylosis C3–C6, L4–S1. Marginal osteophytes C3, C6, T11, L3. Osteoarthritis of L 1st rib (head). Secondary osteoarthritis to L and R wrists (radii and ulnae). Carpal destruction, resulting in secondary osteoarthritis of R 1st m.carpal and R knee, the result of trauma.
Para-articular cysts: 2nd m.carpal.
Osteochondritis dissecans: R apophyseal joint of 1 thoracic vertebra.
PUBLICATION
Knüsel and Göggel 1993.

S116 (B)	SEX: Unknown.	AGE: Child, 1.0–2.5 (*c* 1.5 years).	STATURE: Undetermined.

BONE PRESERVATION
Poor. The body is well represented but very fragmentary and weathered.
DENTITION

/	d	c	/	/	/	/									

S117 (B)	SEX: Male.	AGE: Adult, mature.	STATURE: 178.9cm ± 3.37 (5ft 10½in).												

BONE PRESERVATION
Excellent, but lower trunk and upper legs and L ulna absent.
DENTITION

			A												
/	/	6	5	/	/	/	/	/	–	/	/	/	/	7	8
X	7	X	5	4	3	2	1	1	2	3	4	5	X	7	8
												A			

Calculus, periodontal disease and alveolar recession. Enamel hypoplasia.
The characteristics of the cranial vault suggest that this is an individual of Asian or African descent (Knüsel, pers comm).
PATHOLOGY
Infection: **Leprosy (early LL)**. Rhinomaxillary change: alveolar resorption to maxillary incisors and anterior nasal spine, remodelling of nasal aperture.
Non-specific: L maxillary sinusitis, subperiosteal reactive bone to R humerus and subscapularis, L and R tibiae, L fibula and L1st m.tarsal. Tarsal bar – R talus, concentric atrophy of 3 proximal phalanges.
Trauma: Dislocation and impaction fracture of R shoulder joint with ankylosis and ossification of the soft tissues.
Schmorl's nodes: T5, 7–8.
DJD: Osteoarthritis of the cervical and thoracic vertebrae, costotransverse facet of T1 and of L acromioclavicular joint. Degenerative change to transverse facets of T1, 7–9. Spondylosis C3–6. Vertebral osteophytosis C1–L3, most marked on R side.
Early DISH: 5th thoracic to 1st lumbar vertebrae, ossification of anterior longitudinal ligament, associated with ossification of costal cartilage and osteophytosis of margins of joints of ribs, clavicles, carpals, phalanges, R m.tarsal.
Neoplastic: Button osteoma on R frontal bone.
Treatment: Immobilisation/splinting of R shoulder.
ASSOCIATED MATERIAL
Animal bone.

S118 (B) and **Context 13C**	SEX: Male.	AGE: Adult, young, 20–30 years.	STATURE: Undetermined.

BONE PRESERVATION
Fair. The bone condition is good but the body incomplete with much post-mortem fragmentation.
DENTITION

	A	c	c	c							c				c
/	X	6	5	4	3	2	1	1	2	3	4	5	6	7	8
8	7	X	5	4	3	2	1	1	2	3	4	5	6	7	8
			c									c	c		
													A		

Calculus, periodontal disease, alveolar recession. Enamel hypoplasia.
PATHOLOGY
Trauma: 3rd thoracic – beginning of compression fracture.
ASSOCIATED MATERIAL
Fragments of immature individual including scapula, femur and vertebrae.

S119 (B)	SEX: Female.	AGE: Adult, young, 20–30 years.	STATURE: 157.3 ± 3.72 cm (5ft 2in).

BONE PRESERVATION
Fair. Much post-mortem damage has occurred and right leg is absent.
DENTITION

	c				c						c	c	c	c	
/	7	X	/	/	3	2	1	1	/	3	4	5	6	7	/
/	/	X	5	/	3	2	/	/	2	3	4	/	/	/	8
			c	A									A		

Calculus, alveolar recession. Enamel hypoplasia.
PATHOLOGY
Cribra orbitalia: L and R orbits.
ASSOCIATED MATERIAL
Fragment of an adult fibula, fragment of femoral diaphyseal shaft of child.

S120 (B)	SEX: Unknown.	AGE: Child, 1.0–2.5 years.	STATURE: Undetermined.

BONE PRESERVATION
Poor. Fragments of skull and lower legs only are present.

S121 (B)	SEX: Unknown.	AGE: Child, 2.6–6.5 (*c* 4 years).	STATURE: Undetermined.

BONE PRESERVATION
Fair. Hands and feet are absent.
DENTITION

U							U			c	c	O	U	
/	6	e	–	/	/	/	1	/	/	d	e	6	7	
7	6	e	d	c	/	/	/	b	c	d	e	6		
U	U											O		

PATHOLOGY
Cribra orbitalia: R orbit with healing.

Infection: R and L maxilla subperiosteal reactive bone at position of 1st deciduous molars. 4 R ribs profuse subperiosteal reactive bone to visceral aspect, scalloped appearance and swelling of shaft. Possible TB.

S122 (B)	SEX: Unknown.	AGE: Child, 6.6–10.5 (*c* 7 years).	STATURE: Undetermined.

BONE PRESERVATION
Good/fair. The skull, upper cervical, Rclavicle and epiphyseal head of the humerus are present.
DENTITION

		c					*						
/	6	e	d	3	/	/	/	/	/	d	e	6	7
7	6	e	d	c	2	1	1	2	c	d	e	6	7

*Maxillary supernumerary tooth.
Crowding of the mandibular incisor region.
PATHOLOGY
Metabolic: Mild healed *cribra orbitalia*, mild vascular endocranial lesions on parietals.

S123 (B)	SEX: Male.	AGE: Adult, mature.	STATURE: Undetermined.

BONE PRESERVATION
Fair. The skull, arms head and trunk only survive. The skull is fragmentary but some of the bone is well preserved.
DENTITION

		A									cyst				
–	–	X	X	/	X	X	X	X	X	X	X	/	X	–	–
X	X	X	X	X	X	X	X	X	X	/	X	X	X	X	X

Periodontal disease and alveolar recession, cyst L maxilla.
PATHOLOGY
Infection: Pitting to nasal aspect of maxilla.
Trauma: R shoulder – anterior dislocation with osteoarthritis of the pseudo-joint, possibly the result of fracture of glenoid cavity. Soft tissue trauma to brachioradialis of R humerus.
DJD: Osteoarthritis of upper cervical vertebral apophyseal joints, L and R acromioclavicular joint and secondary osteoarthritis to R shoulder joint. **Ankylosing spondylitis** with fusion of C6–7 and T2–L2 with loss of articular space. There is a kyphoscoliosis and fusion through the L sacroiliac joint. Spondylosis of C3–4, S1. Ossification of the costal cartilage. Osteophytosis of ribs, glenoid cavity, articular surfaces of L and R radii and ulnae. Enthesopathy of L scapula.

S124 (B)	SEX: Female.	AGE: Adult, young, 20–30 years.	STATURE: 154.3cm ± 3.55 (5ft 0¾in).

BONE PRESERVATION
Fair. Weathering to exterior of bone, base of skull covered by concretions. Body is complete but for the thorax.
DENTITION

						c	c					c			
/	7	6	5	4	3	2	1	1	2	3	4	5	6	7	–
8	7	6	5	4	3	2	1	/	2	3	4	5	6	7	8
	c												c	c	imp

Imp=Impaction of left 3rd mandibular molar, erupting at 90°.
Enamel hypoplasia.
PATHOLOGY
Cribra orbitalia: L orbit only.
DJD: Degenerative change to T3–5.

S125 (B)	SEX: Unknown.	AGE: Child, 2.5–6.5 years (*c* 6.3 years).	STATURE: Undetermined.

BONE PRESERVATION
Good/fair. Skull and major long bones present, and neural arches of spine.
DENTITION

												O	U
–	6	e	d	c	b	–	a	b	c	d	e	6	7
7	6	e	d	c	/	1	1	b	c	d	e	6	7
U						U	U						U

S126 (B)	SEX: Male.	AGE: Adult, mature, 45 years+	STATURE: 166.6cm ± 2.99 (5ft 5½in).

BONE PRESERVATION
Good/fair. The condition of the bone is good, but the neck and part of the trunk are absent and fragmentary.
DENTITION

			A		c						A					
8	X	X	/	/	3	/	/	/	/	/	/	X	X	X	X	
X	7	X	5	4	3	/	/	/	/	3	4	5	X	7	X	
NP			A	?c			?A				A				NP	

Periodontal disease, alveolar recession, dental cyst to the greater palatine foramen. Bone cyst at mandibular fossa.
PATHOLOGY
Infection: Subperiosteal reactive bone to L and R tibiae and R fibula. R maxillary sinusitis.
DJD: Osteoarthritis of T11–T12 costovertebral facets.
Miscellaneous: Ossification of costal cartilage.

S127 (B)	SEX: Unknown.	AGE: Child, 1.0–2.5 years.	STATURE: Undetermined.

BONE PRESERVATION
Poor. Dentition and fragments of the femora are all that exist and these are weathered.
DENTITION

U										U
6	e	d	c	b	a	a		d	e	6
6	e	d						d	e	6
U										U

Enamel hypoplasia – permanent dentition.
ASSOCIATED MATERIAL
Animal bone – cow rib.

S128 (A)	SEX: Male.	AGE: Adult, middle to mature, 25–40 years.	STATURE: 169.8cm ± 2.99 (5ft 6¾in).

BONE PRESERVATION
Good; body complete, little fragmentation except for the ribs.
DENTITION

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

Calculus, periodontal disease and alveolar recession. Enamel hypoplasia.
PATHOLOGY
Developmental: Spina bifida occulta.
Infection: **Leprosy (LL)**. Rhinomaxillary changes: marked alveolar resorption. Inflammatory changes to the nasal and palatine aspect with early perforation of the palate.
Non-specific: L and R maxillary sinusitis. Subperiosteal reactive bone L and R tibiae and fibulae, m.tarsals, L and R 1st prox phalanx (foot). L 1st prox phalanx – osteolytic lesion – result of ulceration. 'Knife edge' appearance to R 3rd–5th m.tarsals. Tarsal bars – R navicular. Tufting 1st distal phalanx, and L and R m.carpal. L frontal groove.
Trauma: Fracture of L clavicle.
DJD: Degenerative change to R acromioclavicular joint, R auricular surface.
Erosive lesions: L and R 1st m.tarsal perhaps due to gout.
ASSOCIATED MATERIAL
Extra R lunate, 3 phalanges (hands).

S129 (B)	SEX: Male.	AGE: Adult, young to middle, 25–35 years.	STATURE: 162.5cm ± 2.99 (5ft 4in).

BONE PRESERVATION
Good/fair. The skeleton is incomplete and very fragmentary.
DENTITION

			A	A	A	A	A	A		A						
		c			c					c						
	/	6	/	/	3	/	/	/	/	3	4	/				
X	X	X	X	/	/	2	/			/	/	/	X	X	X	

Periodontal disease, alveolar recession, enamel hypoplasia.
PATHOLOGY
Developmental: Partial sacralisation, unfused, of L6.
Infection: To the nasal aspect of palate – result of infection spreading from an apical abscess. R maxillary sinusitis.
Trauma: Compression fractures T12, L1 with protrusion of disc into spinal canal. Fractures: L clavicle, 3 R ribs, L ulna (new bone on R radius – result of trauma). L femur has damage to adductor muscle attachment.
Schmorl's nodes: T9–12, L2–3, 5, S1.
Osteochondritis dissecans: L and R humeri.
Concentric remodelling: Feet – 2 proximal phalanges concentric atrophy.
ASSOCIATED MATERIAL
Rib and 5th m.tarsal – immature individual (part of **S170**).

S130a (B)	SEX: Male?	AGE: Adult.	STATURE: 171.1cm ± 3.37 (5ft 7¼in).

BONE PRESERVATION
Fair. Lower limb bones only
PATHOLOGY
Infection: Osteitis of R femur, R tibia. Subperiosteal new bone to R and L tibiae. R tibia has evidence for possible skin ulceration.

Trauma: Ligamentous damage to distal end of L tibia.
DJD: Osteoarthritis and osteophytosis.
ASSOCIATED MATERIAL
Extra adult L tibia and **S130b**.

S130b (B)	SEX: Unknown.	AGE: Adolescent, 10.6–14.5 years.	STATURE: Undetermined.

BONE PRESERVATION
Good but the body is fragmentary. Skull, R ulna, L ilium, R femur and L tibia are present.
DENTITION

NP	/	/	/	/	/	/	/	/	/	/	/	/	/	NP

ASSOCIATED MATERIAL
S170/130a.

S131 (B)	SEX: Female.	AGE: Adult, middle to mature, 40 years+	STATURE: 156.6cm ± 3.55 (5ft 1½in).

BONE PRESERVATION
Good/fair. The body is by and large complete and well preserved. The skull is fragmentary.
DENTITION

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

Calculus, periodontal disease, alveolar recession, enamel hypoplasia.
PATHOLOGY
Developmental: Partial sacralisation; L5 unfused.
Infection: L and R maxillary sinusitis.
DJD: Osteoarthritis of thoracic apophyseal, vertebral and transverse joints, also of L 1st m.carpal, L and R hip joint. Spondylosis of 2 cervical vertebrae. Degenerative change to R sternoclavicular joint, L and R patella.
Para-artic cysts: L carpals.

S132 (B)	SEX: Unknown.	AGE: Child, 2.6–6.5 (*c* 3 years).	STATURE: Undetermined.

BONE PRESERVATION
Good. The body is well represented, but the skull and ribs are fragmentary.
DENTITION

6	e	d	c	b	/	a	/	c	d	e	6
6	e	d	/	/	/	/	/	/	d	e	

S133 (B)	SEX: Female.	AGE: Adult, young.	STATURE: 156.1cm ± 4.45 (5ft 1½in).

BONE PRESERVATION
Fair/poor. Body incomplete and fragmentary, with a high degree of weathering. Skull trunk and L arm only.
DENTITION

	c			c				c	c					c	
	7	6	5	4	3	2	1	1	2	3	4	5	6	7	NP
8	X	X	5	4	3	2	1	1	2	3	4	5	6	X	8
													c		
													A		

Calculus, periodontal disease, alveolar recession, enamel hypoplasia. Rotation of mandibular premolar.
PATHOLOGY
Infection: L and R maxillary sinusitis.
Schmorl's nodes: 4th–12th thoracic.
DJD: Early degenerative change to L and R temporomandibular joint.
ASSOCIATED MATERIAL
Extra fragment of skull exhibiting porotic hyperostosis.

S134 (B)	SEX: Male.	AGE: Adult, middle to mature, 40–50 years.	STATURE: 167.2cm ± 2.99 (5ft 5¾in).

BONE PRESERVATION
Good/excellent. The body is complete.
DENTITION

		c													
/	7	6	5	4	3	/	1	/	2	/	/	5	6	7	8
NP	7	6	5	4	3	2	1	1	2	3	4	5	6	7	NP

Calculus, periodontal disease, alveolar recession, enamel hypoplasia.
PATHOLOGY
Developmental: Os Inca.
Infection: L and R maxillary sinusitis.
Trauma: R tibia has ligamentous damage to proximal end of shaft.
DJD: Osteoarthritis of cervical vertebrae. Vertebral osteophytosis T8–9, L5. Osteophytosis to margins of many of the joints.
Hyperostosis: Widespread to the vertebral column with ossification of the costal cartilage, innominates (auricular surface), femora, and tibiae.

S135 (A)	SEX: Female.	AGE: Adult, young to middle, 30–40 years.	STATURE: 161.9cm ± 3.66 (5ft 3¾in).

BONE PRESERVATION
Poor. The trunk is absent and the bones badly weathered, exhibiting root impressions and evidence for some chemical weathering.
DENTITION

	A	A			c	c	A	c	c	c			A		
NP	/	/	5	/	3	2	/	1	2	3	X	X	X	X	NP
8					3	2	1	/	2	3	4	5	X	X	8
							c		c	c					

Periodontal disease and alveolar recession, rotation of upper premolar. Enamel hypoplasia.
PATHOLOGY
DJD: Early degenerative change to R hip joint.
ASSOCIATED MATERIAL
Fragment of cranium.

S136 (B)	SEX: Female.	AGE: Adult, middle, 30–40 years.	STATURE: 161.1 cm ± 3.55 (5ft 3¼in).

BONE PRESERVATION
Good/fair. The body is by and large complete, but with much post-mortem fragmentation.
DENTITION

		c	c												
8	7	6	5	4	/	2	1	/	2	3	4	5	6	7	NP
/	X	X	/	4	3	2	1	/	/	3	4	5	X	7	8
			A											c	

Calculus, periodontal disease, alveolar recession, enamel hypoplasia. Rotation of the R mandibular canine.
PATHOLOGY
Developmental: R humerus has medial epicondyle absent (see *Trauma*).
General health: Slight expansion of the diploic space, roof of orbits.
Infection: L maxillary sinusitis.
Trauma: Fracture of 1 R rib. Avulsion fracture R humerus.
Schmorl's nodes: T7–8, L1–2.
DJD: Osteoarthritis of T12 and costovertebral facets of the thoracic vertebrae and R elbow. Spondylosis – C6–7, T9–T11. Vertebral osteophytosis C5–7, T6–10 and L5. Erosive lesion L clavicle. Osteophytic lipping – L and R patellae, R femur, middle phalanx (foot).

S137a (A)	SEX: Female.	AGE: Adult, mature.	STATURE: 158.6m ± 3.72 (5ft 2½in).

BONE PRESERVATION
Poor; very fragmentary and incomplete. Osteoporotic. L arm and leg absent.
PATHOLOGY
Infection: 3 mid-thoracic vertebrae are ankylosed as a result of **tuberculosis**.
Trauma: **Amputation** at distal end of R tibia. Fractures of distal end of R ulna and R scapula (close to glenoid cavity).
DJD: Spinal–mid-thoracic ankylosis and obliteration of disk spaces. Intervertebral osteochondrosis S1. Osteoarthritis of R elbow, R wrist, L and R hips and R knee joints.
Miscellaneous: The entire skeleton is very osteoporotic. The bones are all thin and gracile, probably partially a result of disuse atrophy. Osteolytic lesions in 2 lumbar vertebrae.

S137b (A)	SEX: Male.	AGE: Adult, middle.	STATURE: 169.8cm ± 3.29 (5ft 6¾in).

BONE PRESERVATION
Good. Skull and R upper arm absent, otherwise complete.
DENTITION

														c	
													6	7	

PATHOLOGY
Developmental: Notch out of L scaphoid where it articulates with lunate.
Trauma: 5th lumbar – partial spondylolysis.
Infection: Subperiosteal reactive bone L ulna, L tibia with slight swelling of midshaft, L fibula, R tibia, R and L calcaneum.
Schmorl's nodes: T8–10.
Remodelling: Shaft of L m.tarsals. Concentric remodelling of phalanges. Remodelling of distal articular surface, result of toe claw deformity.
Para-articular cysts: Head of R 1st m.tarsal.
Volar groove: Possible early groove L 5th.
ASSOCIATED MATERIAL
Adult innominate and R femur, possibly part of **S27**. Severe osteoarthritis to femoral head and osteochondritis dissecans to femoral condyle. Animal bone.

S137c (A)	SEX: Male.	AGE: Adult.	STATURE: Undetermined.

BONE PRESERVATION
Poor; only fragments of the body represented, including skull, scapulae, ribs, R humerus, 2 m.carpals, R innominate, L femur and R tibia.
PATHOLOGY
DJD: Degenerative change to R hip and shoulder joint.

S138 (B)	SEX: Female.	AGE: Adult, young, 20–25 years.	STATURE: 153.6cm ± 3.55 (5ft 0½in).

BONE PRESERVATION
Good. Bone well preserved with little fragmentation. However, the skull and patellae are absent.
DENTITION

8	7		e	4	3	/	1	/	2	3	4	e	7	8

The deciduous mandibular 2nd molars have been retained.
PATHOLOGY
Schmorl's nodes: L1.
Osteochondritis dissecans: L acetabulum.

S139 (B)	SEX: Female.	AGE: Adult, middle to mature, 30–50 years.	STATURE: 156.6–158.1cm ± 3.55 (5ft 1½in–5ft 2¼in).

BONE PRESERVATION
Good. The body is complete and well preserved with some slight weathering to the long bones.
DENTITION

NP	7	6	5	4	3	/	/	/	/	3	4	5	6	7	NP
NP	7	/	X	4	3	/	/	/	/	/	/	X	X	7	NP

Calculus, periodontal disease and alveolar recession, enamel hypoplasia.
PATHOLOGY
Cribra orbitalia: Marked.
Infection: Subperiosteal new bone to L tibia and 1st distal phalanx (foot).
Trauma: 1 L rib. Hairline fracture to distal articular surface of R tibia. Enthesopathies of distal L and R fibulae, result of ligamentous strain/damage. R shoulder – damage to cuff tendons.
Schmorl's nodes: T8–12, L2.
DJD: Osteoarthritis of the costovertebral facet of T12, of R acromioclavicular joint and R scaphoid. Degenerative change to L and R temporomandibular joint.
Osteochondritis dissecans: R 1st m.tarsal.
Miscellaneous: Tarsal bars.

S140 (B)	SEX: Unknown.	AGE: Child, 2.6–6.5 (*c* 4 years).	STATURE: Undetermined.

BONE PRESERVATION
Good. The body is complete but for the hands and feet.
DENTITION

6	e	d	/	/	/	/	/	/	d	e	6
6	e	d	/	/	/	/	/	/	d	e	6

PATHOLOGY
Trauma: Pathological fracture of mandible at position of L lateral incisor.
Metabolic: Healed rickets. L and R femora show slight anterior bowing. L and R tibiae have bowing and slight twisting of the diaphysis.

S141 (B)	SEX: Male.	AGE: Adult, middle.	STATURE: 154.8cm ± 2.99 (5ft 1in).

BONE PRESERVATION
Good. Preservation is excellent.
DENTITION

										A					c
X	X	6	5	4	/	/	/	1	/	X	4	5	X	X	8
8	X	X	5	/	/	2	/	/	/	3	4	/	X	X	8
												A		A	c

Calculus, periodontal disease and alveolar recession. Enamel hypoplasia.
PATHOLOGY
Developmental: Pit in centre of R glenoid cavity and L acetabulum.
Infection: L mandibular ramus – subperiosteal reactive bone.
DJD: Degenerative change to costotransverse facet of T8–9.
Schmorl's nodes: T8.
Hyperostosis: Hyperostosis of mandible.

S142 (B)	SEX: Female.	AGE: Adult, middle.	STATURE: 163.3 ± 3.55 (5ft 4 in).

BONE PRESERVATION
Fair. The skull is well preserved but the rest of the skeleton is fragmentary.
DENTITION

	c														c
8	7	X	5	4	3	2	1	/	2	3	4	X	X	7	8
8	7	X	5	4	3	/	1	/	2	3	4	5	X	7	8
														c	c

Calculus, periodontal disease and alveolar recession. Enamel hypoplasia.
PATHOLOGY
Developmental: L lambdoid suture obliterated, right unfused. Metopism and torticollis. Synostosis of manubrium and sternum. Pit to R radial head.
Infection: Active subperiosteal reactive bone to visceral aspect of 3 L and 4 R ribs. L and R maxillary sinusitis.
Soft tissue trauma: R humerus.
Schmorls nodes: L2–3.
DJD: Spondylosis C3–C6, T8, T10, L3 and L5. Degenerative change to R hip (acetabulum).
Para articular cysts: L carpals.
Remodelling: Head of R 2nd m.tarsal, and 1st proximal phalanx (claw toe), L and R 1st m.carpal head.

S143 (B)	SEX: Male.	AGE: Adult, middle to mature, 30–50 years.	STATURE: 181cm ± 4.05cm (5ft 11¼in).

BONE PRESERVATION
Fair. The cervical vertebrae and lower legs are absent.
DENTITION

										A				A	
				/	/	/	/	/	/	/	4	5	/	X	X
8	X	6	5	4	3	2	1	/	2	3	4	5	/	X	8
c		c	c										A		c

Periodontal disease and alveolar recession. Enamel hypoplasia.
PATHOLOGY

Infection: L and R maxillary sinusitis. Nasal spine is being resorbed and the central maxillary incisors have their roots exposed.
DJD: Degenerative change to costotransverse processes T8–T11, 7 R and 3L ribs, L and R hips (acetabula).
Schmorl's nodes: T6–T9.
ASSOCIATED MATERIAL Fragments of R elbow of second individual, **S151.** Animal bone with evidence for infection/osteomyelitis.

S144 (B)	SEX: Female.	AGE: Adult, mature.	STATURE: 154.9 cm ± 3.66 (5ft 1in).

BONE PRESERVATION
Fair. More or less complete but very fragmentary.
DENTITION

X	X	X	X	X	X	X	X	X	X	3	X	X	X	X	X

PATHOLOGY
Developmental: Accessory bone to R navicular.
Infection: **Leprosy (LL)**. Early rhinomaxillary change. Inflammatory change to L and R nasal aspect of maxilla, and nasal conchae. Slight pitting to inferior aspect of palate.
Remodelling: R m.tarsals, atrophy to proximal phalanges, and tufting to head of distal phalanx.
Volar groove: To one distal phalanx.
Non-specific: Left and right maxillary sinusitis and frontal sinusitis.
Trauma: Multiple fractures of a minimum of 5 L and 3 R ribs.
DJD: Osteoarthritis of cervical vertebrae and degenerative change to T3 and T4. Fusion of 4 mid-thoracic vertebrae, with little loss of disc space perhaps due to spondyloarthropathy. Degenerative change to L and R temporomandibular joint, R acromioclavicular joint, 1st proximal phalanx, and L and R hips (acetabula).
Osteochondritis dissecans: R 1st cuneiform.
Hyperostosis: Thickening of the endocranial aspect of the cranium particularly along the sagittal suture. Enthesopathy L and R calcanea at attachment of Achilles tendon.
Para-articular cysts: L and R humeral head. L and R scaphoids.
ASSOCIATED MATERIAL
Extra 1st cuneiform and 5th m.tarsal.

S145 (A)	SEX: Male.	AGE: Adult, young to middle, 25–35 years.	STATURE: 165.3cm ± 3.37 (5ft 5in).

BONE PRESERVATION
Good/fair. L side of upper body absent. The skull is fragmentary but the lower legs are complete except for the feet.
DENTITION

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

Enamel hypoplasia.
PATHOLOGY
Developmental: Sacralised coccyx.
Infection: Subperiosteal new bone plaques to L and R tibiae and fibulae.
Trauma: Soft tissue trauma to R clavicle at position of the trapezoid ligament, and to the R quadratus femoris and gluteus medius of femur.
Schmorl's nodes: T5–L1.

S146 (A)	SEX: Male.	AGE: Adult, young to middle.	STATURE: 175.7cm ± 2.99 (5ft 9in).

BONE PRESERVATION
Good. Body complete but for the facial bones of the skull.
DENTITION

8							1	1							
8	7	6	5	4	3	2	1	/	2	3	/	5	6	7	8
		c											c		

Calculus and periodontal disease present. Enamel hypoplasia.
PATHOLOGY
Developmental: L and R cervical rib. L and R 1st m.tarsal pit centre of head. Sacralised 1st coccygeal.
Infection: Subperiosteal reactive bone 2 rib fragments on visceral aspect.
Trauma: Impaction fracture to distal articular surface of R radius.
Schmorl's nodes: T5–T11.
DJD: Erosive lesion to L and R 5th m.tarsal destroying the plantar aspect.
ASSOCIATED MATERIAL
Extra L 2nd cuneiform (adult).

S147 (B)	SEX: Male.	AGE: Adult.	STATURE: 170.2cm ± 2.99 (5ft 7in).

BONE PRESERVATION
Fair. The body is incomplete. Skull, left ribs and vertebral bodies absent.
PATHOLOGY
Bone cyst – R clavicle.

S148 (A)	SEX: Male.	AGE: Adult, young, 25–35 years.	STATURE: 172.4cm ± 2.99 (5ft 7¾in).

BONE PRESERVATION
Good. Body complete but for L ulna. The bone is in good condition.
DENTITION

				A										A	A
c	c	c												c	c
8	7	6	5	X	3	2	1	1	2	3	4	5	6	7	8
8	7	6	5	4	3	2	1	/	2	3	4	5	6	7	8
c	c											c	c		c
A													A		

Calculus, periodontal disease, alveolar recession and enamel hypoplasia.
PATHOLOGY
Developmental: Cleft neural arch of S1.
Infection: **Leprosy (LL).** Rhinomaxillary changes: resorption of the anterior nasal spine, small localised inflammation to the nasal aspect of the palate and thinning of the palate. Some alveolar resorption to area of the central maxillary incisors.
Non-specific: Hands – low-grade chronic infection visible in R 1st and 2nd m.carpal as osteitis and subperiosteal reactive bone. Septic arthritis and claw hand deformity present in the ankylosis of the 1st interphalangeal joint, and two others. 2 interphalangeal joints destroyed by an infective process. Lower legs: subperiosteal reactive bone to L and R tibiae and fibulae. Feet: left more affected than the right exhibiting changes consistent with the disorganisation of the foot and collapse of the arch. Low-grade infection at 1st m.tarsophalangeal joint the result of an ulcer destroying the joint. Subperiosteal bone reaction to all 5 m.tarsals. 5th is flattened ant/post, and the head totally resorbed. Proximal interphalangeal joint ankylosed in 3 cases. 2 middle and 1st distal good examples of resorption of the distal end of the bones. Subperiosteal reactive bone – ribs, L maxillary sinusitis. Concentric remodelling: 'Knife edge' deformity to m.tarsals. Proximal phalanges – concentric remodelling. Volar groove – 4 proximal phalanges.

Trauma: Pathological fracture L distal phalanx, L proximal phalanx (foot).
Schmorl's nodes: T4–L4.
DJD: Osteoarthritis of T1 costovertebral facet. Vertebral osteophytosis T5–T6. Hands and feet – septic arthritis.
Osteochondritis dissecans: R humerus, R 1st m.tarsal.
PUBLICATION
Thin sectioned by Schultz and Roberts (2002, 92).
Andersen *et al* (1994) illustrate ankylosis of proximal interphalangeal joints of left foot.

S149 (B)	SEX: Male.	AGE: Adult, mature.	STATURE: Undetermined.

BONE PRESERVATION
Good. Skull, spinal column, L and R clavicles, L forearm, R hand, R fibula, m.tarsals.
DENTITION

/	7	6	5	4	/	2	1	/	2	3	4	5	6	7	/
/	X	X	5	/	3	/	/	/	/	/			/	/	8
													?A	A	

Calculus, periodontal disease and alveolar recession.
PATHOLOGY
DJD: Severe spondylosis of C4–C7. Degenerative change to L and R acromioclavicular joint.
Possible early DISH: T8–T12 ossified ligament on the anterior aspect of vertebral body. Ossification of costal cartilage. Enthesopathy of R fibula.
Neoplastic: Small button osteomas.

S150 (B)	SEX: Female.	AGE: Adult, mature, 45 years+	STATURE: 160.6cm ± 3.72 (5ft 3¼in).

BONE PRESERVATION
Poor. Body very fragmentary but well represented.
DENTITION

						A									
X	X	X	X	/	X	X	X	/	X	X	X	X	X	/	X
/	7	X	/	/	3	/	/	1	2	3	4	5	X	X	X
	c		A		c	A		c	c		c				

Calculus, periodontal disease and alveolar recession.
PATHOLOGY
General health: Porosity of cranial vault. Orbital lesions not typical of *cribra*.
Infection: **Tuberculosis.** Subperiosteal reactive bone to visceral surface of 2 ribs and internal aspect of R innominate associated with the total destruction of the acetabulum. Probable tuberculous hip joint. Lytic lesions in vertebral bodies. Subperiosteal reactive bone on R femur. Osteitis of R tibia.
Schmorl's nodes: T5–T8 and T10–T12.
DJD: Osteoarthritis of 2 cervicals and costovertebral facet of T1. Spondylosis – cervical vertebrae and anterior aspect of lumbars. Degenerative change to R shoulder.
Osteochondritis dissecans: L and R 1st m.tarsal.
Osteoporosis: The entire skeleton.

S151 (B)	SEX: Female?	AGE: Adult, mature.	STATURE: 165.9cm ± 3.55 (5ft 5¼in).

BONE PRESERVATION
Fair. The body is complete but fragmentary.
DENTITION

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

Calculus, periodontal disease and alveolar recession. Enamel hypoplasia.
PATHOLOGY
Developmental: Atlas unfused posteriorly. Pit in L and R tali.
Cribra orbitalia: R orbit.
Infection: **Leprosy (LL).** Early rhinomaxillary change, visible as pitting on the palatal aspect of maxilla. Inflammatory change to nasal septum and nasal conchae.
Non-specific: R maxillary sinusitis. Pitting to parietal bone result of scalp infection. Subperiosteal reactive bone on L tibial shaft. R tibia – subperiosteal reactive bone and osteitis. Nerve thickening auriculotemporal groove, L and R frontal groove. Tarsal bar: R navicular.
Trauma: Well-healed fracture to skull.
Schmorl's nodes: T6, T8–T12.
DJD: Osteoarthritis of L and R mandibular condyles. Osteoarthritis of C2 and C3 and costotransverse joint of T9 and T10, of some rib heads and R hip. Spondylosis C5–C6, T5–T7, L3, L5 and sacrum. Vertebral osteophytosis C3–C6, L3 – sacrum. Degenerative change to L hip (acetabulum), Lsacroiliac joint (auricular), erosion of R 3rd m.carpal,
Neoplastic: Button osteoma – frontal bone.
Para-articular cyst: L scaphoid, L 2nd m.tarsal.
ASSOCIATED MATERIAL
Extra calcaneum and 3rd R m.tarsal. Probably part of **S143**.

S152 (B)	SEX: Unknown.	AGE: Child, 2.6–6.5 (c 4 years).	STATURE: Undetermined.

BONE PRESERVATION
Excellent most of the body is present. The skull has suffered post-mortem fragmentation.
DENTITION

7	6	e	d	/	/	/	/	/	/	/	d	e	–
7	6	e	d	c	/	/	/	2	/	d	e	6	7

PATHOLOGY
Metabolic: Active *cribra orbitalia*.
ASSOCIATED MATERIAL
Animal bone: fragments of skull.

S153 (B)	SEX: Unknown.	AGE: Adolescent, 10.6–14.5 (*c* 14 years).	STATURE: Undetermined.

BONE PRESERVATION
Good. The bone condition is good but the body is incomplete and fragmentary. The cranium, vertebral column, R upper arm and legs are absent.
DENTITION

/		–	–	/	/	/	6	7	8
									O

S154 (B)	SEX: Unknown.	AGE: Child, 1.0–2.5 years.	STATURE: Undetermined.

BONE PRESERVATION
Excellent. Body complete.
DENTITION

U	O									O	U
6	e	d	/	/	/	/	/	/	d	e	6
6	e	d	/	/	/	/	b	/	d	/	6
U	O									O	U

PATHOLOGY
Metabolic: Cribra orbitalia associated with lifting and expansion of the diploic space – possible scurvy. Slight pitting to floor of the orbit.
ASSOCIATED MATERIAL
Extra frontal bone (adult) and tibial diaphysis, part of **S156**.

S155 (A)	SEX: Female.	AGE: Adult, mature.	STATURE: 157.6cm ± 3.55 (5ft 2in).

BONE PRESERVATION
Good, complete, but weathering to scapula and innominate.
DENTITION

			A												
			c										c	c	
/	7	6	5	4	3	/	/	1	2	3	4	5	6	7	8
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
c	c	c													

Calculus, periodontal disease and alveolar recession slight. Enamel hypoplasia. Rotation of maxillary 1st premolar
PATHOLOGY
Schmorl's nodes: T5–L5.
DJD: Vertebral osteophytosis C1–C4, T3–T4, T11, L5. Osteophytosis of 5 L ribs, 2 R ribs, margins of L and R glenoid cavity, L scaphoid and lunate. Degenerative change to R radius (proximal), localised erosion to R hip (acetabulum).
Hyperostosis: Ossification of thyroid and costal cartilage.

S156 (B)	SEX: Undetermined.	AGE: Child, 1.0–2.5 years.	STATURE: Undetermined.

BONE PRESERVATION
Poor. Fragments of skull and cervical vertebrae only.
DENTITION

		/	/	e	/	
		U	U	O	U	

S157 (B)	SEX: Male.	AGE: Adult, mature, 50 years+	STATURE: 166.9cm +4.05 (5ft 5½in).

BONE PRESERVATION
Fair. The skeleton is well represented but fragmentary with some weathering or abrasion to the bone.
DENTITION

			/	/	3	/	/	/	/	3	4	/		
	7	6	5	4	3	2	1	1	2	3	4	5	6	X	/
	c	c													

R maxillary canine has erupted horizontally.
PATHOLOGY
Infection: L maxillary sinusitis.
Trauma: Fractures R tibia, compression distal end of R fibula and ligamentous damage.
Schmorl's nodes: T6, T9–T12.
DJD: Spondylosis T8, T11 and T12. R ankle – degenerative change to talotibial joint.
Miscellaneous: Remodelling of nasal septum and anterior aspect of the nasal aperture.

S158 (A)	SEX: Male.	AGE: Adult, young, 20–25 years.	STATURE: 165.9cm ± 2.99 (5ft 5¼in).

BONE PRESERVATION
Good. The body is complete and well preserved although there is some post-mortem fragmentation.
DENTITION

													c	?c	c
/	7	6	5	4	3	/	/	/	2	3	4	5	6	7	8
8	7	6	5	/	3	/	/	/	2	/	4	5	6	7	8
	c														

Calculus, periodontal disease and enamel hypoplasia.
PATHOLOGY
Cribra orbitalia: Healed.
Infection: **Leprosy (LL).** Rhinomaxillary changes – inflammatory change to nasal and palatal aspect of maxilla, R conchal crest, L maxillary sinusitis. Remodelling of nasal aperture
Non-specific: M.carpals and m.tarsals subtle change to the cortical bone giving a fenestrated/woven appearance. L and R tibiae and fibulae – small amount of subperiosteal reactive bone. Feet: ulceration and infection of L calcaneum. M.tarsals – slight tapering of shaft towards distal end.
Schmorl's nodes: T9, T11 and L3.
Trauma: Spondylolysis and variant – 5th lumbar vertebra. The left side is detached at pedicle – acute traumatic event, almost a non-union. 1st proximal phalanx (foot) pit/linear lesion to base, more the appearance of a hairline fracture than *osteochondritis dissecans*.

S159 (B)	SEX: Unknown.	AGE: Child, 1.0–2.5 years.	STATURE: Undetermined.

BONE PRESERVATION
Fair. Only fragments of the skull and lower legs present.
PATHOLOGY
Infection: Subperiosteal new bone on left tibia midshaft, all aspects.
Metabolic: Bilateral, healed hair-on-end *cribra orbitalia*.

S160 (B)	SEX: Female.	AGE: Adult, middle, 30–40 years.	STATURE: 155.5cm ± 3.66 (5ft 1¼in).

BONE PRESERVATION
Fair. The body is reasonably complete with the exception of the facial bones. Very fragmentary.
DENTITION

													c		
													7		
NP	/	X	5	/	3	/	/	/	2	3	4	5	6	X	NP

Calculus, periodontal disease and alveolar recession. Enamel hypoplasia.
PATHOLOGY
Developmental: C6 – unfused posteriorly. R scapula – os *acromiale*.
Infection: Osteitis and subperiosteal new bone – R 1st m.carpal.
Trauma: Hairline fracture – T3.
Schmorl's nodes: T8–T9, T11–L4.
DJD: Osteoarthritis of C4–C5, T2–T9 and 1st R m.carpal. Degenerative change to R hip (acetabulum).

S161 (B)	SEX: Unknown.	AGE: Child, 1.0–2.5 (*c* 1.6 years).	STATURE: Undetermined.

BONE PRESERVATION
Good/fair. Skull, trunk and R leg only.
DENTITION

	O		O					O			
–	e	d	c	b	/	a	/	c	d	–	–
6	e	/	c	/	/	/	/	/	d	e	6
U	O		O							O	U

ASSOCIATED MATERIAL
R triquetral of a young child.

S162 (B)	SEX: Unknown.	AGE: Child, 1.0–2.5 (*c* 1.9 years).	STATURE: Undetermined.

BONE PRESERVATION
Poor. The body is reasonably complete but very fragmentary.
DENTITION

U	O										
6	e	d	c	/	/	/	/	/	–	–	–
6	e	d	/	/	/				d	–	6
U											U

ASSOCIATED MATERIAL
R scaphoid of child or young adult.

S163 (B)	SEX: Unknown.	AGE: Child, 6.6–10.5 (*c* 7.5 years).	STATURE: Undetermined.

BONE PRESERVATION
Good. There is a fair amount of post-mortem fragmentation, particularly to the skull. L foot absent.
DENTITION

U										O			U
7	6	e	/	/	/	/	/	/	/	4	e	6	7
7	6	e	d	/	2	1	1	2	/	d	e	6	7
U					O								U

Enamel hypoplasia.
PATHOLOGY
Metabolic: Linear enamel hypoplasia on lateral incisors, pitted hypoplastic defects on molars near cusps. Bilateral and healed *cribra orbitalia*, extension of lesions suggests was hair-on-end form.

S164 (B)	SEX: Unknown.	Age: Child, 1.0–2.5 years.	STATURE: Undetermined.

BONE PRESERVATION
Poor, very fragmentary and weathered. The skull and fragments of legs only survive.

S165 (B)	SEX: Male.	AGE: Adult, mature.	STATURE: 175.9cm ± 3.267 (5ft 9¼in).

BONE PRESERVATION
Fair. Body complete but fragmentary.
DENTITION

A		A		c											
X	X	X	/	4	3	/	/	1	/	/	4	5	X	X	X
/	/	X	X	4	3	2	1	1	2	3	4	/	X	7	X
				c										c	

Calculus, periodontal disease and alveolar recession.
PATHOLOGY
General health: Harris lines to L radius, L tibia.
Infection: **Leprosy**. Early rhinomaxillary change: inflammatory change to nasal aspect of maxilla, and nasal conchae. Pitting to palatal aspect. L and R maxillary sinusitis.
Schmorl's nodes: T8–T10 and L4.
DJD: Osteoarthritis of cervical and thoracic vertebrae and of R 1st m.tarsal with small subarticular cysts. Spondylosis of C4–7, T12, L3–5. Vertebral osteophytosis C4–6, T12– L5. Degenerative change to L and R acromio–clavicular joint, R shoulder (glenoid), L and R wrist (radii), L and R 1st m.carpophalangeal joint, L and R hips, L and R knees (tibiae). Para-articular cyst to R 1st m.tarsal.
Osteochondritis dissecans: R calcaneum.
Osteolytic lesions: Perforating the trabecular bone of T6–T7. 3 small osteolytic lesions to endocranial aspect of occipital bone.

S166 (B)	SEX: Unknown.	AGE: Child, 6.6–10.5 (*c* 9.5 years).	STATURE: Undetermined.

BONE PRESERVATION
Fair/good. Many of the bones, particularly the skull, are fragmentary.
DENTITION

O			U					O							
				5	/	3	/	1	1		3			6	
8	7	6	e	4	3	2	/	1	/	3	4	e	6	7	8
U	U			O	O					U	O			U	U

PATHOLOGY
Developmental: Neural arch of atlas retarded in development, with deviation of the spinous process and a cortical defect on the left superior facet. T7 has a depression on the left aspect of the vertebral body suggestive of a compression fracture (?).

S167 (B)	SEX: Male.	AGE: Adult, young.	STATURE: 170.4cm ± 2.99 (5ft 7in).

BONE PRESERVATION
Fair. Upper body poorly preserved and fragmentary but the legs are well preserved with little weathering.
DENTITION

													c	c	
8	7	/	5	4	/	/	/	/	/	/	/	/	6	7	8
8	7	6	5	4	3	/	/	1	/	3	4	5	6	7	8

Enamel hypoplasia.
PATHOLOGY
Developmental: Flat and thickened sacrum. Pit in R glenoid cavity. Woven appearance to L and R calcanea (posterior aspect).
Infection: **? Leprosy (LL).** ? Early rhinomaxillary change. Small amount of alveolar resorption to incisor region. Remodelling of nasal crest and to nasal aperture. L and R tibiae and fibulae, R calcaneum, L 1st m.tarsal, R 5th m.tarsal, subperiosteal reactive bone plaque. Septic arthropathy to 1st proximal phalanx (proximal). Volar grooves 3 proximal phalanges (hands). Pitting to parietal and occipital bones – scalp infection.
Trauma: L clavicle.
Schmorl's nodes: T4–L2.
DJD: Erosion of olecranon fossa of R humerus.
ASSOCIATED MATERIAL
L cuboid (adult).

S168 (B)	SEX: Female?	AGE: Adult, mature.	STATURE: 162.7–167.1cm ± 3.37 (5ft 4in–5ft 6¾in).

BONE PRESERVATION
Poor. The body is incomplete and very fragmentary with some weathering.
DENTITION

		A									A	A			
c			c								c				
8		X	5	4	/	/	1	1	2	3	4	/	6	–	–
/	X	X	5	4	3	2	1	1	2	3	4	5	X	X	/
											c				

Calculus, periodontal disease and enamel hypoplasia.
PATHOLOGY

Infection: L maxillary sinusitis. Pitting to anterior aspect of the hard palate. Subperiosteal reactive bone to L and R tibiae, L and R calcanea, L and R 5th m.tarsal shaft, R 1st–3rd m.tarsal shafts.
ASSOCIATED MATERIAL
Fragments of two individuals. Axis and navicular of an immature individual and cervical vertebra of an adult.

S169 (B)	SEX: Unknown.	AGE: Child, 1.0–2.5 (*c* 1.8 years).	STATURE: Undetermined.

BONE PRESERVATION
Fair. Much post-mortem fragmentation but most of the body is represented.
DENTITION

6	e	d	/	/	/	/	/	/	d	e	6
6	e	d	c	/	/	/	/	/	d	e	6

PATHOLOGY
Metabolic: Healed, bilateral *cribra orbitalia* of a mild form.

S170 (B)	SEX: Unknown.	AGE: Child, 6.6–10.5 years.	STATURE: Undetermined.

BONE PRESERVATION
Good. Skull, vertebral column, L pectoral girdle and arm only.
DENTITION

U															
8	7	6	5	/	/	/	1		2		/	5			
	/	6	5	4	3	2	/	1	2	3	4	5	6	7	8
													?c	c	U

Dental: Occlusal caries on first permanent molar and second deciduous molar. Enamel hypoplasia of canines.
PATHOLOGY
Metabolic: Bilateral active *cribra orbitalia*.
ASSOCIATED MATERIAL
Fragments of an adult individual and animal bone.

S171a (B)	SEX: Female.	AGE: Adult, mature.	STATURE: 168.3cm ± 2.99 (5ft 6¼in).

BONE PRESERVATION
Fair/poor. Body complete but with a high degree of post-mortem fragmentation.
DENTITION

		X	X	X	X	X	X				X	X	X	X	X
X	X	X	X	X	3	/	X	X	X	X	X	X	X	X	X

Alveolar recession considerable.
PATHOLOGY
Developmental: Transverse foramen to the body of 5th lumbar vertebrae.
Infection: L maxillary sinusitis. L and R tibiae and fibulae – subperiosteal reactive bone.
Trauma: Well healed Colles' fracture of L ulna.
Schmorl's nodes: T8–T10.
DJD: Osteoarthritis of thoracic, lumbar and 1st sacral vertebrae and L 1st m.carpophalangeal joint. Spondylosis of T7–T9. Vertebral osteophytosis C4, C7, L1–L3. 1 middle phalanx – extension by new bone. Degenerative change to 2 L and 2 R ribs, L and R acromioclavicular joints, L and R shoulders (glenoid cavity), R elbow (humerus), R and L auricular surfaces, R and L hips.
Para-articular cyst: Head of R 4th m.tarsal.

S171b (B)	SEX: Unknown.	AGE: Unknown.	STATURE: Undetermined.

PATHOLOGY
Trauma: Healed hairline fracture to the lateral femoral condyle (compression fracture).
DJD: Destruction of the head of humerus or femur. Osteoarthritis of shoulder and knee (femoral condyle).
ASSOCIATED MATERIAL
Fragments of a second individual, poorly preserved.

S172 (B)	SEX: Male.	AGE: Adult, middle to mature, 35 years+	STATURE: 183.5cm ± 3.37 (6ft 0¼in).

BONE PRESERVATION
Poor. Body incomplete, fragmented and weathered.
DENTITION

	c													
8	X	6	/	4	/	2	/	/	/	/	/	6	7	–

Calculus, periodontal disease and alveolar recession. Enamel hypoplasia.
PATHOLOGY
General health: Harris lines to femora.
Infection: Subperiosteal reactive bone – L and R tibiae (slight), L and R calcaneum, L 1st cuneiform.
Osteochondritis dissecans: L navicular.
Miscellaneous: 5 proximal phalanges – slight depression/volar groove.

S173 (B)	SEX: Unknown.	AGE: Child, 2.6–6.5 years (*c* 3 years).	STATURE: Undetermined.

BONE PRESERVATION
Good/fair. Most of the body is present minus the hands and feet. High level of post-mortem fragmentation.
DENTITION

U					U								U	
6	e	d	c	/	/	/	/	/	d	e	6			
6	e	d	/	/	a	/	/	/	d	e	6			
U								U			U			

PATHOLOGY
Metabolic: Healing bilateral pitted c*ribra orbitalia*.
Infection: Pitting and new bone formation on floor of left orbit, as the result of an eye infection?

S174 (B)	SEX: Female.	AGE: Adult, middle to mature, 30–50 years.	STATURE: 162cm ± 3.72 (5ft 3¾in).

BONE PRESERVATION
Good. Body complete, well preserved but post-mortem fragmentation.
DENTITION

	A											A	A		
c	c														
8	7	X	5	/	/	/	1	1	/	/	/	5	/	/	/
8	7	6	/	/	3	/	/	X	2	3	4	5	6	/	8
	c							A						A	c

Calculus, periodontal disease and enamel hypoplasia.

PATHOLOGY
Infection: L maxilla – abscess, osteitis and subperiosteal reactive bone – L tibia and fibula.
Trauma: Hairline fracture 1st proximal phalanx. Bilateral *os acromiale*.
DJD: Osteoarthritis of C2 and C3. Spondylosis C2 and C6. Degenerative change present as local erosion to R hamate, L and R hips (acetabula), L and R auricular surface.
Osteochondritis dissecans: R femur.

S175 (B)	SEX: Male.	AGE: Adult, mature.	STATURE: 169cm ± 4.05cm (5ft 6½in).

BONE PRESERVATION
Good. Lower limbs absent.
DENTITION

										c		A	A		
										3	/	X	6	/	NP
X	X	X	5	4	3	2	1	1	2	3	4	5	X	X	X
			c							c	c	c			
											A				

Calculus, periodontal disease and alveolar recession. Enamel hypoplasia.
PATHOLOGY
Developmental: Lumbar rib.
Infection: L maxillary sinusitis from draining abscess.
Trauma: Compression fracture T10, possible microfracture to T11. Spondylolysis – L4.
Schmorl's nodes: T5–L1.
Miscellaneous: Fusion of manubrium and sternum.

S176 (A)	SEX: Female.	AGE: Adult, middle to mature, 30 years+	STATURE: 155.8cm ± 4.45 (5ft 1¼in).

BONE PRESERVATION
Fair/poor. Skeleton incomplete, very fragmentary and weathered.
DENTITION

			c	c	c					c	A				
		X	5	4	3	2	1	1	2	3	/				
8	X	X	5	4	3	2	1	1	2	3	4	5	6	7	NP
c			c							c			c	c	

Calculus, periodontal disease, alveolar recession. Enamel hypoplasia.
PATHOLOGY
Infection: L and R maxillary sinusitis.

S177 (B)	SEX: Female.	AGE: Adult, young, under 25 years.	STATURE: 160.2cm ± 3.55 (5ft 3in).

BONE PRESERVATION
Good/fair. Skull fragmentary, some weathering.
DENTITION

	A										A				
					c	c	c			c*	c			c	
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
8	/	X	5	4	3	2	1	/	2	3	/	5	X	X	/
?c	A		c		?c				c		A				

Periodontal disease at position of abscesses. Supernumerary tooth L maxilla.
PATHOLOGY
Cribra orbitalia: Healing
Infection: Well remodelled new bone to proximal – middle aspect of shaft, tibiae.
Schmorl's node: T9.
ASSOCIATED MATERIAL
L talus of a child.

S178 (B)	SEX: Male.	AGE: Adult, mature, 45 years+	STATURE: 168.6cm ± 4.32 (5ft 6in).

BONE PRESERVATION
Fair/poor. Body incomplete and very fragmentary. Vertebral column and R leg absent.
DENTITION

		A	c		A				A	A		A			
8	X	/	5	X	/	/	/	/	/	/	X	/	X	X	X
X	X	X	5	4	3	2	1	1	2	3	4	5	X	X	X
					c	c						c			

Periodontal disease, alveolar recession, enamel hypoplasia. Rotation R maxillary 3rd molar unusual position.
PATHOLOGY
Developmental: Sacralisation of L6. R hamate – hook separate centre of ossification.
Infection: R maxillary sinusitis result of apical abscess. Sacrum has chronic infection, possible ulcerative colitis or diverticulitis. Osteitis and periostitis L tibia and fibula.
Trauma: Compression fracture T12. Spondylolysis – L5. Fracture 1 R rib, 1 R phalanx (hand).
Schmorl's nodes: T4–T6, T10–T12.
Volar groove: 1 proximal phalanx (hand).
Osteoporosis: Pronounced.
ASSOCIATED MATERIAL
Extra bones of a mature adult: two vertebrae and L clavicle. Evidence for osteoarthritis of apophyseal joints.

S179 (B)	SEX: Unknown.	AGE: Child, 2.6–6.5 (*c* 3 years).	STATURE: Undetermined.

BONE PRESERVATION
Good/fair. Body incomplete and fragmentary. Some evidence for weathering.
DENTITION

U											
/	e	d	/	/	/						
6	e	d	c	b	a	/	b	c	d	e	6
U	O										U

S180 (B)	SEX: Unknown.	AGE: Child, 2.6–6.5 years.	STATURE: Undetermined.

BONE PRESERVATION
Fair/poor. Skull more or less complete. The rest of the body is fragmentary and weathered.
DENTITION

	/	b	c	d	e

S181 (B)	SEX: Unknown.	AGE: Child, 6.5–10.5 years (*c* 6 years).	STATURE: Undetermined.

BONE PRESERVATION
Fair – the body is well represented but the cortical bone is weathered.

DENTITION

																		U	
						3	2	–	1	/	3	/	/	6	7	8			
8	/	6	5	/	3	2	/		/	2	3	/							
U		c																	

PATHOLOGY
Metabolic: Bilateral *cribra orbitalia*.
Infection: Subperiosteal new bone on the right portion of the mandible, on both the internal and external aspects, underneath the first premolar, but with no evidence for a dental abscess.

S182 (B)	SEX: Unknown.	AGE: Child, 6.6–10.5 (*c* 7.5 years).	STATURE: Undetermined.

BONE PRESERVATION
Fair/poor. The cranium is by and large present, but some weathering. Legs and L arm are present but fragmentary and weathered.
DENTITION

																6			
6												d	e	6					

S183 (B) and **Context 431**	SEX: Unknown.	AGE: Child, young.	STATURE: Undetermined.

BONE PRESERVATION
Cranial fragments only.
ASSOCIATED MATERIAL
Adult tibia shaft, part of **S195**. Bone preservation: poor.

S184 (B)	SEX: Female.	AGE: Adult, middle, 25–35 years.	STATURE: 157.3cm ± 3.55 (5ft 2in).

BONE PRESERVATION
Fair. Body is complete but for the fingers, toes and sternum, fragmentary.
DENTITION

		A	A																
NP	/	/	/	/	3	/	/		1	2	3	/	/	X	7	np			
8	7	X	5	4	3	2	1		1	2	3	4	5	6	X	X			

Crowding to the mandibular incisors. Enamel hypoplasia.
PATHOLOGY
Cribra orbitalia: Slight.
Infection: L and R maxillary sinusitis, subperiosteal reactive bone – L and R tibiae, and fibulae, L calcaneum.
Schmorl's nodes: T9, T11, L1–L3.
Endocrine: Hyperostosis frontalis interna.
ASSOCIATED MATERIAL
Extra 1st rib, 2 cervical vertebrae of adult.

S185 (B)	SEX: Male?	AGE: Adult, mature, 50 years±	STATURE: 157.8cm ± 3.27 (5ft 2in).

BONE PRESERVATION
Fair. The body is incomplete. Skull, trunk, R arm, L lower arm, L lower leg all absent.
PATHOLOGY
DJD: Degenerative change to L acromioclavicular joint.
ASSOCIATED MATERIAL
Animal bone.

S186 (B)	SEX: Female?	AGE: Adult, young, 17–20 years.	STATURE: 155.1cm ± 3.55 (5ft 1in).

BONE PRESERVATION
Fair. The body is well represented but fragmentary, particularly the skull and trunk.
DENTITION

			c	c	c			c			c			c	
			5	4	3			1	2	/	4	5		7	
8	X	X	/	/	3	/	/	/	2	/	4	5	X	X	/
c											c				A

Enamel hypoplasia.
PATHOLOGY
Developmental: Fused *os acromiale*.
Infection: Subperiosteal new bone – L scapula. Sacrum – reactive bone anterior aspect possible diverticulitis.
ASSOCIATED MATERIAL
Child's metatarsal, part of **S194**. Animal bone.

S187 (B)	SEX: Male.	AGE: Adult, young, 17–25 years.	STATURE: 168.7cm ± 2.00 (5ft 6½in). NB still growing.

BONE PRESERVATION
Good. Body complete.
DENTITION

O		A					c								
8	7	6	5	4	3	/	1	1	2	3	4	5	6	7	8
?	7	6	5	4	3	2	?	1	2	3	4	5	6	7	8

Calculus, alveolar recession to the central incisor region. Enamel hypoplasia.
PATHOLOGY
Developmental: Hypercoronoid process.
Infection: **Leprosy (LL).** Rhinomaxillary changes: alveolar resorption slight exposing the roots of the central incisors. Resorption of the anterior nasal spine. Inflammatory change to the nasal and palatine aspect of the maxilla. Remodelling of the lateral walls of the nasal aperture. The nasal septum has been resorbed. Pitting to nasal conchae. L and R 3rd cuneiform extension of the distal plantar aspect by a bone spur, and corresponding lesion to tarsometatarsal articular surface of the 3rd m.tarsal. Nicking to the R 1st distal phalanx.
Non-specific: L and R maxillary sinusitis. Subperiosteal reactive bone to the visceral aspect of 3 R and 4 L ribs, to proximal end of R ulna, L and R tibiae and fibulae, L and R calcanea, L and R cuboid. Small tarsal bars to the L and R tali, L and R naviculars, L and R cuboid. Volar groove to 1st right proximal phalanx (foot).
Cribra orbitalia: Very slight pitting to the orbital roofs.
Schmorl's nodes: T10–T12 and L2.
ASSOCIATED MATERIAL
Extra axis of an adult.
Publication
Ortner (2002, 75) cites this as having atypical rhinomaxillary changes.

S188 (B)	SEX: Unknown.	AGE: Child, 1.0–2.5 (*c* 1.8 years).	STATURE: Undetermined.

BONE PRESERVATION
Good. Body well preserved, skull fragmentary.
DENTITION

U	O									O	U
6	e	d	/	/	/	/	/	/	d	e	6
	e	d	c	b	a	a	b	c	d	e	
U	O									O	U

PATHOLOGY
Metabolic: Active bilateral c*ribra orbitalia* (fine foramina).

S189 (B)	SEX: Female.	AGE: Adult, mature, 50 years+	STATURE: 158.8cm ± 3.55 (5ft 2½in).

BONE PRESERVATION
Fair. The entire body is fragmentary and weathered.
DENTITION

	A			A											c
X	X	X	5	4	3	/	/	/	2	3	4	5	X	X	8
/	7	X	5	4	3	2	1	/	2	3	4	5	/		
												c	A		

Periodontal disease, alveolar recession. Enamel hypoplasia.
PATHOLOGY
General health: Cribra orbitalia.
Infection: R maxillary sinusitis.
DJD: Early degenerative change. Osteoarthritis of C3 and C4. Degenerative change to R temporomandibular joint, L and R hips (acetabula), L elbow (radius).
Osteochondritis dissecans: L femoral condyle.

S190 (B)	SEX: Female.	AGE: Adult, middle.	STATURE: 154.7cm ± 3.55 (5ft ¾in).

BONE PRESERVATION
Good. Complete but some slight weathering.
DENTITION

	A														
	c														
X	7	6	5	4	3	2	/	/	/	3	/	/	X	X	8
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
?c													c		c

Periodontal disease and alveolar recesssion.
PATHOLOGY
Developmental: Supernumerary vertebra. Fused and sacralised L6 with spondylolysis.
Infection: L and R tibiae – subperiosteal reactive bone to distal end of shaft, and L fibula. L and R femora (mediodistal third), L and R calcanea, R 1st and L m.tarsal shafts (active change).
Trauma: Compression fracture of 5th lumbar which is fused to sacralised L6.
Schmorl's nodes: T11–T12.
DJD: Osteoarthritis of C6, L3–L5, of R shoulder, L and R knee joints. Degenerative change to joints of T5–T6, L1–L3. Spondylosis of C4–T1, T6–T10 and L1. Marginal osteophytes to C6 and C7, T9 and L5 Degenerative

change to joints of 7 L and 3 R ribs, L temporomandibular joint, L acromioclavicular joint, R wrist, L and R scaphoids, 1 proximal phalanx.
Osteochondritis dissecans: R navicular.
Hyperostosis: Ossification of costal cartilage. Ossified ligament on L 4th and R 3rd and 4th m.tarsal. Ossification of the thyroid cartilage.
Enthesopathy: L fibula (distal) possibly result of soft tissue trauma.
Frontal grooves: Bilateral

S191 (B)	SEX: Unknown.	AGE: Infant, birth–1.0.	STATURE: Undetermined.

BONE PRESERVATION
Fair/poor. Left leg only, bone weathered.

S192 (B)	SEX: Unknown.	AGE: Child, 6.6–10.5 years.	STATURE: Undetermined.

BONE PRESERVATION
Poor. Body incomplete, external surface of the bone is weathered. Very little bone cortex remains.
DENTITION

							1								

			c										c		
		6	5	4	3	2	1	/	R	3	4	5	6	7	8
8	7	6	5	4	3	2	X	1	2	3	4	5	6	7	8

S193 (B)	SEX: Male.	AGE: Adult, mature.	STATURE: 174.6cm ± 2.99 (5ft 8¾in).

BONE PRESERVATION
Fair/poor. Body fragmentary and weathered.
DENTITION

			c										c		
		6	5	4	3	2	1	/	R	3	4	5	6	7	8
8	7	6	5	4	3	2	X	1	2	3	4	5	6	7	8

Calculus, periodontal disease and alveolar recession. Enamel hypoplasia.
PATHOLOGY
Developmental: Supernumerary lumbar vertebra. L and R navicular – prong to dorsal aspect of bone.
Infection: L maxillary sinusitis. Osteomyelitis L tibia.
Trauma: Two well-healed fractures of L tibia with a possible sinus to lateral aspect of shaft. L fibula has old fracture to distal end of shaft.
DJD: Osteoarthritis of cervicals and T4–T5. Spondylosis C3–C7, T12 and S1. Vertebral osteophytes to C3, T9–T12 L5 and 1st sacral vertebra. Degenerative change to R hip (acetabulum) and L 1st m.tarsophalangeal joint.
Osteolytic: Endocranial aspect of occipital bone. Lesion 11th thoracic.
Para-articular cysts: 5 heads of proximal phalanges.
Hyperostosis: Ossification of the costal cartilage. Hyperostosis of R clavicle, L calcaneum (cuboid surface), L talus. Prominent *linea aspera*.
ASSOCIATED MATERIAL
Deciduous maxillary molar of a child.

S194 (B)	SEX: Unknown.	AGE: Child, 6.6–10.5 (*c* 7.8 years).	STATURE: Undetermined.

BONE PRESERVATION
Fair.The body is incomplete and badly damaged post-mortem, with a particularly high degree of post-mortem fragmentation. Femora, feet and hands absent.
DENTITION

								O	U	U			
7	6		d				1	2	3	4			
7	6	e	4	c	2	1	1	/	/	4	5	6	7
U			U						U	U	U	O	U

ASSOCIATED MATERIAL
Fragments of adult: teeth, clavicle, rib and 1st m.carpal of **S186**.

S195 (B) and **Context 183B**	SEX: Male.	AGE: Adult, young.	STATURE: 174.2cm ± 4.05 (5ft 8½in).

BONE PRESERVATION
Good/fair. The bone condition is good, but with a high degree of post-mortem fragmentation. Lower legs absent. Tibia in context **183B**.
DENTITION

8	7	6	5	4	3	/	1	1	2	3	4	5	6	7	/
8	7	/	5	4	3	2	/	1	2	3	4	5	6	7	8
	c	A											c		

Calculus, periodontal disease and alveolar recession. Enamel hypoplasia.
PATHOLOGY
Infection: **Leprosy (LL).** Rhinomaxillary changes: inflammatory change to nasal and palatal aspect of maxilla extending towards the lacrimal groove, rounding to the nasal aperture. Resorption of incisor region of maxilla and early erosion to anterior nasal spine. 2 proximal phalanges have volar grooves.
Trauma: Cranial vault – depressed fracture of R parietal bone.
Schmorl's nodes: T4–L1.

S196 (B)	SEX: Male.	AGE: Adult, mature.	STATURE: 164.4cm ± 2.99 (5ft 4¾in).

BONE PRESERVATION
Fair. Body well represented but some weathering and a high degree of fragmentation of the skull.
DENTITION

/	X	X	/	4	3	2	/	/	2	/	/	X	X	X	/
/	7	6	5	/	3	2	1	1	2	3	/	5	/	/	
		c	c									C			
		A	A									A	A		

Calculus, periodontal and alveolar recession. Enamel hypoplasia.
PATHOLOGY
Developmental: Synostosis of manubrium and sternum.
Infection: **Leprosy (early LL)**. Early resorption of anterior nasal spine. Inflammatory change to nasal septum, slight evidence for central incisor resorption. R maxillary sinusitis. Volar grooves to 1 proximal phalanx. 1 middle phalanx has a remodelled base, result of claw finger.
Schmorl's nodes: T8–T11.

DJD: Osteoarthritis of thoracic vertebrae and L1. Marginal osteophytes to T11 and L4–S1. Degenerative change to temporomandibular joint, R acromioclavicular joint, 1st distal phalanx (foot).
Hyperostosis: Ossification of costal cartilage, enthesopathy to L femur.
ASSOCIATED MATERIAL
Pottery.

S197 (B)	SEX: Male?	AGE: Adult, young, 18–25 years.	STATURE: 165.9–168.7cm (5ft 5¼in–5ft 6½in).

BONE PRESERVATION
Good/fair. Complete, some slight weathering.
DENTITION

	c												c	c	
/	7	X	5	4	/	/	/	/	/	/	4	5	6	7	/
8	7	6	5	4	/	/	/	/	/	3	/	5	6	7	8
O															O

Enamel hypoplasia.
PATHOLOGY
General health: Harris lines to L and R femora and L tibia.
Infection: Subperiosteal reactive bone to visceral aspect of R ribs and 1 left rib and anterior aspect of the sternum.
Trauma: Compression of L navicular – possible fracture. Spondylolysis of 5th lumbar vertebra. Fracture in midshaft of L clavicle.
Schmorl's nodes: T6–T7, T10–T12.
Osteolytic lesion: Body of L3 perforating the trabecular bone.
Osteochondritis dissecans: L and R glenoid cavity.
Miscellaneous: Widespread pitting to the ectocranial aspect of the parietal bones.

S198 (B)	SEX: Male.	AGE: Adult, young to middle.	STATURE: 172.1cm ± 2.99 (5ft 7¾in).

BONE PRESERVATION
Fair/poor. Body complete but the bones are weathered giving a gnawed appearance, possibly acid etching.
DENTITION

								*							
NP	7	6	5	4	3	/	1	1	2	3	4	5	6	7	NP
NP	7	X	5	4	3	2	1	1	2	3	4	5	X	7	NP

L central maxillary incisor – anomalous tooth. Fusion of two tooth buds, forming a wide tooth. Multiple teeth show enamel hypoplasia.
PATHOLOGY
Schmorl's nodes: T6–T10.
DJD: Vertebral osteophytes to T9 and T10.
Osteolytic lesion: 8th and 12th thoracic perforating the trabecular bone.
Tarsal bar: R talus.
Cyst: Bone cyst to endocranial aspect of R temporal bone and R 4th m.tarsal.
ASSOCIATED MATERIAL
Extra R 4th m.tarsal (adult).

S199 (B)	SEX: Male.	AGE: Adult, middle.	STATURE: 174.4cm ± 2.99 (5ft 8¾in).

BONE PRESERVATION
Good/fair. Body complete, some weathering.
DENTITION

		X	c	?c											
NP	7	6	5	4	3	X	/	/	/	3	/	5	6	7	NP
8	7	X	5	4	3	/	/	/	/	3	4	X	X	7	8

Alveolar recession and enamel hypoplasia.
PATHOLOGY
Infection: **? Leprosy (?LL).** Early change: beginning of resorption of anterior nasal spine, and resorbed nasal septum.
Trauma: Hairline fracture to the R patella. ?Perimortem pond fracture (possibly trepanation) of the cranial vault.
Schmorl's nodes: T6, T12.
DJD: Early degenerative change to joints of 4 left and 4 right ribs.
Osteochondritis dissecans: L radius (distal). L tibia (distal), L calcaneum and talus.
ASSOCIATED MATERIAL
Extra L navicular, animal bone.

S200 (B)	SEX: Unknown.	AGE: Adolescent, 10.6–14.5 (*c* 12.5 years).	STATURE: Undetermined.

BONE PRESERVATION
Good/fair. Well preserved but some weathering. The skull has suffered post-mortem damage.
DENTITION

		U													
8	7	6	/	/	/	/	/	/	/	/	/	/	6	/	/
8	/	6	/	/	/	2	1	1	/	/	/	e	6	/	8
U															U

Very marked enamel hypoplasia.
PATHOLOGY
Metabolic: Active bilateral *cribra orbitalia* and marked arachnoid granulations on frontal bone, not normal for age.

S201 (B)	SEX: Male.	AGE: Adult, mature, 50 years+	STATURE: 169.8cm ± 2.99 (5ft 6¾in).

BONE PRESERVATION
Good/fair. Body complete but much of the bone is weathered, especially the long bone ends. Hands and feet incomplete.
DENTITION

					A						A			A	
											c				c
NP	7	6	5	4	3	/	/	/	/	/	4	5	X	?	8
/	X	X	X	4	3	2	/	1	2	3	4	X	X	X	/
											A				

Calculus, periodontal disease, alveolar recession, enamel hypoplasia. Unusual wear.
PATHOLOGY
Infection: L and R maxillary sinusitis.
Schmorl's nodes: L2–L3.

DJD: Spondylosis C5–C7 and L2–L5 vertebrae. Many of the bones exhibit osteophytic new bone around their articular surfaces. Ankylosis 1 interphalangeal joint. R sacroiliitis and ankylosis of joint.
Early DISH: Considerable ossification of the anterior longitudinal ligament on the vertebral bodies. Hyperostosis – margins of L and R acetabula, feature of DISH. Ossification of costal cartilage.
Osteochondritis dissecans: 1st proximal phalanx (foot).
PUBLICATION
Andersen *et al* (1994) illustrate inflammatory pitting of cortical surfaces of 1st metatarsals.

S202 (B)	SEX: Female?	AGE: Adult, middle, 30–40 years.	STATURE: 156.9cm ± 3.55 (5ft 1¾in).

BONE PRESERVATION
Fair. Body complete but fragmentary.
DENTITION

						A									
X	c	c	A			c	c						A	c	c
NP	7	6	X	/	/	2	1	1	/	/	/	X	X	7	8
8	/	X	X	/	/	/	/	/	/	/	/	5	6	X	X
c	A							?A							

Supernumerary tooth.
Periodontal disease, alveolar recession. Enamel hypoplasia.
PATHOLOGY
Infection: **Leprosy.** Rhinomaxillary changes: inflammatory change to nasal and palatine aspect. Resorption of anterior nasal spine and alveolar process – slight L nasal infection. Subperiosteal reactive bone – R tibia L and R fibulae, R 1st m.tarsal, L and R calcaneum. L maxillary sinusitis.
Trauma: 1 R rib.
Schmorl's nodes: T9.
DJD: Degenerative change to temporomandibular joint, ribs, L and R acetabula. Osteoarthritis of 1st m.carpophalangeal joint.
Frontal grooves: Bilateral.
PUBLICATION
Thin sectioned by Schultz and Roberts (2002, 93).

S203 (B)	SEX: Unknown.	AGE: Adult, middle to mature, 30 years+	STATURE: 161.3–164.7cm (5ft 3½–5ft 4¾in).

BONE PRESERVATION
Fair/poor. The condition is fair, but the body incomplete and very fragmentary. L side of the body absent.
DENTITION

	7	6	5	4											
/	7	6	/	/	/	/	/	/	2	3	4	/	6	7	8
															c

Calculus. Enamel hypoplasia.
PATHOLOGY
Infection: **Possible tuberculosis**. Upper lumbar – large cavitating lesion indicative of infection and draining into neural canal.
Osteochondritis dissecans: R femur.
ASSOCIATED MATERIAL
Extra 2 maxillary molars (part of **S206**). Animal bone.

S204 (B)	SEX: Unknown.	AGE: Infant, 1.0–2.5 years.	STATURE: Undetermined.

BONE PRESERVATION
Poor. Only fragments of the upper body remain.
DENTITION

						/	–	–	/	e	6
										O	U

S205 (B)	SEX: Female.	AGE: Adult, middle to mature, 40 years+	STATURE: 164.1cm ± 4.3 (5ft 4½in).

BONE PRESERVATION
Poor – body incomplete and the bones badly weathered particularly the articular surfaces. Trunk and feet absent.
DENTITION

c				c											
8	X	X	5	4	/	/	1	/	/	/	X	/	X	X	8
NP	7	X	X	/	3	2	1	/	/	/	4	5	X	X	8
				A											

Alveolar recession. Enamel hypoplasia.
PATHOLOGY
Trauma: Depressed fracture to frontal bone (healed).
DJD: Osteoarthritis of L and R temporomandibular joint. Early degenerative change to R hip.
ASSOCIATED MATERIAL
Extra R central maxillary incisor, adult. Probably part of **S197**.

S206 (B)	SEX: Unknown.	AGE: Child, 2.6–6.5 (c 4.8 years).	STATURE: Undetermined.

BONE PRESERVATION
Fair, but high degree of post-mortem fragmentation.
DENTITION

			U					c					
		e	d	/	/	1	/	b			e		
	6	e	d	/	2	1	/	2	3	/	e	6	7
	U				U	O		U	U			O	U

ASSOCIATED MATERIAL
Extra adult lower premolars, part of **S203**.

S207 (B)	SEX: Unknown.	AGE: Child, young.	STATURE: Undetermined.

BONE PRESERVATION
Fair/poor. Upper part body only, fragmentary.
PATHOLOGY
Metabolic: new bone formation on the ectocranial and endocranial surfaces of the parietals is more profuse than would be expected from normal growth. Suggestive of rickets and/or scurvy.

S208 (B)	SEX: Female.	AGE: Adult, middle to mature, 30 years+	STATURE: 156.2 ± 3.55 (5ft 1½in).

BONE PRESERVATION
Fair – well represented, some degree of weathering.
DENTITION

	R														
NP	X	6	X	X	/	/	/	/	/	*	/	/	/	X	/
/	/	/	X	4	3	/	/	/	/	3	/	X	/	7	8
	A	A											A	?c	

Calculus, periodontal disease, alveolar recession. Enamel hypoplasia. Left maxillary incisor congenitally absent.
PATHOLOGY
Developmental: Sacralised 1st coccygeal.
DJD: Degenerative change to 1 right rib. Erosion to R acromioclavicular joint, and to L and R auricular surface. Vertebral osteophytosis T11 and T12.
Enthesopathy: L and R humeri, L and R radii, R innominate.

S209 (B)	SEX: Male.	AGE: Adult, young, 20–30 years.	STATURE: 164.8–166cm (5ft 4¾in–5ft 5½in).

BONE PRESERVATION
Good. Body more or less complete but for the carpals and tarsals. Weathering to the bone cortex, irregular in appearance – possible acid etching.
DENTITION

														A	
A	c	?A												c	
X	7	6	5	4	/	/	1	/	2	3	4	5	6	7	X
NP	7	6	/	4	/	2	1	1	2	3	4	/	6	/	NP
		c		R							R		c		

R= root
Enamel hypoplasia.
PATHOLOGY
Schmorl's nodes: T6–T11.

S210 (B)	SEX: Unknown.	AGE: Child, 2.6–6.5 (*c* 6.3 years).	STATURE: Undetermined.

BONE PRESERVATION
Fair/poor. Skull and lower leg are in a reasonable condition. Ribs and arms are poorly preserved.
DENTITION

U	O				U			U		?c		O	U
/	6	e	d	c	2	/	/	2	/	d	e	6	/
/	6	e	d	/	/	1	/	b	c	d	e	6	7
U	O					U						O	U

PATHOLOGY
Metabolic: Healed bilateral *cribra obitalia*.

S211 (B)	SEX: Unknown.	AGE: Adolescent, 10.6–14.5 (*c* 13.5 years).	STATURE: Undetermined.

BONE PRESERVATION
Good. The body is complete but for some of the smaller bones of the hands and feet.
DENTITION

			*												
NP	7	6	X	4	3	/	/	/	/	3	4	e	6	/	
NP	7	6	5	4	3	2	1	1	2	3	4	5	6	7	U

* = ? congenital absence of R maxillary premolar
Periodontal disease, enamel hypoplasia.
PATHOLOGY
Metabolic: Severe active bilateral *cribra orbitalia*. Extends over entire surface of orbits, but is not 'hair-on-end'.
Infection: New bone formation and lytic lesions on the anterior aspect of L1–5 and S1–4, suggestive of gastro-intestinal TB (?). However, new bone deposits on the spinous process of L2, L3 and L5 may indicate a fungal infection. The left sinus (only) and the left nasal palatine process exhibit new bone indicative of rhinitis and sinusitis that may be connected to the spinal condition.

S212 (B)	SEX: Unknown.	AGE: Child, 6.6–10.5 (*c* 10 years).	STATURE: Undetermined.

BONE PRESERVATION
Fair. The long bones and skull are present but some weathering has occurred. The vertebrae, hands and toes are absent.
DENTITION

U	U				U					U					
/	/	6	/	/	3	/	/	/	/	3	/		/	/	/
8	7	6	e	X	/	R	R	R	R	/	/	R	6	7	8
U	U													U	U

PATHOLOGY
Metabolic: Active, bilateral *cribra orbitalia*.

S213 (B)	SEX: Unknown.	AGE: Infant, birth–1.0 (43 weeks).	STATURE: Undetermined.

BONE PRESERVATION
Good. Skull fragmentary, spinal column absent.
DENTITION

U	U	U	U	U	U	U	U	U	U
				a	a		c	d	
		c							
U	U	U	U	U	U	U	U	U	U

S214 (B)	SEX: Female.	AGE: Adult, middle, 35–45 years.	STATURE: 165.2cm ± 3.55 (5ft 5in).

BONE PRESERVATION
Fair/poor. Body more or less complete but fragmentary and weathered. The trunk, face and lower jaw badly damaged.
DENTITION

												5	6	7	
										3					

PATHOLOGY
Infection: Possible sinus tract to plantar aspect of R m.tarsal shaft.
DJD: Spondylosis L4–S1, vertebral osteophytosis L4–S1. Osteoarthritis R m.tarsophalangeal joint. Early degenerative change L and R hip joint.

S215 (B)	SEX: Unknown.	AGE: Child, 6.6–10.5 (*c* 7.6 years).	STATURE: Undetermined.

BONE PRESERVATION
Good. The body is complete but for the hands and feet.
DENTITION

		O										c	O		
/	/	6	/	/	/	/	/	/	/	/	/	e	6	/	/
		6	e	d	/	/	/	/	2	3	4	e	6	7	8
U	O								O	O				U	U

Enamel hypoplasia.
PATHOLOGY
Metabolic: Severe 'hair-on-end' lesions on the endocranial aspect of the frontal, parietals and occipital bones with similar lesions perforating the roof of the orbits. Pitting of the zygomatic bones and on the external aspect of the frontal may suggest scurvy, but there are no other supporting lesions. Aetiology unknown but affecting the diploic space.

S216 (B)	SEX: Male.	AGE: Adult, middle to mature.	STATURE: 165.3cm ± 2.99 (5ft 5in).

BONE PRESERVATION
Fair. Body complete but weathered and fragmentary.
DENTITION

		c										c			
/	7	6	/	4	3	/	/	/	/	3	/	5	X	7	/
NP	7	X	5	4	3	2	/	1	2	3	/	5	/	7	NP
													A	?c	

Alveolar recession. Enamel hypoplasia.
PATHOLOGY
Infection: Ankylosis of 1 interphalangeal joint resulting in claw finger deformity – septic arthropathy.
DJD: Osteoarthritis of vertebral facet of T1. Concentric spondylosis to body of C6 and L4. Vertebral osteophytosis C2. Degenerative change to 3 left ribs, R acromioclavicular joint.
Para-articular cyst: L distal radius.
Volar groove: 1 proximal phalanx.
Tarsal bar: Beginning to R calcaneum.

S217 (B)	SEX: Female.	AGE: Adult, middle, 25–35 years.	STATURE: 168.8cm ± 3.55 (5ft 6½in).

BONE PRESERVATION
Good. Most of the body is present.
DENTITION

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

Enamel hypoplasia.
PATHOLOGY
General health: Possible disuse atrophy – tibiae.
Schmorl's node: L2–4.
Osteochondritis dissecans: R radius.
ASSOCIATED MATERIAL
Animal bone – sheep humerus.

S218 (B)	SEX: Unknown.	AGE: Child, 6.6–10.5 (*c* 6.7 years).	STATURE: Undetermined.

BONE PRESERVATION
Fair. Cranium absent, bone weathered.
DENTITION

		c	U		O	O	O	O		U			U
	6	e	4	/	2	1	1	2	/	4	e	6	7
7	6	e	d	c	2	1	/	/	/	d	e	6	7
U					O	O				c		c	U

Enamel hypoplasia on the canines and maxillary incisors.
ASSOCIATED MATERIAL
Fragments of a second adult individual (?**S229**). Animal bone.

S219 (B)	SEX: Unknown.	AGE: Infant, birth–1.0.	STATURE: Undetermined.

BONE PRESERVATION
Fair. Fragmentary skull, lower legs absent.
DENTITION

											U
									d		
6	e	d	c	b	a	a	b	c	d	e	
U	U										

S220 (B)	SEX: Unknown.	AGE: Child, 6.6–10.5 (*c* 6.6 years).	STATURE: Undetermined.

BONE PRESERVATION
Good/fair. Most of the body is present with the exception of the spinal column and hands.
DENTITION

7	6	e	d	/	/	/	/	/	/	d	e	6	/
U	O									c		O	U

Pitted enamel hypoplasia around cusps of molars (including deciduous second molar).
PATHOLOGY
Metabolic: Active, bilateral *cribra orbitalia* (coalescing pits).

S221 (B)	SEX: Unknown.	AGE: Child, 2.6–6.5 (*c* 4 years).	STATURE: Undetermined.

BONE PRESERVATION
Good. Most of the body present.
DENTITION

U	O									c			U
7	6	e	d	/	/	/	/	/	/	d	e	/	7
7	6	e	d	c	b	/	a	b	c	d	e	6	7
U	U											U	U

PATHOLOGY
Pitted enamel around cusps of first mandibular molars.
Metabolic: Bilateral active *cribra orbitalia* (scattered fine foramina).

S222 (B)	SEX: Female.	AGE: Adult, mature.	STATURE: 169cm ± 3.55 (5ft 6½in).

BONE PRESERVATION
Good. The body is complete.
DENTITION

	c										c	c			
/	7	X	5	4	3	2	1	/	/	/	4	5	X	X	8
/	/	/	5	4	/	2	1	1	2	3	4	5	X	7	8
A	A	A										c	A	A	

Calculus, periodontal disease and alveolar recession. Enamel hypoplasia.
PATHOLOGY
General health: Healing *cribra orbitalia*.
Trauma: Well remodelled fracture of 1 rib.
Schmorl's nodes: T7–T11.
DJD: Osteoarthritis of cervical, thoracic and lumbar apophyseal joints, also of R 1st and 1 other rib. Spondylosis and vertebral osteophytes to cervical vertebrae. Degenerative change to R acromioclavicular joint, 2 left ribs, L and R hip joint.
Osteochondritis dissecans: (or possible chondromalacia patella) R patella.
ASSOCIATED MATERIAL
Animal bone.

S223 (B)	SEX: Unknown.	AGE: Adult, mature.	STATURE: 174.7–176.9cm ± 2.99 (5ft 8¾in–5ft 9½in)

BONE PRESERVATION
Fair. Condition fair but thoracic vertebrae and ribs absent. Fragmentary.
DENTITION

X	X	X	X	/	/	/	/	/	X	/	/	/	X	X	
X	X	X	X	X	/	/	/	/	/	/	X	X	X	X	X

Alveolar recession considerable.
PATHOLOGY
Developmental: Depression anterior aspect L and R clavicles.
General health: L orbit *cribra orbitalia* healing. Frontal bone expansion of diploic space.
Trauma: T4 – micro- or compression fracture. Colles' fracture R radius. Hairline fracture R navicular and R 1st proximal phalanx. Ligamentous damage to L tibia and fibula – ankle.
Schmorl's nodes: T5, L3–L5.
DJD: Degenerative change1st thoracic vertebral facet, L shoulder, L and R hip joint. Osteoarthritis of R wrist (ulna, carpals).
Endocrine: Hyperostosis frontalis interna.
Osteochondritis dissecans: L glenoid cavity, R navicular.
Volar grooves: 2 proximal phalanges.
ASSOCIATED MATERIAL
R radius of child.

S224 (B)	SEX: Unknown.	AGE: Child, 1.0–2.5 (*c* 1.3 years).	STATURE: Undetermined.

BONE PRESERVATION
Fair. Body incomplete and fragmentary.
DENTITION

	U	U													
	e	d													
6	e			b		/	b	c	d		e	6			
U	O			O			O				U	U			

PATHOLOGY
Infection: Active new bone formation on the ectocranial surface of the right occipital, and the parietal bone that articulates with it.

S225 (B)	SEX: Male.	AGE: Adult, middle, 35–45 years.	STATURE: 169.63 ± 2.99 (5ft 6¾in).

BONE PRESERVATION
Good/fair. Body complete, weathering to skull and arm.
DENTITION

	A	A											c		
8	7	/	5	4	3	2	/	/	2	3	4	5	6	/	/
X	7	X	/	/	/	2	1	1	2	3	4	5	6	7	X
NP													c		NP

Periodontal disease, alveolar recession, enamel hypoplasia.
PATHOLOGY
Developmental: Sacralised L6. Unusual skull form and numerous wormian bones.
Trauma: Fracture L scapula, 3 L ribs, impaction fracture distal L fibula. Ligamentous damage: distal end of R tibia and L fibula.
Schmorl's nodes: T6–L4.

ASSOCIATED MATERIAL
Extra 1st proximal phalanx (foot), adult.

S226 (B)	SEX: Unknown.	AGE: Adolescent, 10.6–14.5 (*c* 10.6 years).	STATURE: Undetermined.

BONE PRESERVATION
Good. Body almost complete and well preserved. Some slight weathering to the external surface.
DENTITION

											c	c		U	
/	/	6	/	/	/	/	/	/	/	/	d	e	6	7	/
/	7	6	e	d	/	/	1	1	2	/	d	e	6	7	8
U	U										c			O	U

Enamel hypoplasia on the mandibular incisors.
PATHOLOGY
Metabolic: Slight, active bilateral *cribra orbitalia*. One lesion is focused on the lateral aspect of the orbit and may be an eye infection in aetiology.

S227 (B)	SEX: Male?	AGE: Adult.	STATURE: Undetermined.

BONE PRESERVATION
Poor; fragments of cranium, maxilla, R foot and distal end of R femur.
DENTITION

								NP

Periodontal disease.
PATHOLOGY
Infection: **Leprosy**. Pitting of the palate.
Non-specific: R foot has Low-grade chronic infection resulting in septic arthritis and destruction of the tarsal joints. Cuboid, 3rd cuneiform and 4th and 5th m.tarsal all ankylosed. Resorption of head of m.tarsals. 1st m.tarsophalangeal joint destroyed by septic arthritis.
DJD: Degenerative change to R knee (medial condyle R femur).

S228 (B)	SEX: Unknown.	AGE: Child, 6.6–10.5 (*c* 6.7 years).	STATURE: Undetermined.

BONE PRESERVATION
Good. Most of the body is present and well preserved.
DENTITION

					O		O	O				O	U	
	6	e	d	c	2	/	1	2	c	d	e	6	7	
7	6	e	4	3	/	/	/	2	3	d	e	6	7	
U	O			U				U	U	c	c	O	U	

Linear enamel hypoplasia on the canines.
PATHOLOGY
Metabolic: Active, bilateral and severe *cribra orbitalia* (but not 'hair-on-end').
Infection: Subperiosteal new bone on visceral surface of 3 right ribs inidcative of a respiratory infection.
ASSOCIATED MATERIAL
Animal rib bone.

S229 (B)	SEX: Female.	AGE: Adult.	STATURE: 159.1cm ± 4.45 (5ft 2¾in).

BONE PRESERVATION
Poor. The body is incomplete and very fragmentary. L side of body and skull are absent.

S230 (B)	SEX: Female.	AGE: Adult, young to middle.	STATURE: 154.8cm ± 3.55 (5ft 1in).

BONE PRESERVATION
Fair. The body is complete but fragmentary and weathered, eroding the bone cortex. Much of the damage is post-mortem.
DENTITION

		c										c			
/	X	6	5	4	3	2	/	/	/	3	4	5	6	X	8
X	X	6	X	4	3	/	/	/	2	3	4	5	/	/	NP
													A		

Calculus, periodontal disease present, alveolar recession slight but considerable in the molar regions. Enamel hypoplasia.
PATHOLOGY
Developmental: Sacralised L6.
Infection: L and R maxillary sinusitis.
Degenerative: Osteophytosis 5 left and 5 right rib tubercles. Localised degenerative change to the L shoulder (glenoid cavity).
General health: Healing *cribra orbitalia*.
Endocrine: Hyperostosis frontalis interna.
ASSOCIATED MATERIAL
Extra adult right metatarsal (**S227**).Vertebral body of a child.
PUBLICATION
Tested positive for albumin survival: Cattaneo *et al* 1992.

S231 (B)	SEX: Unknown.	AGE: Child, 2.6–6.5 (*c* 6 years).	STATURE: Undetermined.

BONE PRESERVATION
Poor. Very fragmentary with fragments of the skull and humeral shafts.
DENTITION

	d	3	2	1	1

S232 (B)	SEX: Unknown.	AGE: Child, 2.6–6.5 (*c* 6 years).	STATURE: Undetermined.

BONE PRESERVATION
Good. Most of the body is present but for the hands and feet, lumbar vertebrae and sternum.
DENTITION

U	O												U
7	6	e	/	/	/	/	/	/	/	d	e	/	7
7	/	e	/	/	/	/	/	/	/	d	e	/	7
U													U

Enamel hypoplasia to the 2nd maxillary molars.
PATHOLOGY
Infection: The left and right aspects of the nasal palatine surface exhibit active new bone formation near the sinus openings that does not extend into the maxillary sinuses. These lesions are indicative of an infection such as rhinitis.

S233 (B)	SEX: Male.	AGE: Adult, young.	STATURE: 160.14cm ± 2.99 (5ft 3in).

BONE PRESERVATION
Good. The body is complete although the skull is fragmentary and weathered
DENTITION

–	7	/	/	/	/	/	1	/	/	3	/	5	/	7	NP
NP	7	/	5	/	/	/	/	/	/	3	4	/	6	7	NP
													c		
		A											A		

Periodontal disease around the mandibular 1st molars. Enamel hypoplasia.
PATHOLOGY
Trauma: Fracture of the right ramus of mandible.
Schmorl's nodes: T12.
Degenerative: Secondary osteoarthritis of the R temporomandibular joint.
Remodelling of the proximal phalanges of hand and metatarsals, within the realms of normality. 5th m.tarsal knife-edge appearance.

S234 (B)	SEX: Unknown.	AGE: Adult.	STATURE: Undetermined.

BONE PRESERVATION
Poor. Legs and right ulna only. The bones are heavily weathered.
PATHOLOGY
Degenerative: Early change to L hip (acetabulum).
Osteochondritis dissecans: R talonavicular joint

S235 (B)	SEX: Male.	AGE: Adult.	STATURE: 167.5cm ± 4.05 (5ft 6in).

BONE PRESERVATION
Fair. Trunk, left arm, right lower arm and left foot only.
PATHOLOGY
Developmental: Spina bifida occulta of sacrum. Partially lumbarised S1. Sacralised 1st coccygeal.
Infection: **Leprosy.** Septic arthritis of 2nd and 4th L m.carpals. L 5th m.carpal and 1R – subperiosteal reactive bone to shaft. Septic arthopathy to m.carpophalangeal joint of 1st digit. Ankylosis and clawing of 3 interphalangeal joints. Tarsal disintegration visible as ankylosis of talus and calcaneum and destruction of articular surfaces to left talus, calcaneum, navicular and cuboid. Destruction head of L 1st and 5th m.tarsals as a result of plantar ulceration.
Trauma: 1 R rib healed fracture to posterior angle of rib.
Degenerative: Osteoarthritis of T11 and T12, L 1st m.carpophalangeal joint. Degenerative change and osteophytosis of L and R wrists (ulnae and radii), septic arthritis of L 3rd and 4th m.carpophalangeal joints.

S236 (B)	SEX: Female.	AGE: Adult, mature.	STATURE: 162.01cm ± 3.55 (5ft 3¾in).

BONE PRESERVATION
Fair. Body complete but fragmentary and the long bones weathered, particularly the articular surfaces.
DENTITION

						c									
–	7	6	X	/	3	2	/	/	2	3	4	/	6	7	/
X	X	X	5	4	3	2	/	1	/	3	4	5	X	X	8
			?c		c						c				
					A										

Calculus, alveolar recession around molars. Enamel hypoplasia.

PATHOLOGY
Infection: L maxillary sinusitis.
Schmorl's nodes: T11 and L3.
DJD: vertebral osteophytosis of L1 and L4. Early degenerative change to L and R shoulder (humeri) and hip joints (femora). Osteophytosis of 5 proximal and 3 middle phalanges of the hand.

S237 (B)	SEX: Unknown.	AGE: Child, 2.6–6.5 (*c* 6.5 years).	STATURE: Undetermined.

BONE PRESERVATION
Fair. Trunk incomplete with feet and hands absent. Some weathering to the bone cortex.
DENTITION

U				U	O			O	U	U		O	U	
7	6	/	/	3	2	/	/	2	3	4	e	6	/	
7	6	e	d	/	2	/	/	2	/	d	e	6	/	
U					O			O					U	

PATHOLOGY
Metabolic: Active bilateral *cribra orbitalia* (coalescing pits).

S238 (B)	SEX: Female.	AGE: Adult, young.	STATURE: 161.2cm ± 3.55 (5ft 3½in).

BONE PRESERVATION
Good. Body complete but some fragmentation.
DENTITION

		A	A										A		
		c													
/	X	6	/	/	/	/	/	/	/	3	/	/	6	/	/
8	7	6	/	4	/	2	1	1	2	3	4	5	6	7	8
?c	c			c								c	c	c	

Periodontal disease. Crowding to mandibular incisors. Slight enamel hypoplasia.
PATHOLOGY
Cribra orbitalia: slight.
Infection: L and R maxillary sinusitis.
Trauma: Spondylolysis of L4.
Schmorl's nodes: T5–L2.
DJD: Degenerative change to transverse facet of T9 and T10. Spondylosis to T5–T12 and L2. Osteophytosis 5 R and 6 L ribs.
Volar grooves: To 2 proximal phalanges.
Miscellaneous: Ankylosis of manubrium and sternum.
ASSOCIATED MATERIAL
Coracoid process of child (3 years+).

S239 (B)	SEX: Female.	AGE: Adult, young to middle.	STATURE: 158 .9cm ± 3.72 (5ft 1in).

BONE PRESERVATION
Fair. Complete but a good deal of fragmentation.
DENTITION

			c	A								?A	?A		
/	7	6	5	/	/	/	1	/	/	/	/	/	/	/	/
8	7	6	/	/	/	/	/	/	2	3	4	5	6	7	/

Calculus, periodontal disease, and alveolar recession slight.
PATHOLOGY
Infection: Possible tuberculous lesion to lateral portion of vertebral body of T2, T5–T7. Subperiosteal new bone to the visceral surface of 7 left ribs. Osteitis and subperiosteal reactive bone to proximal end of L tibia. Possible bursitis to proximal articular surface of R femur. R maxillary sinusitis.
Osteochondritis dissecans: Type lesion to head 1 left and 1 right rib.
Hyperostosis: Ossification to the thoracic vertebral bodies.
ASSOCIATED MATERIAL
Extra R 4th metacarpal (child).

S240 (B)	SEX: Unknown.	AGE: Adolescent, 10.6–14.5 (*c* 12.6 years).	STATURE: Undetermined.

BONE PRESERVATION
Good/fair. The body complete and well preserved although there is some weathering to the long bones and fragmentation of the skull.
DENTITION

		c			U					U			c		U
–	7	6	–	–	3	/	/	/	/	3	4	/	6	7	8
8	/	6	/	/	3	/	/	/	/	3	/	/	6	7	
U					U					U					

Periodontal disease slight. Severe enamel hypoplasia on the canines.
PATHOLOGY
Metabolic: Healing, bilateral cribra orbitalia.
ASSOCIATED MATERIAL
Extra femoral diaphysis of child (2.5–6.5 years). **S218** or **S224.**

S241 (B)	SEX: Male.	AGE: Adult, middle.	STATURE: 169.6cm ± 2.99 (5ft 6¾in).

BONE PRESERVATION
Poor. Fragmentary skeleton, eroded and weathered.
DENTITION

c	c														
8	7			4											
		6		4	3										

Periodontal disease. Enamel hypoplasia.
PATHOLOGY
Trauma: 2 fractures of distal R fibula, incomplete union, some evidence for soft tissue trauma.

Schmorl's nodes: T8–T12.
ASSOCIATED MATERIAL
Fragments of a second individual including L and R tibiae and fibula.

S242 (B)	SEX: Unknown.	AGE: Child, 1.0–2.5 (*c* 1.7 years).	STATURE: Undetermined.

BONE PRESERVATION
Fair. Skull, trunk, right arm and fragments of tibiae only. Some acid etching to the skull.
DENTITION

		O										O	U		
		e									d	e	6		
6	e	d	/	/	a	a	/	/	d	e	6				
U	O											O	U		

PATHOLOGY
Metabolic: Slight *cribra orbitalia*.

S243 (B)	SEX: Male?	AGE: Adult, middle.	STATURE: Undetermined.

BONE PRESERVATION
Poor. Fragments of skull, vertebrae, L ulna and L and R lower legs.
DENTITION

			c	c									c	c	
8	–	X	5	4	3	*	1	/	*	/	/	–	–	7	8

* Congenital absence of L and R lateral incisors.
ASSOCIATED MATERIAL
2 fragments of pottery. Fragments of child clavicle and metacarpal.

S244 (B)	SEX: Male.	AGE: Adult, mature.	STATURE: 170.5cm ± 2.99 (5ft 7in).

BONE PRESERVATION
Fair. Complete but fragmentary.
DENTITION

	A	A	A	A											
c		c			c				c	c				c	
8	X	6	/	/	3	/	/	/	2	3	X	/	X	7	8
8	/	X	/	4	3	2	/	/	2	3	/	/	X	X	8
c				c											c

Periodontal disease and alveolar recession. Enamel hypoplasia widespread.
PATHOLOGY
Developmental: R navicular 3 shallow pits.
Cribra orbitalia: Very slight, healing?
Infection: Subperiosteal reactive bone L and R calcanea.
Schmorl's nodes: T5, T7–T8, T10 and L3.
Osteochondritis dissecans: L 1st metarsal base, pits to R navicular, developmental?
ASSOCIATED MATERIAL
Animal bone.

S245 (B)	SEX: Unknown.	AGE: Child, 2.6–6.5 (*c* 4 years).	STATURE: Undetermined.

BONE PRESERVATION
Good. Little weathering or fragmentation. The left clavicle, feet and smaller bones of the hands absent.
DENTITION

											U	
	/	e	d	/	/	/	a	/	c	d	e	6
–	6	e	d	/	/	/	/	/	c	d	e	6
	U											U

PATHOLOGY
Metabolic: Healed *cribra orbitalia* (scattered fine foramina).

S246 (B)	SEX: Male?	AGE: Adult, middle to mature.	STATURE: 167.0cm ± 2.99 (5ft 3¾in).

BONE PRESERVATION
Fair/poor. Body complete but for the face, manubrium, sternum and lower right arm. High degree of post-mortem weathering and fragmentation.
DENTITION

	c												
	7												
		5	4	3	2	/	1	2	3	/	/	X	/	/
		c		c					c					
		A												

Periodontal disease and alveolar recession to the left molar region.
PATHOLOGY
Developmental: Pit in distal articular surface of L humerus.
Schmorl's nodes: T8–T10.
Soft tissue trauma: Enthesopathy of R greater trochanter.
DJD: Spondylosis T10 and T11. Osteophytosis to 3 R ribs, 1 L rib. Destruction of interphalangeal joint (hand), claw finger deformity.
Miscellaneous: R femur curves anteriorly; healed rickets?
Volar grooves: 2 proximal phalanges.
ASSOCIATED MATERIAL
Extra 3rd m.carpal, fibula, femur and calcaneum. Animal bone.

S247 (B)	SEX: Male.	AGE: Adult, middle.	STATURE: 169.1cm ± 2.99 (5ft 6½in).

BONE PRESERVATION
Good. The bone is well preserved but the maxilla, manubrium and upper right are all absent.
DENTITION

8	x	x	5	4	3	2	1	1	2	3	4	5	x	7	/
c												c		c	

Calculus, periodontal disease, alveolar recession considerable, exposing the roots of the teeth. Enamel hypoplasia
PATHOLOGY
Infection: Subperiosteal reactive bone to L and R tibiae and L fibula.
Trauma: Hairline fracture to lateral condyle of L tibia. Soft tissue trauma at attachment of the interosseous membrane.
Schmorl's nodes: T5–T11.
DJD: Spondylosis C5–C7. Vertebral osteophytes T10 – L4. Osteoarthritis L and R acromioclavicular joint,

R 1st m.carpophalangeal joint. Degenerative change to L and R elbow joints (humeri), R shoulder (glenoid cavity), L and R hips (acetabula).
Neoplastic: Frontal bone – button osteomas.
Osteolytic: T10 and T12 vertebrae.
Remodelling: Slight flattening of shafts of metatarsals
ASSOCIATED MATERIAL
Animal bone: sheep humerus.

S248 (B)	SEX: Unknown.	AGE: Infant, birth–1.0 (*c* 7 months).	STATURE: Undetermined.

BONE PRESERVATION
Good/fair. Body reasonably complete but for the hands and vertebral column. Some of the long bones were worn/slight erosion to the cortex.
DENTITION

/	e	d	c	b	/	/	/	c	d	e	/
	U	U	U	O				U	U	U	

ASSOCIATED MATERIAL
Fragment of sternal end of the rib, adult.

S249 (B)	SEX: Unknown.	AGE: Child, 2.6–6.5 (*c* 6 years).	STATURE: Undetermined.

BONE PRESERVATION
Fair. Most of the body present although the skull is very fragmentary and the bone cortex heavily eroded.
DENTITION

U		c	U	U	O	O	O		U	U	c		U
7	6	e	4	3	2	1	1	/	3	4	e	6	7
7	6	e	X	/	/	/	/	/	/	d	e	6	7
U	c									c		O	U

Dental: Enamel hypoplasia on developing canines.
Miscellaneous: vascular endocranial lesions on parietals and occipital bones.
ASSOCIATED MATERIAL
Two m.carpals from very small baby, foetal/neonatal.

S250 (B)	SEX: Female.	AGE: Adult, middle.	STATURE: 156.5cm ± 3.55 (5ft 1½in).

BONE PRESERVATION
Good. The skull is fragmentary and the cervical vertebrae absent.
DENTITION

		A													
	c	c												c	c
8	7	6	5	4	3	2	/	/	/	/	/	5	X	7	8
8	7	6	5	4	3	2	1	/	/	3	4	5	6	7	8

PATHOLOGY
Infection: R maxillary sinusitis.
DJD: Sacroiliitis – ankylosis of R innominate and sacrum.
Cribra orbitalia: Pitting to L and R orbits.
Miscellaneous: Fusion of manubrium and sternum.

ASSOCIATED MATERIAL
Fragments of 2 individuals: R maxilla and 1st proximal phalanx (foot) of a child. Animal bone and pottery.
DENTITION

					A										
		/	/	/	/				–	–	–				

S251 (B)	SEX: Female?	AGE: Adult, middle.	STATURE: 153.6–155.5cm ± 3.55 (5ft 0½in–5ft 1¼in).

BONE PRESERVATION:
Fair. Body complete but for the cervical vertebrae and sternum. The bone is weathered and there is post-mortem fragmentation.
DENTITION

c	c										c				
8	7	6	X	4	3	/	/	/	/	/	4	X	6	/	8
8	7	X	X	4	3	/	/	/	2	3	/	X	6	7	8

Calculus, periodontal disease and alveolar recession. Enamel hypoplasia. Rotation of maxillary premolars.
PATHOLOGY
Infection: **Leprosy (early LL).** Early rhinomaxillary change: pitting (slight) to the palate, remodelling of the anterior aspect of the nasal crest. L and R tibiae swelling (osteitis) and periosteal change to the shaft.
Schmorl's nodes: T5–L3 and L5.
*DJD: O*steoarthritis of C6 and T3 vertebrae. Vertebral osteophytosis of L4. Spondylosis of T6, L5 and sacrum. Degenerative change to 2 L ribs, L and R hips (acetabula). Lipping to L and R patellae.
Osteochondritis dissecans: L glenoid cavity.
Osteolytic: 1st and 3rd lumbar vertebrae, bone cysts in L and R scaphoids.
ASSOCIATED MATERIAL
Animal bone.

S252 (B)	SEX: Female.	AGE: Adult, mature.	STATURE: 160.0cm ± 3.55 (5ft 3in).

BONE PRESERVATION
Fair. Body more or less complete but fragmentary and weathered with the exception of the skull.
DENTITION

					A					A					
NP	/	X	X	/	/	2	/	/	/	X	/	X	X	/	NP
NP	7	X	/	4	3	2	/	/	/	/	4	/	X	/	NP
X	c			c								A			X

Periodontal disease and alveolar recession. Enamel hypoplasia.
PATHOLOGY
Developmental: Partial sacralisation of L5 with cleft neural arch of L5 and S1.
DJD: Osteoarthritis of sacral and vertebral facets of T11 and T12. Spondylosis of C6–T1 and T5 with concentric lesions on T6, T8–T11. Vertebral osteophytosis and spondylosis of L3 and L4. Osteophytosis to joint margins of L and R radii, ulnae, carpals, 5th L metacarpals and 2 proximal phalanges (feet). Degenerative change to L and R auricular surfaces and R acetabulum.
Schmorl's nodes: T6–L3.
Hyperostosis: Ossification of costal cartilage.
ASSOCIATED MATERIAL
Animal bone.

S253 (B)	SEX: Male.	AGE: Adult, mature.	STATURE: 164.2cm ± 2.99cm (5ft 4½in).

BONE PRESERVATION
Good. The bones are well preserved and most of the body present. Concretion to the phalanges.
DENTITION

								A		A					
/	/7	6	5	4	/	/	/	/	/	/	/	/	6	X	/
8	X	X	/	/	3	/	X	/	/	3	4	/	6	X	X
c							NP								

Calculus, periodontal disease pitting and alveolar recession. Enamel hypoplasia. Right mandibular incisor congenitally absent. Right 3rd mandibular molar has erupted horizontally/impacted.
PATHOLOGY
Developmental: Partial lumbarisation of 1st sacral vertebra.
Infection: Periosteal new bone dorsal aspect of 1st proximal phalanx.
Trauma: 1 left rib – oblique fracture.
DJD: Degenerative change to vertebral facet of 12th thoracic vertebra.
Metabolic: Cribra orbitalia – L and R orbits remodelled.
Osteolytic: Punched-out lesions to the vertebral body.
Remodelling: Flattening of the shafts of left metatarsals.
ASSOCIATED MATERIAL
Animal bones.

S254 (B)	SEX: Male.	AGE: Adult, middle.	STATURE: 167.1cm ± 4.32 (5ft 5¾in).

BONE PRESERVATION
Fair. The body is incomplete and the trunk is very fragmentary. The bone present is in a fair state but some of the long bones are weathered.
DENTITION

		c										c	?c	c	
8	7	6	5	4	3	/	/	/	/	3	4	5	6	7	8
					/	/	1	1	2	3	4	5	X	X	8

Calculus, alveolar recession and periodontal disease. Enamel hypoplasia.
PATHOLOGY
Infection: Subperiosteal reactive bone to L and R femora, tibiae, fibulae.
Degenerative: Osteoarthritis of L acromioclavicular joint. Degenerative change to the R auricular surface and acetabulum.
Tarsal bars: L foot.

S255 (B)	SEX: Male.	AGE: Adult, young.	STATURE: 168.5cm ± 2.99 (5ft 6¼in).

BONE PRESERVATION
Fair. The body is complete but the long bones have suffered much fragmentation and weathering.
DENTITION

	c	c	c												
–	7	6	5	4	3	/	/	/	2	3	/	5	X	/	–
8	7	6	5	/	/	–	–	/	/	3	/	/	6	7	/
c	c	c											c		

Enamel hypoplasia.

PATHOLOGY
Developmental: Pit distal articular surface of R humerus.
Infection: L and R maxillary sinusitis.
DJD: Early degenerative change to L hip (acetabulum), L and R 1st m.tarsophalangeal joint, L and R 1st proximal phalanges (feet).
Schmorl's nodes: T7, T10 and T11.
Osteochondritis dissecans: 5 tubercle of L, 6 R ribs.
Miscellaneous: L tibia swelling to shaft, no evidence for infection, perhaps ossified subperiosteal haematoma.

S256 (B)	SEX: Male.	AGE: Adult, young.	STATURE: 172.9cm ± 2.99 (5ft 8in).

BONE PRESERVATION
Good. Body is complete but much post-mortem damage has occurred, especially to the skull.
DENTITION

							c							
	7	6	5	4	3	2	1			3	4	5	6	7	/
*NP	7	6	5	/	/	2	1	1	2	3	4	5	6	7	8

Calculus, periodontal disease and alveolar recession slight.
PATHOLOGY
Infection: Subperiosteal reactive bone plaques to visceral aspect of L ilium and R femoral shaft. R maxillary sinusitis.
Schmorl's nodes: L1–L4.
DJD: Early change to R shoulder (glenoid cavity). Bone cysts to margin of L 1st m.tarsophalangeal joint.
General health: Inflammatory pitting to cranial vault.

S257 (B)	SEX: Female.	AGE: Adult, young.	STATURE: Undetermined.

BONE PRESERVATION
Poor. The left hand and thoracic part of the trunk is absent and all the bones weathered. Acid etching?
DENTITION

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

Enamel hypoplasia of 1st molars.
PATHOLOGY
Infection: R maxillary sinusitis.
DJD: Spondylosis of L4–S1.
Hyperostosis: Ossification of costal cartilage.
ASSOCIATED MATERIAL
Extra mandibular premolar and lateral maxillary incisor, L hamate and capitate (adult, robust).

S258 (B)	SEX: Male?	AGE: Adolescent, 14.6–17 years (*c* 15 years)	STATURE: Undetermined.

BONE PRESERVATION
Poor. The body is incomplete and fragmentary.
DENTITION

														U
								/	/	/	/	/	6	7	8

PATHOLOGY
Infection: Subperiosteal reactive new bone formation on fragments of the tibiae and fibulae.
ASSOCIATED MATERIAL
Animal bone.

S259 (B)	SEX: Male.	AGE: Adult, young.	STATURE: 172.6cm ± 2.99 (5ft 8in).

BONE PRESERVATION
Good. However, the skull, upper trunk and right upper arm are absent.
PATHOLOGY
Developmental: ? partially lumbarised S1 and sacralised 1st coccygeal.
Osteochondritis dissecans: Anterior R calcaneal facet.
Hyperostosis: Ossification of costal cartilage.
ASSOCIATED MATERIAL
Three fragments of animal bone.

S260 (B)	SEX: Female.	AGE: Adult, mature.	STATURE: 163.32cm ± 3.66cm (5ft 4¼in).

BONE PRESERVATION
Poor. Body incomplete and fragmentary.
DENTITION

	8

PATHOLOGY
Infection: L maxillary sinusitis.
Cribra orbitalia: Pitting (slight) to roof of the orbits.
Endrocrine: *Hyperostosis frontalis interna* on the endocranial aspect of the frontal bone.
ASSOCIATED MATERIAL
Animal bone.

S261 (B)	SEX: Female?	AGE: Adult, middle.	STATURE: Undetermined.

BONE PRESERVATION
Poor. The trunk, feet and right hand are absent. The rest of the body is poorly preserved and fragmentary with weathering to the cortical bone.
DENTITION

c	c												c
7	6	–	4	–	2	1	1	2	3	4	5	6	7
	6	5	4	3	2			2	3	4	5	6	
	?c												

Enamel hypoplasia.
PATHOLOGY
Miscellaneous: Small osteolytic lesions to the inferior body of L5 and S1 vertebral body. Frontal bossing.
ASSOCIATED MATERIAL
Fragment of animal bone.

S262 (B)	SEX: Unknown.	AGE: Perinate (39 weeks).	STATURE: Undetermined.

BONE PRESERVATION:
Fair to poor. The body is incomplete and weathered, with a high degree of post-mortem fragmentation.

S263 (B)	SEX: Unknown.	AGE: Child, 2.6–6.5 (*c* 3 years).	STATURE: Undetermined.

BONE PRESERVATION
Good. Excellent body, incomplete.
DENTITION

U	U											U
7	6	e	d	/	/	/	/	/	c	d	e	6
7	6	e	d	/	/	/	/	/	c	d	e	6

PATHOLOGY
Anomaly: Left and right lumbar rib.

S264 (B)	SEX: Female.	AGE: Adult, mature.	STATURE: Undetermined.

BONE PRESERVATION
Poor. Skull, left upper arm and legs only. Post-mortem weathering and erosion to surface of bone.
DENTITION

X	X	X	X	4	/	/	–	–	–	3	–	–

PATHOLOGY
Endocrine: Early *hyperostosis frontalis interna*.
Miscellaneous: Bowing of the right tibia – possible greenstick fracture.
ASSOCIATED MATERIAL
Cervical vertebra (child under 4 years of age). Animal bone fragments.

S265 (B)	SEX: Female.	AGE: Adult, middle.	STATURE: 160cm ± 3.55 (5ft 3in).

BONE PRESERVATION
Fair/poor. The body is complete but fragmentary.
DENTITION

	A	A													
NP		c										c			
X	X	6	/	4	3	2	1	1	2	3	4	5	/	/	/
8	7	6	5	4	3	/	/	/	2	3	X	/	/	7	8
		c													
		A										A	A		

Periodontal disease visible as pitting. Alveolar recession around the molars. Enamel hypoplasia.
PATHOLOGY
Infection: Subperiosteal reactive bone to the right side of the mandible, result of draining apical abscess.
DJD: Spondylosis of L5 and S1. Degenerative change to L 1st thoracic vertebral facet. Osteoarthritis of the L 1st m.tarsophalangeal joint and 3 interphalangeal joints.
Miscellaneous: Remodelling of the head of L and R 1st metacarpal.
ASSOCIATED MATERIAL
Fragment of a rib belonging to a child (?**S278**).

S266 (B)	SEX: Unknown.	AGE: Infant, birth–1.0 (*c* 2 months).	STATURE: Undetermined.

BONE PRESERVATION
Good/fair. Most of the body is present but for the epiphyseal plates, L and R hands and R lower arm.
DENTITION

	U	U		O	O			U	O	U
	e	d	/	b	a	/	/	c	d	e
6	e	/	/	/	/	/	b	/	/	
U	U						O			

PATHOLOGY
Metabolic: **Active rickets**. Fraying and pitting of the metaphyseal ends of all surviving long bones, most marked in the tibiae, and thickening of the iliac bones. New bone formation also evident on the ectocranial surface along sutures.
ASSOCIATED MATERIAL
Extra axis and triquetral of an immature individual (part of **S263**).

S267 (B)	SEX: Male?	AGE: Adult, middle.	STATURE: 171.7cm ± 2.99 (5ft 7½in).

BONE PRESERVATION
Fair. The upper part of the spinal column and trunk are absent and fragmentary.
DENTITION

			c	c									A		
–	–	X	5	4	3	2	/	1	2	3	4	5	X	X	X
X	7	X	5	4	3	2	1	/	/	3	/	5	X	7	8

Periodontal disease and alveolar recession moderate especially around the molars. Enamel hypoplasia.
PATHOLOGY
General health: Cribra orbitalia, L and R pitting to L and R parietal bones.
Infection: L maxillary sinusitis. Inflammatory change to the palatal surface.
Schmorl's nodes: T11–L4.
Trauma: Soft tissue trauma to the interosseous membrane of right fibula. L and R 1st cuneiform – thin healed hairline fracture.
DJD: Osteoarthritis of L4–sacral facets. Vertebral osteophytosis of L2–L5 and sacrum. Osteoarthritis of the articular surface between left 3rd and 4th metatarsal. Osteophytosis of tarsal bones.
Tarsal bars: Left navicular, 3rd cuneiform.
ASSOCIATED MATERIAL
Fragments of animal bone.

S268 (B)	SEX: Male.	AGE: Adult, young.	STATURE: 164.5cm ± 3.27 (5ft 4¾in).

BONE PRESERVATION
Fair to poor but many of the bones, particularly the skull, are fragmentary and the long bones weathered.
DENTITION

		A										A			
		c										c		O	
8	7	6	5	/	/	/	/	/	2	3	4	5	6	7	8
8	7	6	5	/	//	2	1	/	2	3	–	–	6	7	/

Calculus and periodontal disease. Enamel hypoplasia.

PATHOLOGY
Infection: L and R maxillary sinusitis.
Schmorl's nodes: T4–T7, T12, L1 and L2.

S269 (B)	SEX: Unknown.	AGE: Adolescent, 10.6–14.5 years (*c* 11 years).	STATURE: Undetermined.

BONE PRESERVATION
Very poor and weathered. Most of the body is too fragmentary for identification.
DENTITION

	6					1	1	2	3	4	5	6	7
7	6	5	4	/	2	1	/	2	3	4	/	6	7
O													O

Enamel hypoplasia of the canines and incisors.
ASSOCIATED MATERIAL
Fragment of adult left rib.

S270 (B)	SEX: Unknown.	AGE: Infant, birth–1.0 (*c* 7 months).	STATURE: Undetermined.

BONE PRESERVATION
Poor/fair. The main elements of the body – long bones and skull are present but fragmentary and weathered.
DENTITION

U	U	U						
e	d	c						
e	d	c		/	/	/	d	e
U	U						U	U

PATHOLOGY
Metabolic: **Active rickets**. Fraying and pitting of the metaphyseal ends of all surviving long bones, most marked in the the iliac bones. New bone formation also evident on the ectocranial surface along sutures.
ASSOCIATED MATERIAL
Fragment of adult thoracic vertebra.

S271 (B)	SEX: Male?	AGE: Adult, middle.	STATURE: 160.14cm ± 2.99 cm (5ft 3in).

BONE PRESERVATION
Good/fair. The body is more or less complete but fragmentary and the long bones of the arm are eroded.
DENTITION

				A				?A		A					
			c							c		c	c		
X	X	X	5	/	/	2	/	/	/	3	/	5	6	X	X
/	X	X	5	4	3	2	1	1	/	3	4	/	X	X	8
															c

Periodontal disease.
PATHOLOGY
Infection: Destruction of the L sternoclavicular joint associated with subperiosteal reactive bone. L and R maxillary sinusitis.
DJD: Vertebral osteophytosis L4 and L5. Early degenerative change to L and R shoulder (glenoid cavity and humeri), 3 L ribs, L and R hip (acetabula). Osteoarthritis of 1st R rib and L 1st m.tarsophalangeal joint.

Trauma: Spondylolysis of L4. Early spondylolisthesis with L5.
Schmorls node: T11.
General health: L tibia has Harris lines.
ASSOCIATED MATERIAL
Extra 5th metatarsal of an adult.

S272 (B)	SEX: Female.	AGE: Adult, young.	STATURE: 165.79cm ± 3.55 (5ft 5¼in).

BONE PRESERVATION
Good. Body almost complete and well preserved. Little fragmentation apart from cervical vertebrae.
DENTITION

		c	?c												
8	7	6	5	/	3	/	/	1	/	3	/	5	X	–	–
8	7	6	5	4	3	2	/	/	/	/	4	5	6	7	8
c		c	c	c	c								c		

Calculus, periodontal disease. Rotation and displacement of R lateral maxillary incisor. Malocclusion: underbite of the mandible, prognathism. Enamel hypoplasia.
PATHOLOGY
Infection: R maxillary sinusitis.
Trauma: 1 right rib fracture – healing. L tibia – hairline impacted fracture distal end. Soft tissue trauma to L fibula result of ligamentous damage.
DJD: Osteoarthritis of the L vertebral facet of 1st thoracic, 1 interphalangeal joint of hand. Osteophytic lipping to 5 R and 2 L ribs. Degenerative change to left temporomandibular condyle, L and R shoulder (glenoid cavity), L and R auricular surfaces; the L auricular surface has a large bone flange which would eventually have fused the sacrum to L ilium.
ASSOCIATED MATERIAL
Fragment of foetal/infant long bone. Fragment of animal maxilla.

S273 (B)	SEX: Male.	AGE: Adult, mature.	STATURE: 164.2cm ± 2.99 (5ft 4½in).

BONE PRESERVATION
Good. The body is complete but for atlas and axis.
DENTITION

/	7	6	5	4	3	/	/	/	/	/	4	5	6	7	/
/	7	6	5	/	3	/	/	/	2	3	/	5	6	7	8
												c	c		

Enamel hypoplasia.
PATHOLOGY
Developmental: Spina bifida occulta of S1 and S2.
Infection: **Leprosy (LL-bilateral)**. Tibiae and fibulae remodelled, exuberant subperiosteal new bone, L and R maxillary sinusitis. 2 phalanges (hand) – expanded shaft. Foot changes due to secondary leprous infection. L 2nd m.tarsal – osteitis and periostitis, 3rd m.tarsal – destruction of m.tarsophalangeal joint by woven bone, result of chronic infection and shortening due to pathological fracture. The adjacent 2nd and 4th m.tarsals show slight reaction. Right foot has destruction of interphalangeal joint by longstanding chronic sepsis and subperiosteal reactive bone to shaft. Remodelling of the base of 3 proximal phalanges. Expansion of shaft of 3rd m.tarsal.
Volar grooves: 2 proximal phalanges
Tarsal bars: 2nd and 3rd cuneiform, R talus.
Trauma: Antero-posterior diameters of L and R naviculars diminished through compression fractures. ? pathological fracture L 3rd m.tarsal.
Schmorl's nodes: T6–L4.
DJD: Degenerative change to T5 and T6 and vertebral facet of T11 and T12. Spondylosis T10. Vertebral osteophytosis T4. Possible gout.
Neoplastic: **Metastatic cancer.** Aggressive new bone and osteolytic component to the skull, mandible,

pectoral girdle, ribs, transverse processes of vertebral column, pelvic girdle, femora and tibiae. Button osteoma – frontal bone.
Osteolytic: R side of neural spine of C7.
ASSOCIATED MATERIAL
Juvenile R rib, adult R scaphoid and 2nd cuneiform, m.carpal of child. Fish bone.
PUBLICATION
Ortner *et al* (1991) discuss the metastatic carcinoma.
Andersen *et al* (1994) illustrate osteomyelitis with distal involucrum.

S274 (B)	SEX: Female.	AGE: Adult, mature.	STATURE: 156.9cm ± 3.55 (5ft 1¾in).

BONE PRESERVATION
Good/fair. The body is complete but some weathering and post-mortem fragmentation.
DENTITION

		A		A											
X	X	/	/	/	/	/	/	/	/	3	/	/	/	X	X
8	7	X	/	/	3	/	/	/	2	3	/	5	X	7	/

Calculus, periodontal disease and alveolar recession. Enamel hypoplasia.
PATHOLOGY
Infection: **? Leprosy.** Non-specific inflammatory change to the turbinates.
spine. Inflammatory change to the turbinates.
Volar groove: 1st proximal phalanx (hand).
Concentric remodelling: To the proximal phalanges (feet).
Non-specific: L and R maxillary sinusitis. Inflammatory change to the shaft of L tibia and fibula. Fibrous cortical defect to the proximal end of the L tibia associated with an inflammatory reaction resulting in osteitis.
Schmorl's node: 3rd lumbar.
DJD: Early degenerative change to L shoulder (glenoid cavity), R elbow (radius) and L wrist (trapezium), and L hip (acetabulum).
Osteochondritis dissecans: Pit to the R trochlear articular surface.
Cribra orbitalia: To roof of L and R orbits.
Neoplastic: Button osteoma to frontal bone. Fibrous cortical defect to the proximal end of L tibia (see above).
Miscellaneous: Very deep preauricular sulcus.
PUBLICATION
Andersen *et al* (1994) illustrate possible periosteal leproma to proximal end of tibia.

S275 (B)	SEX: Male.	AGE: Adult, young.	STATURE: 172.28cm ± 3.29 (5ft 7¾in).

BONE PRESERVATION
Good, and body complete.
DENTITION

		A										A			
			c									c	c		
8	7	/	5	4	/	2	/	/	/	/	4	5	6	7	NP
8	7	6	5	/	3	/	1	1	2	3	/	5	6	7	8
c	c	C	c									c	c	c	

Calculus (moderate) and alveolar recession.
PATHOLOGY
Developmental: ?L and R cervical ribs.
Infection: **? Leprosy**. Pitting to roof of palate and remodelling to the nasal part of the nasal septum. L and R maxillary sinusitis. R fibula small area of subperiosteal new bone plaque.
Volar grooves: 4 proximal phalanges of the hand.
Schmorl's nodes: T11, T12 and L4.
General health: Cribra orbitalia – pitting to the L and R orbital roofs.

ASSOCIATED MATERIAL
Extra L hamate.

S276 (B)	SEX: Male.	AGE: Adult, middle.	STATURE: 178.6cm ± 2.99 (5ft 10¼in).

BONE PRESERVATION
Good. The body is complete but for the small bones of the hands and feet.
DENTITION

		?A													
		c	c	c								c	c	c	
/	7	6	5	4	3	/	/	/	/	3	/	5	6	7	8
8	7	6	5	4	/	2	/	1	2	3	4	5	6	7	8

Calculus, periodontal disease and alveolar recession. Enamel hypoplasia slight.
PATHOLOGY
Developmental: Sacralisation of 5th lumbar vertebra with fusion.
Infection: Small area of subperiosteal reactive bone to the L and R tibiae, R femur posterior aspect of shaft. L maxillary sinusitis.
Schmorl's nodes: T6 – L2.
DJD: Osteoarthritis of cervical vertebrae. Vertebral osteophytosis of C7, T4, T7–T10. Spondylosis L4 and L5. Degenerative change to L acromioclavicular joint, Osteophytosis of L and R shoulder joint (scapulae and humeri).
Hyperostosis: Ossification of costal cartilage.
Cribra orbitalia: L and R orbits.
Tarsal bar: L 3rd cuneiform.

S277 (B)	SEX: Male?	AGE: Adult, young, 20–30 years.	STATURE: 161.6cm ± 2.99 (5ft 3½in).

BONE PRESERVATION:
Good. Body is complete but fragmentation has occurred.
DENTITION

A					A				C						
/	/	X	/	/	/	/	/	/	2	/	X	X			
X	7	X	/	/	/	/	X	X	X	X	X	X	X	X	X
	c					A									

Periodontal disease and alveolar recession marked.
PATHOLOGY
Infection: **Treponemal.** Inflammatory change to nasal aspect of palate. Slight alveolar resorption to maxillary alveolar process. Slight pitting and remodelling to R aspect of nasal aperture.
Non-specific: Subperiosteal reactive bone and swelling to L and R malar bone/ orbital process (?eye infection). Subperiosteal change to basilar portion of occipital bone and sphenoid. Osteitis and periostitis to alveolar process of the mandible. Subperiosteal reactive bone to anterior aspect of manubrium, L and R scapulae, L and R femora. Localised thickening or swelling of bone associated with subperiosteal change to the distal end of L and R humeri, L and R clavicles, L and R radii (proximal), L and R ulnae, L and R tibiae, L and R fibulae.
Remodelling: Extension of L and R 3rd cuneiform tarso-m.tarsal joint. Antero-posterior flattening of the m.tarsals, L and R 2nd m.tarsals triangular in appearance. 2nd R m.tarsal enlarged foramen – disuse atrophy. Remodelling of the head of 4 proximal phalanges (foot).
ASSOCIATED MATERIAL
Animal bone.

S278 (B)	SEX: Unknown.	AGE: Adolescent, 10.6–14.5 (*c* 14 years).	STATURE: Undetermined.

BONE PRESERVATION
Poor; very fragmentary.
DENTITION

	U													
8	7	6	5	4	3	/	1	1	2	3	4	5	6	
8	7	6	5	/	3	2	/	/	2	3	4		6	
	U													

PATHOLOGY
Metabolic: Active bilateral *cribra orbitalia* (coalescing pits).
Infection: **? Tuberculosis**. Destruction of 2 consecutive thoracic vertebral bodies with little new bone formation, indicative of abscess formation in Pott's disease.

S279 (B)	SEX: Female.	AGE: Adult, mature.	STATURE: 156.9cm ± 2.99 (5ft 1¾in).

BONE PRESERVATION
Fair. Body well represented but bones weathered.
DENTITION

	A										A	A	A		
c	c			c	c										
8	7	/	/	4	3	/	/	/	/	/	/	X			
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
												c			

Periodontal disease to the maxilla.
PATHOLOGY
Miscellaneous: R femur – lateral condyle compact nodule of bone ?neoplastic.
PUBLICATION
Tested positive for albumin survival: Cattaneo *et al* 1992.

S280 (B)	SEX: Male.	AGE: Adult, middle.	STATURE: 169.84cm ± 3.37 (5ft 6¾in).

BONE PRESERVATION
Fair/poor. The skeleton is fragmentary and very weathered. The vertebral column and flat bones are particularly affected. Some concretions.
DENTITION

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

Enamel hypoplasia.
PATHOLOGY
Infection: 3 proximal phalanges (hand) – swelling of the shaft – probable low-grade longstanding infection.
Schmorl's nodes: L1 and L2.
DJD: Osteoarthritis of cervical vertebrae, associated with spondylosis and vertebral osteophytosis.
Osteochondritis dissecans: Pit or developmental defect to the base of L 1st metatarsal.
ASSOCIATED MATERIAL
Lower premolar of an adult (**S298**). Animal bone – scapula, immature.

S281 (B)	SEX: Unknown.	AGE: Infant, birth–1.0 (*c* 8 months).	STATURE: Undetermined.

BONE PRESERVATION
Poor. Fragments of skull, long bones and pectoral girdle.
DENTITION

U	O									O	U
6	e	d	/	/	/	/	/	/	d	e	6
6	e										
U	O										

S282 (B)	SEX: Male.	AGE: Adult, middle.	STATURE: Undetermined.

BONE PRESERVATION
Poor. Fragments only of skull and long bones, weathering.
DENTITION

X	X	X	/	/	/	2	/	/	/	3	/	/	X	/	/

PATHOLOGY
Neoplastic: Swelling to the lateral aspect of the midshaft of L femur.

S283 (B)	SEX: Female.	AGE: Adult, middle.	STATURE: 164.26cm ± 3.55 (5ft 4½in).

BONE PRESERVATION
Good/fair. The body is complete but fragmentary with a small amount of weathering.
DENTITION

		A									A	A			
NP	7	/	/	4	/	/	/	/	2	/	4	/	/	7	NP
NP	7	X	/	4	/	2	1	1	2	/	4	5	6	/	/
	c														
	A													A	

Calculus, periodontal disease.
PATHOLOGY
Infection: Right condylar portion of the mandible new bone. Subperiosteal reactive bone to shaft of fibula.
Schmorl's nodes: T8–T9, T11 and L4.
DJD: Degenerative change to L hip (femur), 2 R ribs.
Osteolytic: Lesions to C6, T2, T4, T11–L1.
ASSOCIATED MATERIAL
Fragment of animal rib bone.

S284 (B)	SEX: Female.	AGE: Adult, mature.	STATURE: 162.8cm ± 3.72 (5ft 4in).

BONE PRESERVATION
Poor. The body is incomplete, fragmentary and with some weathering.
DENTITION

–	–	/	/	/	/	/	X	/	/	/	/				
X	/	X	/	X	X	X	X	X	X	/	/	/	X	X	X
NP															

Alveolar bone damaged.

PATHOLOGY
Infection: Subperiosteal reactive bone to L and R distal tibiae.
Schmorl's nodes: T6, T8, T10–T11.
Endocrine: Hyperostosis frontalis interna.

S285 (B)	SEX: Unknown.	AGE: Child, 6.6–10.5 (*c* 10.5 years).	STATURE: Undetermined.

BONE PRESERVATION
Good. Most of the body is present.
DENTITION

				O									O
–	6	e	/	3	/	/	/	/	/	d	e	6	7
7	6	e	4	3	2	1	1	2	3	d	e	6	7
O			U	O					O				O

Dental: Enamel hypoplasia of the canines.

S286 (B)	SEX: Female?	AGE: Adult.	STATURE: Undetermined.

BONE PRESERVATION
Poor. Skull, vertebral column and left arm absent. The rest of the body is very fragmentary with a high degree of post-mortem damage. Evidence for weathering and grooving/acid etching to the bone.
PATHOLOGY
Developmental: Pits to the R glenoid cavity.
Infection: Subperiosteal new bone plaque to R tibia, R 2nd and 3rd metatarsals.
Schmorl's nodes: T6 and T7.

S287 (B)	SEX: Male.	AGE: Adult, mature.	STATURE: 170.1cm ± 4.32 (5ft 7in).

BONE PRESERVATION
Good/fair. Body complete but there is a fair amount of weathering.
DENTITION

NP															
X	7	6	5	4	X	/	/	/	/	3	–	/			
X	X	X	5	4	3	/	/	1	2	3	4	5	X	7	NP

Calculus and periodontal disease. Impaction of the left maxillary canine. Enamel hypoplasia.
PATHOLOGY
Trauma: Spondylolysis of L3. Hairline fracture to distal articular surface of R radius and R scaphoid.
DJD: Degenerative change to L2 and vertebral facet of T12. Vertebral osteophytosis C5, T4, T5, L3–L4. Early degenerative change to L and R hips (acetabula).
Osteochondritis dissecans: Distal articular surface of R tibia.
ASSOCIATED MATERIAL
Extra occipital bone.

S288 (B)	SEX: Female.	AGE: Adult, mature.	STATURE: 160.6 cm ± 3.55 (5ft 3¼in).

BONE PRESERVATION
Poor/fair. The body is reasonably complete but for the vertebrae and ribs.
DENTITION

		A	?A												
NP	X	/	/	4	3	2	/	/	/	/					
NP	/	X	/	4	3	2	/	/	2	3	4	5	X	7	X

Periodontal disease and alveolar recession. Enamel hypoplasia.
PATHOLOGY:
Infection: R maxillary sinusitis.
Trauma: Hairline fracture of the R tibia – medial condyle.
DJD: Early change to L4, the temporomandibular joints, L and R shoulder (glenoid cavity). Osteoarthritis of L hip. Early degenerative change to apophyseal joints of L4.
Osteolytic lesions: T5, T6 and L3.
Endocrine: Hyperostosis frontalis interna.
ASSOCIATED MATERIAL
Epiphyseal plate, probably of an animal.

S289 (B)	SEX: Male?	AGE: Adult.	STATURE: Undetermined.

BONE PRESERVATION
Poor/unidentified. Fragments of skull, R humerus, L ulna and long bones of the legs. High degree of erosion to extant bones.
DENTITION

								1							
								c							

PATHOLOGY
DJD: Osteoarthritis of the left mandibular condyle.

S290 (B)	SEX: Male.	AGE: Adult, middle.	STATURE: 166.12cm ± 2.99 (5ft 5½in).

BONE PRESERVATION
Fair/poor. Poorly preserved and incomplete; the trunk, hands and feet are most noticeably absent.
DENTITION

?c															?c
8	7	6	5	4	/	/	/	/	/	/	4	5	6	7	8
8	7	6	5	/	/	/	/	/	/	3	4	5	6	X	8
c															

Calculus and alveolar recession. Enamel hypoplasia.
PATHOLOGY
Infection: Osteitis – R tibia midshaft. R maxillary sinusitis.
DJD: Marginal osteophytosis of T3 and T4.

S291 (B)	SEX: Male.	AGE: Adult, young, 17–20 years.	STATURE: 166.4cm ± 3.27 (5ft 5½in). Still growing.

BONE PRESERVATION
Good. High degree of post-mortem fragmentation, especially to ribs and skull.
DENTITION

8	7	6	5	4	/	2	/	/	2	/	4	5	6	7	8
8	7	6	5	4	3	/	/	/	/	3	4	5	6	7	8
		c													

Calculus and alveolar recession. Enamel hypoplasia widespread.
PATHOLOGY
Cribra orbitalia: Bilateral.
Infection: **Leprosy (LL).** Rhinomaxillary changes: inflammatory change to nasal and palatal aspect of the maxilla. The anterior nasal spine has been eroded and the nasal aperture rounded and remodelled. Resorption to the central incisors of the maxilla.
Secondary infection: Subperiosteal reactive bone and osteitis to L and R tibiae and fibulae. Destruction of tarso-m.tarsal joint of L 2nd m.tarsal, chronic infection/ulceration. Osteitis L and R calcanea. Infective lesion to inferior body of T12, probably tuberculous. Vestigial tarsal bar to L and R tali.
Schmorl's nodes: T10–L2.
DJD: Vertebral osteophytosis to S1.
ASSOCIATED MATERIAL
Animal bone.

S292 (B)	SEX: Male.	AGE: Adult, young.	STATURE: 156.37cm ± 2.99 (5ft 1½in).

BONE PRESERVATION
Poor. The body is incomplete with the neck and trunk absent. The bones present are heavily weathered with the exception of the lower legs. Evidence for some form of etching to the bones.
DENTITION

		?A	A												
	c	c	c	c							c	c	c	c	
8	7	6	5	4	3	2	/	/	2	3	4	5	6	7	/
–	7	6	5	4	3	2	/	/	2	3	4	5	/	7	–
												c		c	

Enamel hypoplasia widespread.
PATHOLOGY
Developmental: Sacralised lumbar vertebra with cleft in neural arch of S1. Pit in R humerus (distal).
Infection: Subperiosteal reactive bone – distal end of shaft of R tibia.
Trauma: R radius hairline fracture to distal end.
Miscellaneous: Exostosis on R maxilla.

S293 (B)	SEX: Unknown.	AGE: Adolescent, 10.6–14.5 (*c* 14 years).	STATURE: Undetermined.

BONE PRESERVATION
Fair. Body complete but fragmentary with some weathering to the bone cortex.
DENTITION

		A													
		c											c		
–	7	6	5	/	/	/	/	/	/	3	4	5	6	7	–
U	7	/	/	X	/	2	/	/	/	3	4	5	X	7	U
											c	c			NP

Calculus, enamel hypoplasia of the canines. Rotation of mandibular 2nd premolars.
PATHOLOGY
Infection: The right tibia has subperiosteal new bone formation on the posterior aspect of the midshaft.
Osteochondritis dissecans: Distal epiphysis of the left tibia.

S294 (B)	SEX: Unknown.	AGE: Adolescent, 10.6–14.5 (*c* 14 years).	STATURE: Undetermined.

BONE PRESERVATION
Poor. Body fragmentary and the bones weathered. Many of the bones are absent or crumbling due to weathering.
DENTITION

U											O				U
8	/	6	/	4	3	/	/1	1	2	3	4	5	6	/	8
/	7	6	/	4	/	–	–	/	/	3	/	5	6	/	NP
U										O		O			

Dental: Enamel hypoplasia on all surviving teeth.

S295 (B)	SEX: Male.	AGE: Adult, young to middle.	STATURE: 167.8± 2.99cm (5ft 6in).

BONE PRESERVATION
Good. The body is more or less complete with little post-mortem fragmentation and little weathering.
DENTITION

8	7	6	5	/	/	/	/	/	/	/	4	5	6	7	8
NP	7	6	5	4	/	2	1	/	2	/	/	5	6	/	NP

Calculus, periodontal disease. Enamel hypoplasia.
PATHOLOGY
Infection: 1 R rib has periosteal reactive new bone plaque on the visceral surface of the ribs.
Schmorl's nodes: T11–L1.
Degenerative: vertebral osteophytosis of L5 and S1.
ASSOCIATED MATERIAL
Epiphyseal plates of an immature individual (**?S297**).

S296 (B)	SEX: Unknown.	AGE: Child, 2.6–6.5 (*c* 5.7) years.	STATURE: Undetermined.

BONE PRESERVATION
Good. The body is mostly complete with very little fragmentation.
DENTITION

U			c						c				
7	/	e	d	/	/	/	/	/	/	d	e	/	/
7	6	e	d	c	/	/	/	/	c	d	e	/	
U	U												

PATHOLOGY
Metabolic: Active bilateral *cribra orbitalia* (scattered fine foramina).
ASSOCIATED MATERIAL
Fragments of adult sternum and carpals.

S297 (B)	SEX: Unknown.	AGE: Child, 6.6–10.5 (*c* 8 years).	STATURE: Undetermined

BONE PRESERVATION
Fair. Most of the body is present but the bone is weathered, eroding the bone cortex.
DENTITION

										U			
–	/	e	d	/	/	/	/	/	/	d	5	6	/
7	6	e	d	/	/	1	/	2	/	d	e	6	7
U													U

Enamel hypoplasia.
PATHOLOGY
Developmental: Unfused neural arch of 5th lumbar vertebra.
ASSOCIATED MATERIAL
Extra lower molar, ?adult (? part of **S283**).

S298 (B)	SEX: Female.	AGE: Adult, middle.	STATURE: 153.17cm ± 3.66 (5ft 0¼in).

BONE PRESERVATION
Poor. The body is fragmentary and the left arm absent.
DENTITION

				3									
X	7			3			/	/	4	5	/	7	/
											A	A	

Calculus marked, periodontal disease and alveolar recession present. Enamel hypoplasia visible on two teeth, the rest covered by calculus.
PATHOLOGY
Cribra orbitalia: To badly damaged L and R orbits.
Infection: Periostitis on the proximal end of the shaft of L fibula.
Schmorl's nodes: T3, T10, L2 and L4.
Osteolytic: Lesions perforating the trabecular bone of the vertebral bodies of T3, T10–T12, L2 and L5 vertebrae.
DJD: Osteoarthritis of T5 and T6 and degenerative change to R 11th and 12th rib.

S299 (B)	SEX: Female.	AGE: Adult, young to middle.	STATURE: 159.5cm ± 3.55 (5ft 2¾in).

BONE PRESERVATION
Good. The body is complete with some slight post-mortem fragmentation.
DENTITION

				A							A		A		
c	c			c							c	c	c		
8	7	X	X	4	/	/	/	/	2	3	4	5	6	7	NP
X	X	6	5	/	/	2	1	/	2	3	4	/	X	X	X
		c													

Alveolar recession and enamel hypoplasia.
PATHOLOGY
Infection: **Leprosy**. Early rhinomaxillary change. New bone and pitting to nasal conchae, resorption of alveolar bone around the central incisors. Nasal aperture and nasal septum remodelled.
Schmorl's node: L4.
DJD: Osteoarthritis of cervical vertebrae and 1st vertebral facet. Degenerative change to vertebral facet of T10–12, 2 L ribs and 4 R ribs, also R wrist (ulna).
Miscellaneous: L and R femora have unusual appearance to proximal end of shaft.

S300 (B)	SEX: Male.	AGE: Adult, mature.	STATURE: 176.1cm ± 2.99 (5ft 9¼in).

BONE PRESERVATION
Fair/poor. The flat and fragile bones have suffered most.
DENTITION

							1								
8	7	X	X	/	/	/	–	–	–	–	X	X	X	7	8
c	c	A							cyst					c	c

Alveolar recession. Radicular cyst to left lateral incisor-premolar region.
PATHOLOGY
Developmental: Supernumerary vertebra. Pit to R glenoid cavity.
Trauma: 3rd lumbar has the right inferior apophyseal joint at an unusual angle.
Schmorl's nodes: T4–L3.
DJD: Osteoarthritis of thoracic and lumbar vertebrae. Spondylosis of C4, C5, C7. Vertebral osteophytosis C4–C7, L3 and L6. Early degenerative change to L hip (acetabulum).
Osteochondritis dissecans: R calcaneum.

S301 (B)	SEX: Female.	AGE: Adult, mature.	STATURE: 158.42cm ± 3.5 (5ft 2¼in).

BONE PRESERVATION
Good. Body by and large complete.
DENTITION

															NP
	/	6	5	4	3	/	/	X	X	3	4	5	6	7	X
/	X	X	5	/	/	2	1	/	/	/	4	5	X	X	8
															c

Calculus and periodontal disease.
PATHOLOGY
Infection: **Leprosy**. Early rhinomaxillary syndrome; left maxillary sinusitis.
Remodelling: Concentric remodelling of shafts of proximal phalanges.
DJD: Spinal: incipient osteoarthritis of the apophyseal joints of cervical–mid thoracic. Osteoarthritis of cervical,

thoracic, lumbar and 1st sacral vertebrae. Spondylosis of C3–C7, T7, T9. Vertebral osteophytosis C5–C7. Osteoarthritis of 5 R ribs and 2 L ribs. Early degenerative change to L shoulder and elbow joints (humerus).
Osteochondritis dissecans: base of L 1st metatarsal.
Osteolytic: lesions perforating trabeculae of vertebral bodies of T9 and T10, L3–L5.
ASSOCIATED MATERIAL
Fragments of animal bone.

S302 (B)	SEX: Unknown.	AGE: Child, 1.0–2.5 (*c* 1.8 years).	STATURE: Undetermined.

BONE PRESERVATION
Good/fair. The body is more or less complete but greatly fragmented.
DENTITION

											O
–	/	d	/	/	/	/	b	/	d	e	
6	e	d	C	b	a	a	/	/	d	e	6
U	O									O	U

S303 (B)	SEX: Unknown.	AGE: Infant, birth–1.0 (?)	STATURE: Undetermined.

BONE PRESERVATION
Very poor. Only fragments of the cranium and left femoral shaft are present.
ASSOCIATED MATERIAL
Fragment of animal bone.

S304 (B)	SEX: Female.	AGE: Adult, mature.	STATURE: 166.3cm ± 3.55 (5ft 5½in).

BONE PRESERVATION
Good. Body complete and preservation excellent.
DENTITION

	A	c											c		
X	/	6	5	4	3	/	/	/	/	3	4	5	6	7	8
8	7	6	X	4	3	/	X	/	2	/	4	5	X	X	8
	C														
	A	A													

Calculus, periodontal disease, alveolar recession.
PATHOLOGY
Developmental: Hiatus 1st sacral vertebra. Sacralisation of 5th lumbar.
Infection: R maxillary sinusitis. L and R tibiae – some remodelled subperiosteal reactive bone.
Schmorl's nodes: T5–T10, T12–L4.
Soft tissue trauma: Cuff tendon damage visible on the L and R humeri.
DJD: Osteoarthritis of transverse facet of T9–T10. Spondylosis of C3–C7, T11, L1–L2 vertebrae. Degenerative change to 4 L ribs and 3 R ribs, L and R acromioclavicular joints and L 1st m.tarsophalangeal joint. Osteophytosis of L and R shoulder (glenoid cavity), interphalangeal joint, L and R knee (femora and patella). Localised area of erosion to L and R hip (acetabula).
Neoplastic: Large benign osteoma on the endocranial aspect of the frontal bone. Probable osteolytic lesions to the occipital bone.
Hyperostosis: Ossification of costal cartilage.
ASSOCIATED MATERIAL
Scaphoid, different size.

S305 (B)	SEX: Female?	AGE: Adult.	STATURE: 158.39cm ± 3.66 (5ft 2¼in).

BONE PRESERVATION
Poor. The skull, trunk and left upper arm are absent. There is a high degree of post-mortem fragmentation and evidence for weathering on the bone cortex.
DENTITION

								1							

Enamel hypoplasia to the extant tooth.
PATHOLOGY
Infection: Subperiosteal reactive bone on L and R tibial shaft. Concentric remodelling of 2 proximal phalanges (feet). Possibly the result of leprosy.
DJD: Osteophytic lipping of 1 proximal and 1 distal phalanges (hand).
Osteochondritis dissecans: Pit in centre of the glenoid cavity.

S306 (B)	SEX: Female.	AGE: Adult, middle.	STATURE: 155.6cm ± 3.72 (5ft 1¼in).

BONE PRESERVATION
Fair to poor. Most of the body is present but fragmentary.
DENTITION

				c			c								
		/	5	4	3	2	/								
8	X	/	5	/	/	/	/	1	2	3	4	5	/	7	/

Alveolar recession and enamel hypoplasia.
PATHOLOGY
Infection: **Leprosy (LL).** Rhinomaxillary change: resorption of anterior nasal spine. Inflammatory change to nasal and palatal aspect of maxilla. Remodelling of nasal aperture.
Secondary infection: Subperiosteal reactive bone – L and R tibiae and R fibula. Remodelling of L 4th and 5th m.tarsal with flattening medio-laterally. Concentric remodelling of proximal phalanges (foot).
Soft tissue trauma: Flange of bone to R femoral shaft at lower attachment of gluteus maximus.
Schmorl's nodes: T6, L1–L4.
DJD: degenerative change to 1 R and 1 L rib. Osteoarthritis of head of L 1st rib. Spondylosis C6 and C7. Vertebral osteophytosis L4 and L5.

S307 (B)	SEX: Female.	AGE: Adult, mature.	STATURE: 153cm ± 3.55 (5ft 0¼in).

BONE PRESERVATION
Good – body complete with little fragmentation.
DENTITION

				c							c				
/	/	–	/	4	3	/	/	/	2	/	4	5	x	/	/
8	X	X	5	4	3	/	/	/	/	/	4	5	X	X	X
c			c	c							c				

Calculus and alveolar recession.
PATHOLOGY
Developmental: Sacralisation of L5.
Infection: **Tuberculosis.** Skull has osteolytic lesion with stellate new bone radiating from the lesion on the endocranial aspect. Destruction of the vertebral bodies of T10–T12 with sinus tracts evident but little bone formation. Periosteal reactive bone to lateral aspect of L3. Three right ribs – evidence for new reactive bone on the visceral surface of the ribs. L and R maxillary sinusitis.
Trauma: Possible small outer table depression fracture to frontal bone close to the nose.

DJD: Early degenerative change to L and R mandibular condyles. Osteoarthritis of costovertebral joints of T10 and T11. Degenerative change to T1.
ASSOCIATED MATERIAL
Fragment of distal end of R fibula, immature individual.

S308 (B)	SEX: Unknown.	AGE: Child, 2.6–6.5 (*c* 4.8 years).	STATURE: Undetermined.

BONE PRESERVATION
Poor. The body is incomplete, fragmentary and weathered.
DENTITION

		c								
		d	c				c			
6	e	d		b			3			
U							U			

ASSOCIATED MATERIAL
Fragments of adult: vertebral spine, carpal and proximal phalanx of the foot.

S309 (B)	SEX: Female.	AGE: Adult, mature.	STATURE: 161.3cm ± 3.72 (5ft 3½in).

BONE PRESERVATION
The body is more or less complete but for the L humerus and fibula. The preservation is fair with a high degree of fragmentation and some bone weathering.
DENTITION

			A		A	A	A	A	A				A		
X	X	X	/	X	X	/	/	/	/	X	/	X	/	X	X
/	X	X	X	/	/	/	/	/	/	/	/	X	X	/	/
					A	A	A	A		A					

Periodontal disease and alveolar recession.
PATHOLOGY
Infection: Periosteal reactive bone on the anterior aspect of the vertebral bodies of 2nd–5th lumbar. Subperiosteal reactive bone on shafts of R 2nd and 3rd metacarpals, L and R tibial and fibular shafts.
Schmorl's nodes: 7th thoracic vertebra.
DJD: Osteoarthritis of T7 and T8. Spondylosis of T8, T11, T12. Vertebral osteophytosios L4 – sacrum. Early change to L and R acromioclavicular notch.
Volar grooves: R 2nd proximal phalanx (foot).
Concentric remodelling: 2 proximal phalanges (foot radiograph).
ASSOCIATED MATERIAL
Animal bone.

S310 (B)	SEX: Unknown.	AGE: Child, 2.6–6.5 (*c* 4.8 years).	STATURE: Undetermined.

BONE PRESERVATION
Poor. The bone is very fragmentary and incomplete.
DENTITION

		U						U		
		4	C					4	e	6
6							3	/	e	6
							U			

ASSOCIATED MATERIAL
Fragments of adult cervical vertebra, R clavicle and metatarsal (?**S313**).

S311a (B)	SEX: Female.	AGE: Adult, young.	STATURE: 154.5cm ± 3.55 (5ft 0¾in)

BONE PRESERVATION
Fair – body well represented but the limbs are weathered and fragmentary. The feet are mostly absent.
DENTITION

					A						A				
/	X	X	/	/	/	/	/	/	/	/	/	/	X	X	8
8	7	X	/	/	/	X	/	/	X	/	/	/	/	7	8
c	c				A	NP			NP				A	c	c

Calculus, periodontal disease and alveolar recession.
PATHOLOGY
Infection: Subperiosteal reactive bone to right tibia.
Schmorl's nodes: Linear T8–T10 and L2–L4.
DJD: Degenerative change to costovertebral facet of T5. Spondylosis of T11–12 and L4.

S311b (B)	SEX: Male.	AGE: Adult, young.	STATURE: Undetermined

BONE PRESERVATION
Very poor; fragments of skull, trunk, L upper arm, pelvis and R femoral shaft.
DENTITION

8	8	/	/	/	3	2	1	1	2	3

Calculus slight; most lost post mortem. Periodontal disease slight on the labial aspect of the incisors.
PATHOLOGY
Trauma: Fractures to 3 R ribs at the sternal end (woven bone).
DJD: Osteoarthritis of R mandibular condyle. L acetabulum – osteoarthritis and new bone formation.
ASSOCIATED MATERIAL
Fragment of occipital bone. Animal bone and fragments of pottery.

S312 (B)	SEX: Male.	AGE: Adolescent, 14.6–17.0 (*c* 16.2 years)	STATURE: 174.5cm ± 3.27cm (5ft 8¾in).

BONE PRESERVATION
Good – body more or les complete. The skull and vertebral column are weathered.
DENTITION

														O	
/	7	6										5	6	7	
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
O															O

ASSOCIATED MATERIAL
Fragments of fibula, immature/child.

S313a (B)	SEX: Male?	AGE: Adolescent, 10.6–14.5 (*c* 11.2 years)	STATURE: Undetermined.

BONE PRESERVATION
Good. Most of the body is present.
DENTITION

			c		C							c			
NP	7	6	e	4	c	/	1	/	2	3	/	e	6	–	
NP	7	6	5	4	/	2	1	1	2	/	/	5	6	7	NP
	O		A											O	

Dental: Calculus to both permanent and deciduous dentition, periodontal disease present. Enamel hypoplasia. Right mandibular 2nd deciduous molar had a draining abscess which has resulted in problems with the eruption of the permanent premolar.
PATHOLOGY
Metabolic: Active, bilateral *cribra orbitalia*.
Infection: Junction between the unfused ischium and ilium exhibits new bone formation and a lytic lesion indicative of osteomyelitis.
Non-metric traits: Third trochanter.
ASSOCIATED MATERIAL
Fragments of carpals, rib and phalanx of the foot (adult).

S313b (B)	SEX: Female.	AGE: Adult, mature.	STATURE: 160.1cm ± 3.72 cm (5ft 3in).

BONE PRESERVATION
Poor. The bone is badly weathered. Fragment of skull, R arm, trunk and legs.
DENTITION

						c									
						2	1								

PATHOLOGY
Schmorl's nodes: T12, L3, L4.
DJD: Osteoarthritis of R hip, manifested as osteophytosis on the femoral head and acetabulum.
Metabolic: Osteoporosis. The metatarsals are 'bird-like' in appearance perhaps due to disuse atrophy as a result of paralysis.

S313c (B)	SEX: Male.	AGE: Adult, young.	STATURE: Undetermined.

BONE PRESERVATION
Poor. A few teeth, fragments of L arm, R ilium, R and L femoral heads, R lower leg and L fibula.
DENTITION

										c		c			
								/	/	3	X	5	6	/	
									/	/	/	X	6		

S314 (B)	SEX: Male?	AGE: Adult, young to middle.	STATURE: 168.2cm ± 2.99 (5ft 6 ¼in).

BONE PRESERVATION
Good – the body is reasonably complete although there is some weathering.
DENTITION

			A												
			c												c
/	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
NP	7	6	5	4	3	/	/	/	/	3	4	5	6	7	NP
														c	

Periodontal disease.
PATHOLOGY
Infection: R maxillary sinusitis, periosteal reactive bone plaques to visceral aspects of 4 L ribs. Destruction of L 3rd m.tarsal head, result of Low-grade infective process.
Trauma: 5th lumbar spondylolysis.
DJD: Osteoarthritis T12. Spondylosis of T6–L5. Degenerative change to R 1st rib, L and R elbow (radii).
Metabolic: Cribra orbitalia – L and R orbits.
Osteochondritis dissecans: Large lesions in L and R tali and small pit in the R glenoid cavity.

S315 (B)	SEX: Male.	AGE: Adult, mature.	STATURE: 164cm ± 2.99 (5ft 4½in).

BONE PRESERVATION
Fair – the body is complete but there is considerable weathering of the bone cortex. The vertebral column alone is unaffected.
DENTITION

8	X	X	5	/	/	/	1	/	/	/	4	/	X	X	X
X	7	6	5	4	3	/	1	/	2	3	4	5	6	7	/
NP													c		A

Calculus, periodontal disease and alveolar recession. Enamel hypoplasia – multiple teeth.
PATHOLOGY
Developmental: Transitional thoracic/lumbar vertebra.
Infection: L tibia – well-remodelled subperiosteal new bone.
DISH: T4–T7 – fusion of vertebral bodies by ossification of the anterior longitudinal ligament.
Hyperostosis: Ossification of the costal cartilage. *Linea aspera* and L and R soleal line pronounced. Enthesopathy of L and R patellae.
Schmorl's nodes: T12, L1 and L3.
DJD: Vertebral osteophytosis to the anterior body (particularly R side) from cervical – lumbar vertebrae. Osteoarthritis T9 and T10. Localised degenerative change to R hip (acetabulum). Osteophytosis (considerable) to R shoulder (glenoid cavity), 4 L and 1 R ribs.
Miscellaneous: Mediolateral flattening of shaft of metatarsals. L 1st m.tarsal para-articular cyst to head.

S316 (B)	SEX: Male.	AGE: Adult, young.	STATURE: 173.27cm ± 2.99 (5ft 8¼in).

BONE PRESERVATION
Good; body complete but for the L patella and L tarsals.
DENTITION

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

Periodontal disease.
PATHOLOGY
Infection: L navicular, 3rd cuneiform, L 2nd and 3rd metatarsals.
Osteolytic lesions to L calcaneum, result of infection.
Trauma: Hairline fracture to anterior aspect of T2 and T3 and L navicular. 1 lower right rib – ununited fracture.
DJD: Osteoarthritis of cervical and thoracic vertebrae. Early degenerative change L and R temporomandibular joints, 1 left 1 right rib. Osteophytosis of R scaphoid. Degenerative change to L wrist (ulna). Osteoarthritis of interphalangeal joint of 1 finger.
Hyperostosis: Ossification of costal cartilage and thyroid cartilage.

S317 (B)	SEX: Male.	AGE: Adult, middle.	STATURE: 164.0 cm ± 2.99 (5ft 4½in).

BONE PRESERVATION
Good – body complete with a small degree of fragmentation.
DENTITION

													A		
NP	7	6	5	4	3	2	1	/	/	3	4	5	6	7	NP
X	X	X	5	4	3	2	1	1	2	3	4	X	X	7	NP

Calculus, periodontal disease and alveolar recesssion slight.
PATHOLOGY
Developmental: Synostosis of manubrium/sternum.
Infection: Inflammatory change to the palatal aspect of the maxilla, L and R tibiae. Early inflammatory lesion to left orbital roof.
DJD: Osteoarthritis of cervical vertebrae and costovertebral joints of T1. Spondylosis – T6, vertebral osteophytosis T9–T10, 1st sacral vertebra. Osteoarthritis of L and R acromioclavicular joint, L and R 1st ribs. Early degenerative change to L and R hips (acetabula).
Frontal groove: Right.
Tarsal bars: L and R tali and naviculars.
Volar grooves: R 1st proximal phalanx (foot).

S318 (B)	SEX: Unknown.	AGE: Infant, birth–1.0 (*c* 9 months)	STATURE: Undetermined.

BONE PRESERVATION
Poor – the body is incomplete and there is much post-mortem damage. The skull, thoracic cage and lower limbs are all present.
DENTITION

–	/	d	c	2	/	/	/	/	/	e	/
		U	U	U							

ASSOCIATED MATERIAL
L pisiform and 1st distal phalanx of an adult. Animal bone.

S319 (B)	SEX: Male.	AGE: Adolescent, 14.6–17 years.	STATURE: Undetermined.

BONE PRESERVATION
Good/fair. Body complete but arms fragmentary.
DENTITION

U				c							c				
8	7	6	5	4	/	/	1	1	/	/	4				
8	7	6	5	4	3	2	/	1	2	3	4	5	6	7	8
U						c									U

PATHOLOGY
Developmental: L4 exhibits deep grooves on the apophyseal facets resulting in a discontinuous surface. This lesion is in the area usually associated with congenital weakness leading to spondylolysis.
Trauma: Possible healed fracture of the left distal fibula.
Osteochondritis dissecans: Distal articular surface of the L humerus.
ASSOCIATED MATERIAL
Animal bone.

S320 (B)	SEX: Unknown.	AGE: Child, 2.6–6.5 (*c* 3 years).	STATURE: Undetermined.

BONE PRESERVATION
Good – the body is complete but for the hands and feet.
DENTITION

U	O									O	U
6	e	d	/	/	/	/	/	/	d	e	6
6	e	d	/	/	/	/	/	/	d	e	6
U	O									O	U

PATHOLOGY
Metabolic: Active, bilateral *cribra orbitalia* (small and large foramina).
Infection: Subperiosteal new bone formation on the medial aspect of the tibiae (midshaft) and along the *linea aspera* of both femora. Too profuse to be the result of growth (?).

S321 (B)	SEX: Unknown.	AGE: Perinate (38–39 weeks).	STATURE: Undetermined.

BONE PRESERVATION
Good to fair. Some fragmentation has occurred but the body is well represented.
DENTITION

e	d	/	/	/	/	/	c	d	e
U	U	U	U	U	U	U	U	U	U

ASSOCIATED MATERIAL
Canine of a child aged 3–9 years, and an epiphyseal plate and fragment of long bone shaft (? part of **S321**).

S322 (B)	SEX: Unknown.	AGE: Infant, birth–1.0 (42 weeks).	STATURE: Undetermined.

BONE PRESERVATION
Fair. The body is more or less complete but for the smaller bones of the hands and feet. Some weathering to the cortex of the bone.
DENTITION

/	/	d	/	b	a	/	/	/	/	e
		U		U	U					U

PATHOLOGY
Infection: Profuse subperiosteal new bone formation on all long bones and the iliac bones. This may be the result of death during a rapid period of growth, or a widespread infection.

S323 (B)	SEX: Unknown.	AGE: Infant, birth–1.0 (*c* 3 months).	STATURE: Undetermined.

BONE PRESERVATION
Poor. The body is fragmentary and incomplete and includes the skull, right arm, left forearm, iliac bones and femora. The cortical bone is weathered.
DENTITION

	/	U	U	U	U
			c	d	
	U	U	U	U	U

S324 (B)	SEX: Unknown.	AGE: Child, 1.0–2.5 (*c* 1.9 years).	STATURE: Undetermined.

BONE PRESERVATION
Fair. Most of the body is present but there is much post-mortem fragmentation.
DENTITION

U	O		O							O	U
6	e	d	c	/	/	/	/	/	d	e	6
6	e	d	/	b	/	/	b	/	d	e	6
U	O									O	U

S325 (B)	SEX: Male.	AGE: Adult, young to middle.	STATURE: 172.8cm ± 3.27 (5ft 8in).

BONE PRESERVATION
Fair. The skull and cervical vertebrae are absent. There is a high degree of post-mortem fragmentation.
PATHOLOGY
Developmental: Pit in L glenoid cavity.
Infection: **Leprosy.** Well remodelled new bone to posterior aspect of distal end of L and R femoral shafts. Osteitis R tibia. L tibia and fibula display profuse subperiosteal reactive bone – chronic infection resulting in fusion and new bone to the interosseous membrane. Osteitis of both of the bones and evidence for a different infective process to the distal end of shaft resulting from a skin lesion such as an ulcer to the lower leg. Rib lesions on visceral aspect of 2 R ribs.
Volar grooves: 2 proximal phalanges.
Tarsal bar: L 3rd cuneiform.
Remodelling: L 3rd m.tarsal extension of the plantar aspect.
Schmorl's nodes: T5–L4.
DJD: Early change to apophyseal joints of T4–T8. Osteoarthritis of vertebral and transverse facets of T9 and T10 and of one 1st proximal phalanx. Small marginal osteophytes to T7–T9, L5 and S1. Degenerative change to facets of 4 L and 3 R ribs, L and R acetabula, L auricular surface, L and R patellae, R femoral head.

ASSOCIATED MATERIAL
Extra thoracic vertebral arch (child). Animal bone.

S326 (B)	SEX: Male.	AGE: Adult, middle.	STATURE: 172.6cm ± 2.99 (5ft 8in).

BONE PRESERVATION
Good/fair. The body is complete with little post-mortem fragmentation except to the skull and ribs. The cortical bone is noticeably weathered.
DENTITION

														A	
?A	c													c	
X	7	6	5	4	3	/	/	/	/	3	4	5	6	7	/
8	X	6	5	4	3	2	/	X	2	3	/	NP	6	7	8
								A			A				

Enamel hypoplasia.
PATHOLOGY
Schmorl's nodes: T6, T7, T9–L3.
DJD: early degenerative change to 1 R, 4 L ribs.

S327 (B)	SEX: Female.	AGE: Adult, middle.	STATURE: 166.62cm ± 3.55 (5ft 5½in).

BONE PRESERVATION
Good. Body more or less complete but some post-mortem fragmentation.
DENTITION

													A	A	
													c		
8	7	X	5	4	3	2	1	/	X	3	4	5	6	X	X
8	7	6	5	4	3	2	1	1	2	3	4	/	X	7	8
			c								A	A			
			A												

Calculus, periodontal disease, alveolar recession moderate to considerable
PATHOLOGY
Developmental: Plagiocephaly with associated torticollis.
Schmorl's nodes: T8 and T9.
DJD: Osteoarthritis of C2, C3 and 1st sacral vertebrae. Degenerative change to T2–T4. Spondylosis of T3–T6. Vertebral osteophytosis C6–C7 and T7–T10. Ribs: degenerative change to 2 L and 2 R ribs and L elbow (radius).
Osteolytic: Smooth osteolytic lesions perforating the bone trabeculae of T11, L1, L4–L5.
Osteochondritis dissecans: Anterior aspect of L and R femora (distal). R acetabulum localised disorder or osteochondritis type lesion.

S328 (B)	SEX: Male.	AGE: Adult, young.	STATURE: 176.52cm ± 2.99 (5ft 9½in).

BONE PRESERVATION
Fair. Body complete but for the smaller bones of the hands, feet absent. Some weathering to the cortical bone.
DENTITION

NP															?c
X	7	6	/	4	/	/	/	/	2	/	4	5	6	7	8
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8

Enamel hypoplasia, periodontal disease to the mandibular alveolar bone. Rotation of the left 1st and 2nd maxillary premolars.
PATHOLOGY
Infection: Subperiosteal reactive bone to R clavicle, L calcaneum and right 3rd and 4th metatarsals. L and R maxillary sinusitis.
Cribra orbitalia: Very slight.
Trauma: Unilateral spondylolysis, L5 right side only.
Schmorl's nodes: T6–L4.
DJD: Degenerative change to the L acromioclavicular joint.

S329 (B)	SEX: Male.	AGE: Adult, young to middle.	STATURE: 156.76cm ± 2.99 (5ft 1¾in).

BONE PRESERVATION
Ranges from good to poor. The body is well represented but for the right arm and right foot.
DENTITION

			c	c		A			A	c	c				
NP	7	x	5	4	3	/	1	1	/	3	4	X	X	–	–
8	X	X	5	/	3	2	1	/	/	3	4	5	X	X	8
c			c												

Periodontal disease and alveolar recession.
PATHOLOGY
Infection: Subperiosteal reactive bone to L radius, L and R femora, L and R tibiae and fibulae, L and R calcanea, L 1st, 2nd and 5th metatarsal and R 1st, 3rd, 4th and 5th metatarsal shafts.
DJD: Degenerative change to L transverse facet of T9 and right vertebral facet of T11, L and R 1st rib and 4 L ribs. Spondylosis of T12.
Osteochondritis dissecans: Shallow lesion to R scapula (glenoid cavity).
Para-articular cyst: head of 2nd R metatarsal.

S330 (B)	SEX: Male.	AGE: Adult, mature.	STATURE: 167.4cm ± 2.99cm (5ft 6in).

BONE PRESERVATION
Good. Bone preservation is excellent.
DENTITION

		A		A						A	A				
										c	c				
X	X	/	5	/	3	2	1	1	2	3	4	/	X		
/	X	X	5	4	3	/	/	/	/	3	4	5	6	7	8
							?A								

Calculus, periodontal disease and alveolar recession moderate, exposing the roots of the incisors. Right maxillary central incisor chipped.
PATHOLOGY
Developmental: Non-fusion of the neural spine of C1 and T11. Developmental pit to distal L humerus, and L and R 1st proximal phalanx (foot).
Infection: **Leprosy.** R maxillary sinusitis. Inflammatory change to the palatine process. Slight rounding of the nasal aperture.
Trauma: Healing transverse fractures of 2 R ribs. Soft tissue – remodelled new bone to posterior aspect of the R ulna.

S331 (A)	SEX: Male.	AGE: Adult, ?middle.	STATURE: 177.3 ± 4.05 (5ft 9¾in).

BONE PRESERVATION
Good. Skull and lower leg are absent.
DENTITION

				4											
X	7	X	/	4	3	2	1	1	2	3	4	5	/	7	8
ND													X	c	

Calculus, periodontal disease, alveolar recession. Enamel hypoplasia. Underbite.
PATHOLOGY
Developmental: Developmental pit to L humerus and 4th cervical vertebra.
Infection: **? Tuberculosis**. T2 – paradiscal lesion, associated destructive lesion to L and R 2nd rib. Erosive lesion to 1st thoracic.
Schmorl's nodes: T7, T9–T12, L1 and L2.
DJD: Spondylosis T1 and T2. Vertebral osteophytes T1. L2 has erosive lesion to R apophyseal joint. Degenerative change 2 R ribs.
Volar Grooves: R 2nd and 5th phalanges.
Concentric remodelling: of L m.carpals especially 4th and 5th.
Hyperostosis: Ossification of thyroid cartilage.

S332 (A)	SEX: Male.	AGE: Adult, middle to mature.	STATURE: 170.9 ± 3.27cm (5ft 7¼in).

BONE PRESERVATION
Fair to poor. The body is fragmentary and the feet and upper cervical vertebrae are absent.
DENTITION

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

Calculus, periodontal disease, alveolar recession, enamel hypoplasia.
PATHOLOGY
Infection: **Leprosy.** Early rhinomaxillary syndrome. L maxillary sinusitis, L and R tibiae and fibulae – subperiosteal reactive new bone (considerable), osteitis of R fibula.
Schmorl's nodes: L1, L2, L5 and S1.
DJD: Degenerative change 1st sacral vertebra. Osteophytosis T3, T4, L5–S1, R shoulder (scapula). Degenerative change 1 L rib, 1 R rib.

S333 (A)	SEX: Male.	AGE: Adult, mature.	STATURE: 174.96cm ± 2.99 (5ft 8¾in).

BONE PRESERVATION
Fair. The skeleton is complete but fragmentary.
DENTITION

					?A					?A					
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	4	X		X	X	X	X	4	X	X	X	X

Periodontal disease, alveolar resorption.
PATHOLOGY
Infection: L scapula – osteomyelitis of acromial spine.
Trauma: Fracture R clavicle midshaft, L scapula body. Trauma to L talocalcaneal joint with secondary osteoarthritis. L cuboid – hairline fracture.
Soft tissue trauma: L scapula body and ribs.

Schmorl's nodes: T10 and T11.
DJD: Osteoarthritis C2–T8, T12–L1. Osteoarthritis of L and R elbows (humeri/ulnae), R hip joint (acetabulum and femur), L calcaneum, and L acromioclavicular joint. Vertebral osteophytosis C3–C7, T4–sacrum. Spondylosis C3–C7, T3–T4, T7–T10, L5–sacrum. Degenerative change to L and R temporomandibular joint, R sternoclavicular, early degenerative change to the L hip joint, 2 ribs, R wrist (ulna), R 1st m. tarsal. Osteophytosis of L and R shoulder joint, L and R elbows, R wrist and 5 finger joints. Chondromalacia patella L and R.
Osteochondritis dissecans: R 1st metatarsal.
Neoplastic: Button osteoma near lambdoid suture.
Tarsal bars: L and R naviculars, tali, L cuboid.
Remodelling: 3 proximal phalanges (hand). Pseudarthrosis – L talocalcaneal joint.
Hyperostosis: L and R sacroiliac joint, L 1st m.tarsal.

S334 (A)	SEX: Unknown.	AGE: Adolescent, 14.6–17.0 (just under 17.0).	STATURE: Undertermined.

BONE PRESERVATION
Good–fair. Posterior aspect of skull only.
PATHOLOGY
Trauma: Possible blade injury to fragment of frontal bone close to right coronal suture.
Infection: New bone formation covering the ectocranial aspect of the parietals and occipital bone, scalp infection?

S335 (A)	SEX: Male.	AGE: Adult, mature.	STATURE: 173.3cm ± 3.27 (5ft 8¼in).

BONE PRESERVATION
Good. Lower legs absent.
DENTITION

				A	A	A			?A	?A			A		
				c	c	c									
X	X	X	X	4	3	2	1	1	/	/	4	X	X	X	/
8	X	X	X	4	3	2	1	1	2	3	4	X	X	X	8
				c				c	c						
								A	A				A	A	

Calculus, periodontal disease, alveolar recession and enamel hypoplasia.
PATHOLOGY
Developmental: L5 is unilaterally fused to S1 on the right side. VAN defect of S1.
DJD: Osteoarthritis of cervical, thoracic and L1 vertebrae, also of 3 R rib tubercle, L and R acromioclavicular joint, L acetabulum. Vertebral osteophytes to C4–C7, T4, T5, T9, T12, L4 to sacrum. Spondylosis – C3–T2, T4–T10, L1, L4, L5. Degenerative change R temporomandibular joint, 3 R rib head, R hip (acetabulum).
Neoplastic: ?R 4th m.carpal (X-ray).
Hyperostosis: Ossification of thyroid and costal cartilages, R sacroiliac joint.
Volar groove: 4 R phalanges, 1 L phalanx, 1 distal.

S336 (A)	SEX: Male.	AGE: Adult, middle.	STATURE: 175.2cm ± 3.27 (5ft 9in).

BONE PRESERVATION
Good–fair. Skull fragmentary and lower leg absent.
DENTITION

8	7	6	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	8

Calculus, periodontal disease and alveolar recession, crowding and enamel hypoplasia.

PATHOLOGY
Infection: **Leprosy (LL).** Early rhinomaxillary change. Perforation of hard palate, inflammation R side of palate and nasal aspect, infection to the conchae. New bone plaque – 1 R proximal phalanx (hand).
Schmorl's nodes: T10, T11 and L2.
DJD: Osteoarthritis T9 and T10, degenerative change to costotransverse facets T11 and T12. Marginal osteophytosis C6 and C7, T3–T5, T9–T12. Spondylosis T6, T10 and L1. Early degenerative change to 5 R ribs.
Neoplastic: Button osteoma on R frontal bone.
Volar groove: Slight 1 left, 1 right.
Hyperostosis: L innominate, L ulna, L and R radii, ossification of costal and thyroid cartilage.

S337 (A)	SEX: Male.	AGE: Adult, mature.	STATURE: 178.3cm ± 2.99 (5ft 10¼in).

BONE PRESERVATION
Good – body complete.
DENTITION

											A				
											c				/
X	X	X	5	4	/	/	1	/	/	3	4	5	X	X	X
8	/	6	5	4	3	2	/	1	2	3	4	5	X	7	8
c	A	c													

Calculus, periodontal disease, alveolar recession, enamel hypoplasia.
PATHOLOGY
Developmental: 3rd thoracic, 1st lumbar vestigial transverse process. Developmental pits to L and R tibiae, R 1st cuneiform, R 1st m.tarsal.
Schmorl's nodes: T5–T7, T9–T12.
DJD: Osteoarthritis of cervical and thoracic vertebrae. Spondylosis C6, T9. Osteoarthritis L and R 1st rib head. Degenerative change to 5 R and L rib. Early degenerative change – L and R acromioclavicular joint, R wrist (ulna), R patella.
Hyperostosis: Ossification of thyroid cartilage.
Enthesopathy: L calcaneum, talus, R 5th m.tarsal.

S338 (A)	SEX: Male.	AGE: Adult, young, 18–20 years.	STATURE: 159.1± 2.99 (5ft 2½in).

BONE PRESERVATION
Fair – complete but fragmentary.
DENTITION

O													c		
/	7	6	5	4	/	/	/	/	/	/	4	5	6	7	NP
NP	7	6	/	4	3	/	1	1	/	3	4	5	6	7	NP
		c													U
		?A													

Calculus and alveolar resorption to maxillary incisors.
PATHOLOGY
Infection: **Leprosy (LL).** Rhinomaxillary change: inflammation of palatine and nasal aspect, remodelling of nasal aperture, resorption of anterior nasal spine. Inflammation of conchae. Volar grooves to 2 proximal phalanges.
ASSOCIATED MATERIAL
Infection: Subperiosteal reactive bone – R 3rd m.carpal (?part of **S342**).

S339 (A)	SEX: Female.	AGE: Adult, young.	STATURE: 161.6cm ± 3.55 (5ft 3½in).

BONE PRESERVATION
Good. The body is complete but fragmentary.
DENTITION

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

Enamel hypoplasia.
PATHOLOGY
Developmental: Axis neural arch – open hiatus. 6th lumbar vertebra.
Infection: **Leprosy (LL-bilateral).** Subperiosteal reactive bone to the R 3rd and 4th m.carpal, L femur, L and R tibiae and fibulae with molten appearance, and to L and R m.tarsals, L 1st and 2nd cuneiform. Destructive change to joints of L 2nd, 3rd, 4th, 5th m.tarsal. Ulceration of R and L 1st m.tarsal/proximal phalanges. Claw finger deformity (2 L finger, 1 R). Ankylosis of R 1st phalangeal joint. R. maxillary sinusitis. Volar grooves to 2 proximal phalanges. Remodelling of metacarpals, metatarsal shafts, cupping of middle phalanges (hand). Tarsal bars to L talus, R navicular.
Trauma: R radius, possible greenstick fracture. L 3rd m.tarsal.
Schmorl's nodes: T9–T11.
DJD: Pseudarthrosis L cuboid/4th m.tarsal.
Neoplastic: Button osteoma on R parietal.
Miscellaneous: L ribs – groove to pleural aspect due to pressure erosion. Pitting to cranial vault.

S340 (A)	SEX: Male.	AGE: Adult, young.	STATURE: 166.9 ± 2.99 cm (5ft 5¾in).

BONE PRESERVATION
Good–fair. Skull fragmentary, long bones weathered.
DENTITION

ND			c										c		?c
X	7	X	5	/	3	2	/	1	2	/	4	5	6	7	8
8	7	X	5	4	3	2	1	1	2	3	4	5	6	7	8

Enamel hypoplasia.
PATHOLOGY
Developmental: Scaphocephaly.
Infection: **Leprosy (TL-early LL).** Early inflammatory change to nasal aspect of palate and conchae. L maxillary sinusitis. Subperiosteal reactive bone R tibia and fibula, R 1st m.tarsal. Volar groove to 2 L and 3 R phalanges. L and R 1st prox phalanx (foot). Remodelling of proximal phalanges of foot.
Schmorl's nodes: T8 and T9.
Enthesopathy: L 1st m.tarsal.

S341 (A)	SEX: Male?	AGE: Adult, young.	STATURE: 169.1cm ± 2.99 (5ft 6½in).

BONE PRESERVATION
Poor/fair. Body complete but fragmentary.
DENTITION

		c													O
/	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
O					U					O					O

Periodontal disease, alveolar recession, enamel hypoplasia.
PATHOLOGY
Developmental: L humerus (distal) – pit.

Cribra orbitalia: L and R orbits small. Area being actively remodelled.
Infection: **Leprosy (LL).** Rhinomaxillary change: inflammatory change to palate and nasal aspect of maxilla, conchal crest and conchae. Alveolar resorption and slight remodelling of nasal aperture. R maxillary sinusitis. Subperiosteal reactive bone to 1 L rib, radius, L 3rd, 5th m.carpal, L and R tibiae and fibulae, L 2nd and 4th m.tarsal, R calcaneum. Volar grooves to 2 L and R phalanges. Tarsal bars to L and R tali, naviculars, 3rd cuneiforms and L cuboid, R 1st, 2nd, 3rd, cuneiform. Remodelling of L and R 1st m.tarsal, concentric atrophy of proximal phalanges (feet).
Schmorl's nodes: T9–L3.
DJD: Spondylosis – T9. Degenerative change 2 R, 1 L rib (tubercle).
Enthesopathy: R ulna (supinator), L tibia.
Miscellaneous: L 1st m.tarsal – large nutrient foramen.
ASSOCIATED MATERIAL
Metabolic: Cribra orbitalia – R orbit. (**S334**).

S342 (A)	SEX: Male.	AGE: Adult, middle to mature.	STATURE: 159.6cm ± 2.99 (5ft 2¾in).

BONE PRESERVATION
Fair. Skull good, lower body fair–poor condition.
DENTITION

c		A							A				?A	c	A
8	X	X	/	4	3	2	/	/	/	3	4	5	/	7	8

Calculus, periodontal disease, alveolar recession and enamel hypoplasia.
PATHOLOGY
Infection: L side of palate (due to abscess). **Leprosy.** Osteitis and periostitis – L and R tibiae and fibulae. R 5th m.tarsal destroyed by ulceration and 1 other m.tarsal.
DJD: Osteoarthritis R acromioclavicular joint, degenerative change to 4 L rib (tubercle).
Osteophytosis: 1 R rib head and tubercle, R distal radius.

S343 (A)	SEX: Unknown.	AGE: Adult, mature.	STATURE: Undetermined.

BONE PRESERVATION
Poor/fair. Preservation poor, vertebrae absent.
DENTITION

X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	/	/	/	/	/	/	/	X	5	X	X	X
							A		A	A					

Periodontal disease.
PATHOLOGY
Developmental: L calcaneum – pit.
Infection: Frontal bone – healed sclerotic lesion. R parietal depression. Osteomyelitis and periostitis – L femur. Subperiosteal reactive bone and osteitis L tibia and fibulae.
Trauma: R calcaneum/talus, L femoral shaft, compression fracture – L tibia (distal). L talus ? compression fracture. L 1st distal phalanx (foot) – well healed, 2 L ribs.
DJD: Osteoarthritis C4, C6, L1 vertebrae. Osteophytosis L5. Spondylosis L5. Early degenerative change – L mandibular condyle, L acromioclavicular joint, L and R elbow joint, L and R sacroiliac joint, L and R hip (acetabula), L femur (distal). Osteophytosis L and R glenoid cavity, R radius (distal), R scaphoid, L and R acetabulum, L and R femur (distal), L tibia, L talus.
Para-articular cysts: R 1st and 2nd m.tarsal.
Osteochondritis dissecans: R tibia and R calcaneum.
Neoplastic: L parietal – button osteoma.
Tarsal bars: L and R tali.
Enthesopathies: L and R radii (tubercle), 1st m.carpal shaft, L and tibiae, R calcaneum.
Hyperostosis: Compact bone to R 2nd–4th m.tarsal. L 2–4th m.tarsal.
Remodelling: 1 proximal phalanx.

S344 (A)	SEX: Male.	AGE: Adult, young.	STATURE: 175.87 cm ± 2.99 (5ft 9¼in).

BONE PRESERVATION
Good–fair. Skull badly damaged.
DENTITION

	A	A		?A									A	A	
		c			c			c	c	c	c	?c			
/	X	6	X	X	3	2	/	1	2	3	4	5	X	/	8
8	X	X	5	/	3	2	1				4	5	6	X	8
c			c								c	c	c		c
A				A							A	A			

Periodontal disease, alveolar recession, enamel hypoplasia.
PATHOLOGY
Infection: L and R maxillary sinusitis. Subperiosteal reactive bone – nasal conchae; palate irregular, result of dental abscesses. R tibia – osteitis.
Enthesopathy: L tibia.
Volar grooves: Incipient 1 R proximal phalanx.

S345 (A)	SEX: Male.	AGE: Adult, middle.	STATURE: 177.2cm ± 2.99 (5ft 9¾in).

BONE PRESERVATION
Fair – much of the body weathered, skull incomplete.
DENTITION

/	7	6	5	4	3	/	/	/	2	3	4	5	6	7	8
8	7	6	5	4	/	2	/	/	/	/	4	5	6	7	8

Calculus, periodontal disease and alveolar recession.
PATHOLOGY
Infection: **Leprosy (LL).** Rhinomaxillary changes: resorption of anterior nasal spine, remodelled nasal aperture. Early resorption of alveolar process, inflammatory reaction to hard palate, nasal aspect and nasal conchae. Early perforation to left side of palate. Pitting to L incus and resorption of styloid process of malleus. Subperiosteal reactive new bone – L and R tibiae and fibulae. Possible inflammatory reaction to L femur. Concentric remodelling of phalanges of the feet.
Trauma: R talus – compression fracture, result of tarsal disintegration.
DJD: Degenerative change 1 L rib tubercle facet. Osteophytosis – 1 R rib tubercle, R calcaneum, and navicular. Volar groove to 1 left, 2 right proximal phalanges.
Osteochondritis dissecans: L radius (distal).
Hyperostosis: Bone to 2nd and 3rd cervical vertebral body.

S346 (A)	SEX: Male.	AGE: Adult, 25–35 years.	STATURE: 167.4cm ± 2.99 (5ft 6⅞in).

BONE PRESERVATION
Good to excellent; body complete.
DENTITION

8	7	6	5	4	3	/	/	/	/	3	4	5	6	7	8
8	7	6	5	4	3	2	1*	1	2	3	4	5	6	7	8

*Supernumerary incisor.
PATHOLOGY
Developmental: Ankylosis of atlas to occipital condyles, unstable joint – poor fit between C1 and C2. 6th cervical defect to R neural arch. Rudimentary 12th rib. Partial sacralisation (unfused) of L5. R *os acromiale*, R humerus – vestigial medial epicondyle.
Infection: **Leprosy (LL).** Remodelling of nasal aperture. Inflammatory change to palate. Subperiosteal

reactive bone – L ulna and radius, thick deposits of woven bone on L m.carpals. Remodelling of 2 proximal hand phalanges. Porous subperiosteal reaction L and R m.tarsals, L 1st proximal foot phalanx, L and R tibiae, L calcaneum, L fibula.
Trauma: Hairline fracture of C5 (L apophyseal joint). Linear defect to C6 (developmental or traumatic). 1 R rib, R tibia – distal articular surface. R fibula – oblique fracture of distal end.
Schmorl's nodes: 6th–8th, 10th thoracic, 2nd, 3rd, 5th lumbar.
DJD: Osteoarthritis of C7, T1, L1. Degenerative change to T10, vertebral facet – T4, T9, and T11. Postcranial: early degenerative change R clavicle (sternal) and L 2nd rib (tubercle).
Hyperostosis: Ossification of thyroid cartilage.

S347 (A)	SEX: Male.	AGE: Adult, young.	STATURE: 174.05cm ± 2.99 (5ft 8½in).

BONE PRESERVATION
Fair. Much of the body is fragmentary.
DENTITION

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

Periodontal disease and alveolar recession.
PATHOLOGY
Infection: **Leprosy (LL).** Rhinomaxillary change: inflammation of the palate and nasal aspect of the maxilla, remodelling of nasal aperture, resorption of the anterior nasal spine. Early alveolar resorption. Resorption and inflammatory change to L conchal crest. Subperiosteal reactive bone to R scapula, L humerus, L ulna, L 2nd and 3rd m.carpals, R 2nd m.carpal, L tibia and fibula. Active new bone plaque to R tibia and fibula, R 2nd–4th m.tarsals. Probable osteitis to R fibula. Volar grooves to 1 L phalanx. Tarsal bar to L talus.
Schmorl's nodes: T6, T, T9, L1–2.
Osteochondritis dissecans: R glenoid cavity

S348 (A)	SEX: Male.	AGE: Adult, middle to mature.	STATURE: 173.1cm ± 2.99 (5ft 8⅛in).

BONE PRESERVATION
Good. Body complete.
DENTITION

U	A			c	c										U
X	/	X	X	4	3	/	/	/	/	/	/	/	X	/	8
X	7	6	5	4	3	2	1	1	2	3	4	5	X	X	X
		c													

Periodontal disease and alveolar recession marked, enamel hypoplasia, crowding.
PATHOLOGY
Infection: **? Leprosy**. Early rhinomaxillary syndrome. R maxillary sinusitis resulting from dental abscess.
Trauma: R rib, hairline fracture to R patella and R 4th m.tarsal/phalanx. Destruction of 1st m.tarsophalangeal joint – traumatic or septic.
Soft tissue trauma: 4th proximal phalanx.
Schmorl's nodes: T7, T8, T11 and T12.
DJD: Osteoarthritis – to cervical, degenerative change to thoracic and S1. Marginal osteophytes to C2–C7, T7–L1, L4–L5, ankylosis T9–T10 (?early DISH). Spondylosis C3–C7, T12, L1. Degenerative change to L1st and 11th rib, L and R acromioclavicular joint, R 3rd cuneiform, 1 L rib, 1st R rib. Osteophytosis: 2 L ribs, R 11th rib, 2 R middle phalanges (hand) 4 left, L acetabulum, L sacroiliac joint, L femoral condyles, L patella, L tibia, R femur and tibia.
Para-articular cysts: 1st L m.tarsal, R 4th m.tarsal.
Osteochondritis dissecans: Axis – L joint.
Hyperostosis: Bone-producing individual – ossification of costal and thyroid cartilage. Ossification of anterior longitudinal ligament on T7–T10, fusion of T9–T10. Ossification of ligaments on shafts of L 2–4th m.tarsal.
Enthesopathies: 2nd thoracic, 5 L and 3 R ribs (tubercle), R humerus (deltoid), phalanges (hand), *linea aspera*

and soleal line prominent, L patella (rectus femoris), L calcaneum (Achilles), proximal phalanges, 4 distal, R tibia (soleus). 5th m.tarsal, L and R ulnae (triceps).

S349 (A)	SEX: Male.	AGE: Adult, mature.	STATURE: 169.4cm ± 2.99 (5ft 6¾in).

BONE PRESERVATION
Good–fair; body complete but for the lower jaw.
DENTITION

		A							?A						
X	X	X	X	X	/	X	/	X	X	3	X	X	X	X	X

PATHOLOGY
Developmental: Extra L and R rib.
Trauma: 1 L rib fracture. Healed hairline fracture R tibia medial condyle, R 1st proximal phalanx ?hairline fracture.
DJD: Erosion of L temporomandibular joint. Osteoarthritis – 2nd lumbar, R 1st rib, R acromioclavicular joint, R radius/scaphoid, L lunate. Early osteoarthritis – 1st rib (head), 2nd and 11th R rib, L acromioclavicular joint, L and R humeri (distal), L 1st and 2nd m.carpal. Osteophytosis – R ulna, R radius (proximal), R capitate, R femur (distal), Incipent change L calcaneum/talus.
Osteochondritis dissecans: L tibia (distal), R 1st m.tarsal (healing).
Para-articular cysts: L humeral head, L scaphoid and capitate.
Enthesopathies: L and R ribs attached to the lateral costotransverse ligament. L tibia/fibula.
Hyperostosis: Ossification of thyroid cartilage, L acetabulum, R femur (distal).
ASSOCIATED MATERIAL
Mandible which does not appear to fit the above.
DENTITION

8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
									c				A		

Calculus extreme, periodontal disease and alveolar recession.
DJD: Incipient osteoarthritis – L condyle.

S350 (A)	SEX: Male.	AGE: Adult, young to middle.	STATURE: 168.3cm ± 2.99 (5ft 6¼in).

BONE PRESERVATION
Good – more or less complete.
DENTITION

															c
8	7	6	5	4	3	X	X	X	X	3	4	5	6	7	8
/	7	6	5	4	3	2	1	1	2	3	4	5	6	7	NP
															X

Calculus, periodontal disease, alveolar recession and enamel hypoplasia widespread. Enamel pearl on R maxillary 2nd molar.
PATHOLOGY
Developmental: 2 vestigial ribs. 10th thoracic – absence of facet to L transverse process. Sacralisation of L5 with fusion.
Cribra orbitalia: L and R orbits – healing lesion, or inflammation of eye.
Infection: **Leprosy (LL).** Rhinomaxillary change: alveolar resorption with loss of incisors, resorption of anterior nasal spine, remodelling of nasal aperture. Inflammation of hard palate, thickening of floor and sides of nasal aspect of palate, inflammation of nasal conchae and septum. L and R maxillary sinusitis. R incus – pitting. Subperiosteal reactive bone – R radius, L and R tibiae and fibulae, L 2nd and 3rd m.tarsals, R 2nd–5th m.tarsals. Tarsal bars to L talus, R navicular and 2nd cuneiform.
Trauma: L tibia – hairline fracture distal articular surface.
Soft tissue trauma: L tibia.

Schmorl's nodes: T6.
DJD: Degenerative change T8–T12. L and R hips (acetabula) (possible Perthes' disease – right).
Osteochondritis dissecans: L 2nd cuneiform, L 1st m.tarsal, R 1st m.tarsal.
Hyperostosis: Ossification of costal cartilage.
Enthesopathy: 2 L costotransverse ligament, R clavicle (deltoid), R 1st proximal phalanx (pollicis brevis), L tibia/fibula. Exostoses into neural canal 3rd–11th thoracic.

S351 (A)	SEX: Male.	AGE: Adult, young.	STATURE: 173.7cm ± 2.99 (5ft 8¼in).

BONE PRESERVATION
Good. More or less complete, skull fragmentary.
DENTITION

NP												c			NP
U	7	6	5	4	3	2	1	/	2	3	4	5	6	7	U
U	7	/	5	/	3	2	1	1	2	3	4	5	6	7	8
NP		?A	c												

Calculus, periodontal disease, alveolar recession and enamel hypoplasia widespread.
PATHOLOGY
Developmental: 1st sacral vertebra open hiatus, bipartite occipital bone.
Infection: **Leprosy (LL).** Inflammatory change to the nasal and palatal aspect of maxilla, new bone to central line. Change to conchal crest, remodelling of nasal aperture. Pitting to ectocranium – probable infection of scalp. Suggestion of pitting to floor of orbit – infection to eye. Subperiosteal reactive bone to L and R tibiae and fibulae. Septic arthritis – proximal phalanx of foot. Volar grooves to 4 L and R proximal phalanges. Remodelling to the foot phalanges.
DJD: Degenerative change to C3, T1.
Cysts: R mastoid foramen associated with cyst. Bone cyst to acromioclavicular joint.
Para-articular cyst: L glenoid cavity, L lunate.
Miscellaneous: 5th and 6th thoracic – plaque of bone to body surface.

S352 (A)	SEX: Male.	AGE: Adult, ?middle.	STATURE: 168.9cm ± 2.99 (5ft 6½in).

BONE PRESERVATION
Good. Skull damaged, the right foot and fibula absent.
DENTITION

	?c	c	c	c							c	c		A	
/	7	6	5	4	3	2	/	1	2	3	4	5	X	X	X
8	X	X	/	4	3	2	/	/	/	3	4	X	X	X	X
c			A	?c		c									

Calculus, periodontal disease and alveolar recession are marked. Enamel hypoplasia widespread.
PATHOLOGY
Infection: **? Leprosy**. L and R maxillary sinusitis. Subperiosteal reactive bone – R tibia and fibula.
Trauma: Fractures to R zygomatic process, L frontal bone, R 1st m.carpal. Crush fracture of T11. Possible hairline fracture to shaft of middle phalanx (hand).
DJD: Degenerative change to T3–T5, T10, Osteophytosis – T10. Spondylosis T6 –T7. Early degenerative change –1 R rib (tubercle), L and R acromioclavicular joint, 1 distal phalanx.
Hyperostosis: Ossification of thyroid cartilage.
Exostoses: 1 L rib, ulna (olecranon), R femur (lesser trochanter).

S353 (A)	SEX: Male.	AGE: Adult, middle to mature.	STATURE: 172.1 cm ± 2.99 (5ft 7¾in).

BONE PRESERVATION
Good – skull damaged, body complete.
DENTITION

c		A	c									c		A	c
8	7	X	5	4	/	/	/	/	/	3	4	5	6	7	8
8	7	6	5	4	/	2	1	/	2	3	4	5	6	7	8
						?c	c								c

Calculus, periodontal disease, alveolar recession. Enamel hypoplasia.
PATHOLOGY
Developmental: R 12th rib vestigial.
Cribra orbitalia: L and R orbits – healing.
Infection: **Leprosy (LL).** Rhinomaxillary change: inflammatory change to nasal aspect of maxilla, eventual perforation. Resorption of anterior nasal spine, remodelling of nasal aperture, early resorption of alveolar process, inflammation of nasal conchae. Subperiosteal reactive bone – R fibula and ?R tibia.
Trauma: Parietal bone – nodule of bone. 1 L middle phalanx.
Soft tissue trauma: R talus.
Schmorl's nodes: 11th thoracic vertebra.
DJD: Degenerative change to L1, L2, L4. costovertebral facet to T1, T7. Postcranial early degenerative change to L1st rib, R clavicle (sternal), R acromioclavicular joint, L 3rd m.carpal, L acetabulum. R 11th rib. Osteophytosis: R glenoid cavity, L 2nd m.carpal, R tibia (distal).
Osteolytic: 12th thoracic vertebral body.
Para-articular cyst: R 1st m.carpal, L and R 1st m.tarsal (L ? gout).
Cyst: Posterior margin of 5th lumbar.
Hyperostosis: Ossification of costal and thyroid cartilage.
Enthesopathies: 2 R and 1 L ribs (tubercle). R talus, L and R calcanea.

S354 see **S35** (excavated in 1986 – probably the same individual).

S355 (A)	SEX: Male.	AGE: Adult, young.	STATURE: 181.3cm ± 4.05 (5ft 11¼in).

BONE PRESERVATION
Fair. Fragmentary and incomplete.
DENTITION

O															
8	7	6	5	4	3	2	/	/	2	3	4	5	X	7	–
8	7	6	5	4	3	2	1	1	2	/	4	5	6	7	8

Periodontal disease, alveolar recession slight. Enamel hypoplasia widespread.
PATHOLOGY
Infection: R incus pitted. Subperiosteal reactive bone R tibia and fibula.
Trauma: R 1st rib ununited fracture and soft tissue trauma. L 1st and 2nd rib – well healed. R tibia (distal) hairline fracture.
Schmorl's nodes: T6–T9.
DJD: Degenerative change to T11, 2 L ribs (tubercle).
Osteochondritis dissecans: R glenoid cavity.
Miscellaneous: Possible ossified haematoma – L and R femur proximal end of shaft. Pitting to parietal and occipital bone.

S356 (A)	SEX: Male.	AGE: Adult, mature.	STATURE: 178.3cm ± 3.27 (5ft 10⅛in).

BONE PRESERVATION
Poor. Skull and L upper limb absent, very fragmentary.
DENTITION

X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
										A					

PATHOLOGY
Infection: Subperiosteal reactive bone – R ulna, L and R radii, L1st–5th m.tarsals, R 2nd–5th m.tarsals, R femur, tibia and fibula. Osteitis – 1st proximal phalanx (hand). Periostitis and osteitis – L femur, L tibia and fibula. Sacrum – possible diverticulitis.
Trauma: 3 L ribs, 8th thoracic ? healed fracture to spinal process. Compression fracture – L calcaneum.
DJD: Osteoarthritis of T6–T9. Vertebral osteophytosis L5–S1. Degenerative change to R and L hips (acetabula), R humerus (distal), L talus.
Osteophytosis: R glenoid cavity, 1st proximal phalanx. L femoral condyle, L cuboid.
Para-articular cyst: L trapezium and lunate.
Enthesopathies: R scapula (coracobrachialis), L proximal phalanx (foot), L and R patellae (rectus femoris).
Tarsal disintegration: L calcaneum.
Tarsal bar: L navicular.
Remodelling: 2 proximal phalanges (foot) and enlarged nutrient foramen.
Miscellaneous: Slight bowing of R femur.

S357 (A)	SEX: Male.	AGE: Adult, mature.	STATURE: 178.1cm ± 2.99 (5ft 10⅛in).

BONE PRESERVATION
Good. Body complete, skull damaged.
DENTITION

						?A			?A						
–	–	–	X	X	X	X	X	X	X	X	X	X	X	–	–	–
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

PATHOLOGY
Infection: L incus – pitting. Subperiosteal reactive bone – L tibia.
Trauma: R clavicle, R 1st distal phalanx (foot) – hairline fracture.
Schmorl's nodes:1st and 2nd lumbar.
DISH: T3–T12 fused by R anterior longitudinal ligament, L scoliosis associated (see DJD).
DJD: C3–T1, L1. Spondylosis C1–C7, L3. Osteoarthritis L acromioclavicular joint, 1 R rib (tubercle), L and R sternoclavicular, L hip joint, R 2nd and 4th m.tarsophalangeal joint. Early degenerative change to L and R elbow joint. Osteophytosis – 2 R ribs, L and R glenoid cavity, L 1st proximal phalanx, 4 middle and 5 distal phalanges (hand), R ulna (distal), proximal phalanx, L and R acetabula, R tibia, R 1st proximal phalanx.
Para-articular cyst: 2nd prox phalanx (hand), L 1st m.tarsal.
Neoplastic: Button osteoma 2 – frontal bones, 1 R parietal. Nodule of bone 1 L rib.
Hyperostosis: Bone producer – DISH. Ossification of costal cartilage . Hypertrophic bone to visceral aspect of ribs, L innominate, R tibia and R m.tarsals.
Enthesopathies: to bones of L humerus (deltoid), L m.carpals, L proximal phalanx, humerus, R ulna, radius, m.carpal (1st and 5th), R proximal phalanges, R innominate, R and L *linea aspera*, L tibia, patella, R fibula, calcaneum, m.tarsals, 1st distal phalanx, L 1st and 2nd cuneiform.

S358 (A)	SEX: Female?	AGE: Adult, mature.	STATURE: 160.7 cm ± 3.27 (5ft 3¼in).

BONE PRESERVATION
Fair/poor. Very fragmentary.
DENTITION

				c		c							c	c	
8				4	3	2				3			7	8	
X	X	X	X	X	X	X	X	X	X	X	4	5		X	X

Calculus, periodontal disease, hypercementosis, enamel hypoplasia.
PATHOLOGY
Infection: Subperiosteal reactive bone L tibia and fibula, R tibia.
Trauma: Hairline fracture R 4th m.carpal.
DJD: Degenerative change to costovertebral joint of T1, T12. Spondylosis – C6, C7, L4–sacrum. Marginal osteo-

phytes L4 to sacrum. Early degenerative change to L and R temporomandibular and L acromioclavicular, 1st L rib, 5 L rib (tubercle), 2 R rib, L glenoid cavity, L and R humeri (distal), R scaphoid, L and R femoral head.
Para-articular cyst: L femoral head.
Tarsal bar: L talus, navicular, 2nd, 3rd cuneiform.
Remodelling: L m.tarsals.
Hyperostosis: Ossification of costal cartilage.
Enthesopathies: L and R clavicles (deltoid), L humerus, L proximal phalanx (head), L femur, L tibia (soleal line).
Miscellaneous: L femur 'pepper pot' osteolytic lesion to prox end of shaft.
ASSOCIATED MATERIAL
Trauma: 1 R rib.

S359 (A)	SEX: Male.	AGE: Adult, young.	STATURE: 178.9cm ± 3.37 (5ft 10in).

BONE PRESERVATION
Fair, but great deal of post-mortem fragmentation.
DENTITION

		A													
	c	c													
/	7	6	5	4	3	/	/	/	/	/	/	5	6	7	U
–	7	6	5	4	3	2	/	1	2	3	/	5	6	7	U

Calculus, periodontal disease and alveolar recession, enamel hypoplasia.
PATHOLOGY
Developmental: R tibia (distal), L and R calcanea – accessory bone.
Infection: **? Leprosy (early LL)**. Inflammation of nasal aspect, subperiosteal reaction to conchal crest, L and R sinusitis. Subperiosteal reactive bone – R ulna, R 1st m.carpal, L femur and tibia, L and R fibulae, L 3rd–5th m.tarsals, R calcaneum, R 5th m.tarsal. Sacrum – possible diverticulitis. Tarsal bar to R navicular and 3rd cuneiform. Volar grooves to 3 L, 2 R proximal phalanges.
Schmorl's nodes: L1–L3.
Cyst: L mastoid.

S360 (A)	SEX: Male?	AGE: Adult, young (17–25 years).	STATURE: Undetermined.

BONE PRESERVATION
Good/fair. The body is complete.
DENTITION

U															U
NP	7	6	/	4	/	X	X	/	/	/	4	5	6	7	NP
/	7	6	/	4	3	2	/	/	/	3	4	5	6	7	NP
O															U

PATHOLOGY
Developmental: Atlas – L transverse foramen incomplete, 11th thoracic L transverse process vestigial.
Infection: **Leprosy (LL).** Rhinomaxillary change: alveolar resorption and loss of maxillary incisors. Inflammatory change to nasal and palatal aspect of maxilla, possible early perforation of palate. Resorption of anterior nasal spine and remodelling of nasal aperture. Pitting to R incus, erosion L incus.
Volar groove: R proximal phalanx, early.
Remodelling: L 2nd–4th m.tarsal, R m.tarsals, proximal phalanges.
Miscellaneous: L and R scapulae have enlarged area for teres minor. R calcaneum has large nutrient foramen.

S361 (A)	SEX: Male.	AGE: Adult, mature.	STATURE: 175.5cm ± 2.99 (5ft 9in).

BONE PRESERVATION
Good to fair. Skull fragmentary, otherwise good.
DENTITION

X	X	X	X	X	3	X	X	X	/			X	X	X	X
X	X	X	X	X	/	X	X	X	/	3	X	X	X	X	X
									A			?A			

PATHOLOGY
Infection: **? Tuberculosis**. Localised inflammatory reaction to the palate. Inflammatory lesion to L4 and L5.
Trauma: R rib fracture, 7L ribs fractured.
Schmorl's nodes: T5, T6, T8, T12, L1–L2.
DJD: Osteoarthritis of L3–L5 and osteoarthritis – L temporomandibular joint. Spondylosis C4–C7. Marginal osteophytosis C4–T2, T7–T12. Early degenerative change – R 1st rib, L clavicle (sternum), R acromioclavicular joint, R radius, R acetabulum. Osteophytosis 5 R and 4 L ribs (tubercle), L acetabulum.
Para-articular cysts: L 1st m.carpal.
Hyperostosis: Ossification of costal cartilage, 7th–11th thoracic – ossification of anterior longitudinal ligament, ? early DISH.
Exostoses: 7th cervical. L 12th rib, L and R calcanea.
Enthesopathies: L and R radii (tubercle).
Tarsal bar: L and R tali.

S362 (A)	SEX: Male.	AGE: Adult, mature.	STATURE: 160.7cm ± 2.99 (5ft 3¼in).

BONE PRESERVATION
Fair–good. Body complete but fragmentary.
DENTITION

X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	/	X	X	X	X	/	/	X	X	X	X
				?A						X	X				

PATHOLOGY
Infection: Subperiosteal reactive bone L and R tibiae, fibulae, L 2nd m.tarsal. Osteitis – L tibia.
Trauma: Fracture 1 middle phalanx (hand), 1 R rib, 1 shaft of rib, possible fracture of 1 proximal phalanx (foot).
DJD: Osteoarthritis of C2–C5, T4–T6, also of L and R temporomandibular joint, L hip (acetabulum), 4 L rib 5 R rib. Spondylosis C3–C7, T7–T8. Marginal osteophytes C5–C7. Degenerative change to L ulna, L acromioclavicular joint, L capitate, R sacroiliac joint, L tibia, patella. Osteophytosis to joints of R humerus, 1 proximal phalanx, L scaphoid, 3 L rib, 2 R rib, L and R femoral head. L and R patellae, L calcaneum and navicular. Ankylosis of 1 rib to transverse process ? due to spondyloarthropathy.
Para-articular cyst: L capitate, L clavicle (sternum).
Osteochondritis dissecans: R tibia (distal), L calcaneum, R cuboid (healed).
Hyperostosis: L ulna, 3rd m.carpal, L and R clavicles, L humerus, L sacroiliac, L *linea aspera*, early ossification of thyroid cartilage.
Enthesopathy: L innominate, (reflected head of rectus femoris), R fibula. Exostosis 1 proximal phalanx.
Tarsal bar: L and R tali, L navicular, R calcaneum/talus. R cuboid.
Volar groove: L 5 proximal phalanges, 3 R incipient.
Miscellaneous: R and L navicular extension, L and R talocalcaneal bar.

S363 (A)	SEX: Male.	AGE: Adult, mature.	STATURE: 164.7cm ± 2.99 (5ft 4¾in).

BONE PRESERVATION
Fair–poor. Complete but damaged and weathered.
DENTITION

									3					
U	/	X	/	4	/	/	/	/	/	3	/	/	/	7	U
NP													A		NP

Calculus, periodontal disease and alveolar recession, enamel hypoplasia.
PATHOLOGY
Trauma: Fractures 1 R rib, 2 L ribs, hairline fracture 1st thoracic.
DJD: Osteoarthritis of cervical, thoracic and lumbar vertebrae. Ankylosis 2nd–3rd cervical. Spondylosis – L5. Marginal osteophytes L4 – S1. Osteoarthritis R 1st rib. Degenerative change L and R acromioclavicular joint, 6R 4L rib (tub), L acetabulum. Osteophytosis – R radius, R 1 proximal phalanx, L and R femoral condyles.
Osteolytic: Lesion to endocranial aspect of parietal bone.
Hyperostosis: L and R sacroiliac joint.
Enthesopathy: Triceps on R ulna.
Volar groove: 1 L phalanx.

S364 (A)	SEX: Male.	AGE: Adult, mature.	STATURE: 155.2cm ± 3.27 (5ft 1in).

BONE PRESERVATION
Poor. Long bones are better preserved; the rest are fragmentary or absent.
DENTITION

	7	6						1	/	3	4	5	6	7	NP
NP	/	/	5	4	3	2	1	1	2	3	4	/	X	7	NP
		?A													

Calculus, periodontal disease, and alveolar recession. Enamel hypoplasia.
PATHOLOGY
Infection: Inflammatory change to L fibula. Subperiosteal reaction – R tibia.
DJD: Osteophytes – R ulna, L acetabulum.
Hyperostosis: L and R *linea aspera*, R femoral condyle.
Tarsal bar: L talus.

S365 (A)	SEX: Female.	AGE: Adult, young.	STATURE: 161.3cm ± 3.55 (5ft 3½in).

BONE PRESERVATION
Fair. The body is complete but fragmentary and weathered.
DENTITION

U		c	c										c	c	
NP	/	6	5	/	3	/	/	/	/	3	/	5	6	7	–
8	7	6	5	/	3	2	1	1	2	3	4	5	6	7	8

Calculus, periodontal disease and alveolar recession. Enamel hypoplasia.
PATHOLOGY
Developmental: L glenoid cavity (pit).
Metabolic: Cribra orbitalia – L and R orbits.
Infection: **Leprosy (LL).** Rhinomaxillary changes include inflammatory change to nasal aspect of maxilla, resorption anterior nasal spine, slight resorption of alveolar process, remodelling of nasal aperture, remodelling of conchal crest and inflammation of nasal wall. Subperiosteal reactive bone – visceral aspect of rib shafts, L tibia. Volar groove to 3 proximal phalanges, tarsal bar to L talus, remodelling of L and R m.tarsals.
Schmorl's nodes: T8 and T10.

S366 (A)	SEX: Male.	AGE: Adult, middle to mature.	STATURE: 184.3cm ± 2.99 (6ft 0½in).

BONE PRESERVATION
Fair. The skull is mostly absent and the rest of the body has suffered post-mortem fragmentation.
PATHOLOGY
Infection: **Leprosy.** Subperiosteal reactive bone to L ulna, L and R radii, R 2nd, 3rd, 4th m.carpal, proximal phalanx, 4th proximal and middle phalanges, L and R tibiae and fibulae. Osteitis and possible osteomyelitis of L tibia and fibula. Septic destruction articular surfaces of R wrist (radius), R scaphoid, trapezium, R 2nd and 4th m.carpal, 4th proximal and middle hand phalanges, 5th proximal/middle, L 3rd, 4th, 5th m.tarsal, 1 proximal phalanx (foot), L 1st proximal phalanx (foot). Slight subperiosteal reaction to R 4th and 5th m.tarsal. R incus has pitting. Tarsal bar to the L talus, navicular, cuboid, 3rd cuneiform, R talus, cuboid. Volar grooves to the 4th proximal phalanx. Remodelling of the 3rd, 4th, 5th m.tarsals.
Schmorl's nodes: T7–L2.
DJD: Degenerative change to costovertebral facet T6, T11. Spondylosis C7. Marginal osteophytes – C6, T5–T11 and L4–S1. Osteoarthritis R 11th rib, R scaphoid (secondary), R 3rd m.carpal. Early degenerative change – L and R sacroiliac, 2 L and 3 R ribs (tubercle). Osteophytosis – 1 L rib (head), L acromioclavicular joint, 1 R rib (head), 2nd proximal phalanges (head), R and L acetabula, L navicular, 3rd cuneiform.
Para-articular cyst: L glenoid cavity, R scaphoid, trapezium, R 2nd, 3rd m.carpal.
Osteochondritis dissecans: L talus.
Hyperostosis: Ossification of costal cartilage, R ulna (distal).
Enthesopathy: L and R ulnae (olecranon), L tibia (patella lig), R innominate, R fibula.

S367 (A)	SEX: Male.	AGE: Adult, mature.	STATURE: 165.2cm ± 3.27 (5ft 5in).

BONE PRESERVATION
Fair/poor. Considerable post-mortem fragmentation, skull well preserved.
DENTITION

	A			A	A				A	A	?A	A	A		
		c								c					
X	7	6	5	/	/	/	/	/	2	3	4	/	6	7	–
/	X	X	5	4	3	2	1	1	2	3	4	5	6	X	X
X			A									A	A		NP
A															

Calculus, periodontal disease, alveolar recession. Enamel hypoplasia.
PATHOLOGY
Infection: **?Leprosy (early LL).** Early resorption of anterior nasal spine, early remodelling to nasal aperture, inflammatory change – nasal and palatal aspect of maxilla, L and R nasal conchae. Possible infective lesion to R 2nd/3rd m.tarsal articular surface. L and R maxillary sinusitis.
Trauma: Hairline fracture to L femoral lateral condyle.
Schmorl's nodes: T8, T12, L1.
DJD: Osteoarthritis of cervical and thoracic vertebrae, also of 3 L and R ribs (tubercle), L acromioclavicular joint. R 2nd m.tarsal. Spondylosis C6–C7, L4 and sacrum. Marginal osteophytes C1–C2, T9, S1. Early degenerative change – L radial head, L 3rd m.carpal, L sacroiliac joint. Osteophytosis of 2 L rib (tubercle), 1 R rib (head), L and R glenoid cavity, L radius (distal), L patella, R acetabulum.
Para-articular cysts: R cuboid.
Hyperostosis: ossification of costal and thyroid cartilage between apophyseal joints of T3–T5 and T11, L sacroiliac joint, manubrium, sternum – synostosis of xiphoid process, L glenoid cavity, L humeral head, L acetabulum.
Enthesopathy: 3 L rib (costotransverse), R radius (biceps), L femur (?).
Miscellaneous: Pressure erosion R clavicle shaft.

S368 (A)	SEX: Male.	AGE: Adult, mature.	STATURE: 165.7cm ± 2.99 (5ft 5¼in).

BONE PRESERVATION
Good. Most of the body is present.
DENTITION

			X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

PATHOLOGY
Developmental: T12 and L1 – vestigial apophyseal joint, 1st sacral vertebra neural arch unfused, 2 R rib vestigial tubercle articular surfaces.
Infection: R maxillary sinusitis. T1 – L vertebral facet septic destruction.
Trauma: 12th L rib – well healed, 2 R ribs – fractures. 1 distal phalanx (hand) hairline fracture.
DJD: Degenerative change to costotransverse facet T5–T8. Spondylosis – C2–C7, L3–L4. Vertebral osteophytes C1, C6, L2–sacrum. Degenerative change to R hip, L and R temporomandibular joint, L and R sacroiliac joint, 3 L and 2 R rib (tubercle), L and R acromioclavicular joint, R ulna (distal), L lunate, L acetabulum, L femoral head.
Osteophytosis: 4 R and L rib (head), L and R glenoid cavity, L scaphoid, 5 proximal phalanges (hand), L and R femoral condyles, L patella.
Para-articular cysts: R clavicle (manubrium), L lunate, triquetral, hamate, L 4th m.carpal, R capitate, R 2nd, 3rd m.carpal, 1 proximal phalanges, R acetabulum (large), L 1st, 3rd m.tarsal, R 2nd/3rd m.tarsal.
Neoplastic: Button osteoma – R parietal bone.
Hyperostosis: L and R sacroiliac joint. Ossification of thyroid cartilage.
Enthesopathies: L and R scapulae (coracobrachialis), L 2nd m.carpal, R 2nd m.carpal, L fibula (peroneus longus). Exostoses projecting into neural canal of T7–T12.
Volar grooves: Two 1st proximal phalanges.
ASSOCIATED MATERIAL
Extra R pubic symphysis, L 4th m.carpal, R 1st m.carpal (? part of **S366** or **S367**).

S369 (A)	SEX: Male.	AGE: Adult, young.	STATURE: 175.7cm ± 2.99 (5ft 9in).

BONE PRESERVATION
Good. Skull very fragmentary and feet mostly absent.
DENTITION

		A							a						
		C											C		
8	7	6	/	4	3	/	X	1	–	3	4	5	6	7	/
8	–	–	5	4	/	/	/	/	/	/	4	5	6	7	8

Calculus: Slight. Enamel hypoplasia.
PATHOLOGY
Developmental: Small defect R femoral head.
Cribra orbitalia: Suggestion of healing lesion L and R orbits.
Infection: **Leprosy (LL).** Remodelling of nasal aperture associated with inflammatory change to sides of nasal aperture, loss of anterior nasal spine. Subperiosteal new bone plaque – L and R humeri, L and R radii, L and R ulnae, L m.carpal, R 1st, 2nd, 3rd m.carpals. Osteomyelitis/periostitis – L tibia. Chronic subperiosteal reactive bone change L and R tibiae, fibulae. Septic arthritis – 2 R proximal/middle phalanges – ankylosed. Volar grooves to 1 R proximal phalanx.
Trauma: Compression fracture of 2nd lumbar vertebra. Curvature of spine associated.
Schmorl's nodes: L3
Neoplastic: Button osteoma – occipital, L parietal.
Para-articular cyst: R 1st m.carpal.
Miscellaneous: Flattening to L anterior of 11th and 12th thoracic vertebrae.
ASSOCIATED MATERIAL
Animal bone.

S370 (A)	SEX: Male?	AGE: Adult, young.	STATURE: 168.6cm ± 2.99 (5ft 6¼in).

BONE PRESERVATION
Good, almost complete.
DENTITION

/	7	6	5	4	/	/	/	/	/	/	4	5	6	7	8
8	7	6	5	4	3	/	/	/	/	/	/	5	6	7	8

PATHOLOGY
Developmental: 1st sacral vertebra open and unfused. Craniosynostosis of R occipitomastoid.
Cribra orbitalia: L and R orbits.
Infection: L and R maxillary sinusitis. **? Leprosy (BL-early LL).** Slight resorption of alveolar process, slight change to nasal aspect, inflammation of palate. Subperiosteal reactive bone – L and R humeri, L and R tibiae and fibulae, L 2nd–5th m.tarsal, L cuboid, R 3rd and 4th m.tarsal. Volar grooves to 1 proximal phalanx, 1 distal, 3 proximal phalanges. Tarsal bar to L navicular bone.
Schmorl's nodes: T5–T8, T12–L5.
Trauma: Fracture of sacrum.
DJD: Spondylosis and erosion of 3rd lumbar.
Miscellaneous: There are two depressions behind the maxillary lateral incisors. T12 and L1 have a bulge to the posterior aspect of the body.

S371 (A)	SEX: Male.	AGE: Adult, middle.	STATURE: 163.9cm ± 2.99 (5ft 4½in).

BONE PRESERVATION
Fair. Considerable amount of weathering and post-mortem fragmentation to postcranial body.
DENTITION

	c	?A											?A	c
/	7	/	5	4	/	/	1	1	2	3	4	5	X	X	8
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8

Enamel hypoplasia.
PATHOLOGY
Developmental: Spina bifida occulta.1st sacral vertebra – unilateral spondylolysis. Transverse process vestigial. L humerus – pit distal surface.
Metabolic: Cribra orbitalia – L and R orbits, well-healed.
Infection: **Leprosy (LL).** Rhinomaxillary change: remodelling and rounding of nasal aperture, resorption of anterior nasal spine, localised pitting – R side nasal aspect. Inflammatory reaction to conchae and conchal crest (L unaffected).
DJD: Degenerative change to T4–T10. Early degenerative change to 2 L ribs (tubercle). Osteophytes – 1 L rib (tubercle), L and R navicular, L m.tarsal, L 1st proximal phalanx (ft), R acetabulum, R femoral condyle.
Pseudarthrosis: L and R calcaneum/navicular.
Para-articular cysts: L acetabulum.
Hyperostosis: Ossification of costal cartilage, L acetabulum.
Miscellaneous: Pitting to parietal and frontal bone, R tibia – condyles at an angle.

S372 (A)	SEX: Male?	AGE: Adult, young to middle.	STATURE: 163.8cm ± 2.99 (5ft 4½in).

BONE PRESERVATION
Fair. There is considerable weathering to superior and anterior aspect of body.
DENTITION

		c										A	c	
/	7	6	5	4	3	/	1	1	/	3	/	5	/	7	/
/	/7	6	5	/	3	/	/	1	/	3	4	5	6	7	/
														?c	

Calculus, periodontal disease, alveolar recession, enamel hypoplasia.
PATHOLOGY
Infection: **Leprosy (LL).** Rhinomaxillary change: inflammatory and infective change to nasal and palatal aspect of maxilla, conchal crest, nasal spine damaged but early change, inflammatory change to conchae and turbinates. L maxillary sinusitis. Subperiosteal reactive bone – L and R tibiae and fibulae. Volar grooves to 1 L and R proximal phalanges. Tarsal bars to L and R tali. Remodelling of L 2nd and 4th m.tarsals, R 2nd–4th m.tarsals. Phalanges.
Schmorl's nodes: T6–T9, L1–L4.

S373 (A)	SEX: Male.	AGE: Adult, middle.	STATURE: 162.2cm ± 2.99 (5ft 3¾in).

BONE PRESERVATION
Good. The body is complete but post-mortem fragmentation has occurred.
DENTITION

8	7	6	5	4	3	/	/	/	2	3	4	5	6	7	8
8	7	X	5	4	3	2	1	/	2	3	4	5	6	7	8
?c															c

Periodontal disease, alveolar recession, enamel hypoplasia.
PATHOLOGY
Developmental: L 1st m.tarsal – pit.
Cribra orbitalia: L and R orbits.
Infection: **Leprosy (LL).** Rhinomaxillary change: nasal pitting, resorption of anterior nasal spine, alveolar resorption of incisor region. Infection and inflammation to L nasal concha and conchal crest. Subperiosteal reactive bone L tibia and fibula. Tarsal bar to tali and naviculars.
Schmorl's nodes: T12, L4.
DJD: Osteoarthritis – costotransverse joint of T10, 1 L rib, 4 R rib. Spondylosis C4–C6, T2, L4. Degenerative change – L and R acromioclavicular joint.
Osteochondritis dissecans: R radius (proximal).
Miscellaneous: Pressure erosion, visceral aspect of rib. Enlarged nutrient foramen 1 proximal phalanx (foot).

S374 (A)	SEX: Male.	AGE: Adult, young.	STATURE: 155.74cm ± 2.99 (5ft 1¼in).

BONE PRESERVATION
Fair to poor. The body is more or less complete but considerable weathering has occurred.
DENTITION

8	7	6	5	4	3	/	1	1	/	3	4	5	6	7	–
NP	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
X		c													

Calculus. Enamel hypoplasia.
PATHOLOGY
Developmental: Multiple craniosynostoses.
Infection: **Leprosy (LL).** Rhinomaxillary change: anterior nasal spine resorbed, nasal aperture remodelled. Inflammatory change and subperiosteal reaction to nasal and palatal aspect of maxilla, conchae and turbinates. Subperiosteal reactive bone to L tibia and fibula, R tibia. Osteitis and periostitis of R femur.
?Trauma: L fibula has a well-healed fracture.
Schmorl's nodes: T5, T6–L4.
Osteochondritis dissecans: L 1st m.tarsal.
Neoplastic: Button osteoma on L parietal.
Enthesopathy: L tibia.

Other human bone

CONTEXT 20
Fill of grave 19 containing skeleton 7. The fragments listed below are almost certainly disturbed from S7.

SEX: Unknown.	AGE: Adult.	STATURE: Undetermined.

BONE PRESERVATION
Poor. Fragments of the vertebral column, three rib fragments, proximal end of L humerus shaft and fragments of L forearm, L femoral head.

CONTEXT 24
Fill of N–S linear feature 23, which cuts a number of graves. The material listed below probably derives from one or more graves described in the main list.

SEX: Male?	AGE: Adult.	STATURE: Undetermined.

BONE PRESERVATION
Fair to poor. Only fragments of the body are present (rib, one metacarpal, sacrum, and distal end of R tibia) but the bone is in fair condition.
ASSOCIATED MATERIAL
Sheep tooth.

CONTEXT 50
Fill of grave 49 containing skeleton 23. This is the face of S23.

SEX: Unknown.	AGE: Adult, mature.	STATURE: Undetermined.

BONE PRESERVATION
Fair, but body incomplete.
DENTITION

					A			
X	X	X	X	/	X	X	X	

PATHOLOGY
Hyperostosis: Calcification of the costal cartilage.

CONTEXT 52
Fill of grave 51 containing skeleton 24. The fragments listed below are almost certainly part of S24.

SEX: Male.	AGE: Adult.	STATURE: 165.1cm ± 3.37cm (5ft 5in).

BONE PRESERVATION
Fair. Only the lower trunk and long bones of the leg present, also fragments of the humeral shaft, R radius and 2 R metacarpals.
PATHOLOGY
Infection: Gross periosteal change to the shaft of the L tibia and fibulae. There is also swelling or osteitis to the L tibial shaft and to the distal end of the R fibula.
Degenerative: Spondylosis and marginal osteophyte to the 1st sacral vertebra.
ASSOCIATED MATERIAL
Metacarpal of an immature individual. Context **54** joins fibula in context **52**.

CONTEXT 54
Fill of grave 53 containing skeleton 25. The fragment noted below is almost certainly disturbed from S25.

SEX: Male.	AGE: Adult.	STATURE: Undetermined.

PATHOLOGY
Infection: Periostitis to shaft of fibula.

CONTEXT 119
Area of disturbed bone and rubble over tomb 65, which contains skeleton 72. The fragments below are not from S72.

SEX: Unknown.	AGE: Adult, mature.	STATURE: Undetermined.

DENTITION

X	X	X	/	/	/	/	X	X	/	3	4	5	X	X	8
			A			A					c	c			c

Periodontal disease and alveolar recession moderate.

SEX: Unknown.	AGE: Adult, mature.	STATURE: Undetermined.

DENTITION

						/	X	/	/	/	/	/	X	X	X

Periodontal disease and alveolar resorption complete at the molar regions.

SEX: Unknown.	AGE: Adult, middle.	STATURE: Undetermined.

DENTITION

								/	/	4	/	X	X	8

Periodontal disease and moderate alveolar recession.
PATHOLOGY
Infection: Fusion of the 1st metatarsal to what remains of the 1st cuneiform. The tarsal has been destroyed by a low-grade infection and mid foot sepsis. The most probable cause, compatible with secondary changes associated with **leprosy**, is secondary infection from staphylococcus.
Osteoarthritis: To atlas and the axis, and to left elbow joint (radius).

SEX: Unknown.	AGE: Child, 3–10 years.	STATURE: Undetermined.

ASSOCIATED MATERIAL
Animal bone, pottery.

CONTEXT 668 (charnel pit)
Note: These fragments have been assigned skeleton nos. for ease of reference as part of the post-excavation process.

Postcranial

S375 (B)	SEX: Male.	AGE: Adult.	STATURE: Undetermined.

S376 (B)	SEX: Male.	AGE: Adult.	STATURE: Undetermined.

S377 (B)	SEX: Unknown.	AGE: Young child.	STATURE: Undetermined.

Fragment of unfused sacrum, small, suggesting young child.
Innominate: Ilium only. Pubis and ischium unfused.
Clavicle: Medial epiphyseal plate unfused.
Humerus L: Distal epiphyseal plate fused, medial epicondyle unfused.
M.carpals: 1 individual head m.carpals unfused.

Crania

S378 (B)	SEX: Male.	AGE: undetermined.	STATURE: undetermined.

DENTITION

												A			
	c	c										c	c		
/	7	6	5	4	/	/	/	/	/	/	4	5	6	7	8
8	7	6	5	4	/	/	/	/	/	/	/	/	6	7	8
c													c		c
													A		

Calculus, periodontal disease and alveolar recession slight.
PATHOLOGY
Infection: **Leprosy.** Rhinomaxilllary changes – resorption of the alveolar process of the maxilla and to the anterior nasal spine. Rounding and new bone formation around the nasal aperture. Inflammatory change to the nasal aspect of the palate, destruction of the nasal septum and inflammatory change to the nasal conchae. L maxillary sinus pitting, result of apical abscesses at the base of the left 1st maxillary molar. Subperiosteal reactive bone on the left mandibular alveolar bone, result of draining abscess.
Cribra orbitalia: Remodelling lesions to the roof of the orbits. Remodelling to the parietal bone close to the sagittal suture.
Nerve thickening: Slight impression of the auriculotemporal nerve.

S379 (B)	SEX: Male.	AGE: Adult, 25–35 years.	STATURE: undetermined.

DENTITION

A	A											A			
	c											c			
/	7	X	5	4	3	/	/	/	/	/	4	5	6	7	/
8	7	X	5	4	3	2	1	1	/	3	4	/	/	7	/
c															

Calculus, periodontal disease and alveolar recession slight to moderate.
PATHOLOGY
Infection: L maxillary sinusitis – result of an abscess.
Criba orbitalia: Pitting to L orbit.

S380 (B)	SEX: Male.	AGE: Adult. Sagittal suture almost obliterated.	STATURE: undetermined.

PATHOLOGY
Trauma: Possible trauma to nasal bones.
Criba orbitalia: Slight pitting to the roof of the orbits.
Thickening of nerve: L and T temporal bone. Shallow groove on the wing of the temporal bone.

Appendix 1 Masters of the hospital of St James and St Mary Magdalene

Thomas, died 1244
William Burden, appointed 1244
Leger de Hampton, appointed 1249, occurs 1275
Peter de Lewes, appointed 1282, died 1284
William de Deveral, appointed 1284, died 1309
Richard Letice, appointed 1309, died 1311
John Gilbert, appointed 1311, died 1317
Adam de Anne, appointed 1317, died 1317
William son of Gilbert le Bakere, appointed 1317, died 1320
Stephen de Carleton, appointed 1320, died 1336
Stephen de Ivelchestre, appointed 1336
John Nichole of Tangmere, appointed 1348, occurs 1378
Henry Botiller, appointed 1383
William Fissch, appointed 1383
John Sheparde, exchanged 1398
Henry Hikke, appointed 1398
Hugh Veautrey or **Voytrer**, appointed 1399
Richard Hugh, appointed 1402, exchanged 1406
Nicholas Cotille, appointed 1406, exchanged 1408
Thomas Waryn, appointed 1408
Thomas Gardener, occurs 1437
Gilbert Boxforde, occurs 1442
William Forden, occurs 1471
Hugh Gryndon, occurs 1481, 1490
Richard Odeby or **Audeby**, occurs 1525, 1535, 1540
Francis Everard, gent, occurs 1540, deprived 1555
William Stylle, appointed 1555
Edward Waller, resigned 1574
Thomas Ware, appointed 1574
Charles Lascelles, occurs 1594, 1606, died 1609
John Lambert, appointed 1609
William Lawes, clerk, occurs 1618, 1621
Thomas Sephton, instituted 1624–25, occurs 1627
Peter Edge, occurs *c* 1687, died 1702
Francis Doyly, appointed 1704–5
William Lewis, appointed 1712–13

The main source for this list is Page 1907, 100, supplemented by a list submitted by W D Peckham to a later editor of the *Victoria County History* (Salzman 1935, 166–7, fn 68).

Appendix 2 The hospital charters and custumal

Charters

The original charter is lost. What survive are two confirmation charters by bishops of Chichester, the earlier, by Seffrid II (1180–1204) being quoted in the later, issued by William de Lynn (alias Lenn, Lullimore) in 1362. The texts below are the translations by W D Peckham published in *The Chartulary of the High Church of Chichester* (Sussex Record Society **46** for 1942–43, 289).

It was not unusual for hospital statutes to be revised from time to time to reflect liturgical developments, expansion or union with another hospital, or even a critical visitation report. We do not know why Bishop William felt a need to reconfirm the statutes in 1362, the year of his appointment, and it may have been in response to a purely local event. However, there had been a second epidemic of plague in the previous year that, directly or indirectly, may have inspired the act. Bishop William was translated to the much more prosperous see of Worcester in 1368, dying there in 1373, but he did not forget the lepers of Chichester in his will made in that year (see Appendix 4). The seemingly odd sum paid annually by the cathedral to the hospital, 4s 4d, works out at a penny a week.

There would have been later charters that do not survive. One must have permitted the admission of women, for example, and another would have reflected the religious changes introduced by the Reformation.

Confirmation Charter of Seffrid II, 1187

I Seffrid, Bishop of Chichester, confirm the grant for the food and clothing of the lepers outside the gate of Chichester, of 10s. from the Archdeaconry of Peter de Lewes, the tenth hide of Colworth which was Britnoth's, 4s. from the land of Warin de Preston and, of my own gift, 8 linen shirts (tunicas) *at Christmas and as many linen coats (*vestes*) at Easter, and a [side of] bacon every Christmas. Since their church is founded in honour of St Mary Magdalene, to whom much was forgiven because she loved much, I grant to all shriven and penitent persons, who visit the church on her festival and help the poor, release from a fortnight's enjoined penance. Fare well.*

Confirmation Charter of William de Lynn, 1362

The Prior and brethren submit to me that the render of these [clothes] is withheld; I confirm my predecessor's grant and add that I and my successors are at liberty to supply either the shirts or 10s. each at Christmas and Easter at our choice, as has been the custom hitherto. I further grant that those visiting the hospital on the feasts of St Mary Magdalene and St James, to whom the hospital and its chapel are dedicated, trusting in their merits and those of St Richard and all the saints, shall have 40 days' pardon, provided that they are of my diocese or of a diocese where my grant is confirmed.

This we confirm, together with the grant of 4s. 4d. from our communar, which they have had from us time out of mind.

The customs of the house in 1408

From its foundation the hospital will have had rules governing the daily conduct of its inmates, setting out their spiritual responsibilities to pray for the souls of founders and other benefactors in return for what the hospital could offer. The original may well have been based on, or even directly copied from, the constitution of an institution with similar aims. Over time, local customs and usages will have crept in, some quite contrary to the spirit of the original constitution and therefore suppressed following episcopal visits and the like, but others merely local variations that could be tolerated and perhaps incorporated when the need arose to rewrite the constitution.

As discussed in Chapter 2, most leper hospitals needed to redefine their purpose as their original function became redundant in the later Middle Ages with the decline in leprosy. Whatever the legal niceties, no doubt some of the smaller institutions simply changed policies to meet the needs of the times without the formality of a new constitution. Others may have been inspired by a specific event to note down and supplement their rules in the hope that whatever had inspired the action could be avoided in future.

At St James' nearly half the rules are concerned with purely administrative matters about the common chest, ensuring that no individual could have access without the consent of other key-holders. Behind it all there must have been a very recent case of someone absconding with hospital funds. Further back in time there may have been problems with prolonged absences from the hospital as the rules governing this aspect of hospital life are relatively detailed.

The text of the dean's visitation in 1408 is preserved in two early 19th-century transcripts in the British Library. They were partly cited by William Page

(1907a, 99) in *VCH Sussex* **2** although he omitted some items of interest and misread others. For example, he mistakenly thought the inmates had to say 100 Lord's Prayers each night but that is at variance with the text. Nor did he comment on the requirement for inmates to dress in shabby clothes, presumably as an aid to alms gathering. One of the most interesting features is that the inmates are nowhere referred to as lepers; they are *fratres* (brothers).

Rules of the Poor-House of St James by Chichester

To all the faithful in Christ whom these present letters shall reach, John de Hasley, by grace of the Holy Spirit Dean of the Cathedral Church of Chichester greeting in the Saviour of all.

Since, according to the voice of Truth, solace given zealously to the poor will not lack appropriate reward at the Last Judgement, we have therefore agreed to the petition of the poor men of the Hospital of St James near Chichester. At the particular request of the brothers themselves in this matter, we have brought to present and future notice by means of the present letters certain customs and several praiseworthy usages hitherto observed amongst them and accepted through their consistent practice, so that they may not fall into disuse henceforward due to the Sower's weeds or become corrupted by abuse. We have laid out these customs as much as the usages in writing, word for word as described to us by the perpetual chaplain[1] *of the same hospital and by all the inmates in the manner which follows.*

[Rules for admission, conduct and organisation]

For, everyone for admission as a brother to the confraternity of our hospital shall be let in by the agreement of our chaplain and all of the brethren as far as possible, or at least by the greater part of them, and shall live chastely[2] *under the ancient rules established and written down below:*

- *If any brother, after admission, should take a wife, let him be banished from the fellowship of the brethren by our chaplain and prior*[3] *and fellow brethren and forfeit every benefit from our hospital, and let him be considered as no brother.*
- *Likewise, if any brother should be convicted of unchaste behaviour before the ordinary judge*[4] *and if after the third conviction for the same deed he relapses, he shall be subjected to a similar punishment as the married brother above.*
- *Likewise no brother should prolong a period beyond the bounds of our hospital or anywhere, nor may he bind himself to another divine office without having sought and obtained permission from his prior or, in his absence, that of the person to whom the prior has assigned his role. And if the leaving or absenting is done in any other way than this, he shall lose all emoluments accruing to him from the resources of our hospital for all time or specifically for the period during which he absents himself or leaves without permission in this way. And if after three warnings given to him by the prior, he presumes to commit such further acts he shall, with the consent of our chaplain and the brethren of our hospital, be expelled from our hospital as above.*
- *He who obtains the primacy*[5] *amongst the brethren shall be appointed [as prior] by our chaplain and fellow brethren. Therefore the prior, on admission to office, shall swear an oath before the chaplain and brethren faithfully to look after and administer as well as he can everything belonging to the same hospital, both internal and external. Also, he shall weigh his conscience carefully under supplication of Divine Judgement so that he shall not needlessly grant to any brother leave of absence unless it is just and necessary lest, as a result of such leave, there is a prospect of nightly or daily worship being in some way diminished.*[6]
- *Moreover, if there is any brother who is ill or otherwise enfeebled with old age, let him take relief from the stronger and abler in body for maintenance so that nothing is withheld or lacking at the time of his need.*[7]
- *But if anyone presumes to disparage [the needy] by expropriating the resources of the said hospital, he should be arraigned by the prior; if by chance any one of the brethren under brotherly hope of such assistance or some other seems to be spending freely and prodigally the resources allocated to him, the prior may, with the brothers' consent, fine the prodigal a ha'penny or more if need be in any week and keep it until the time seems appropriate to return it or turn it to the use of the said hospital as necessity dictates.*
- *Likewise, any brother, when approaching death, should leave to each of the brethren from his own personal goods, if they are sufficient for it, sixpence for his personal use and a meal on the day of burial or three halfpennies for a meal and one halfpenny for an offering, and he should relinquish his best daily habit to the whole community.*
- *If any of our brethren should appear litigious, quarrelsome or rebels against the admonitions of the prior or other ordinances, or if he should reveal things said and done by the inmates in the same hospital to a stranger without agreement of the same brothers, and if, after three warnings by the prior, he does not reform, let him before the light of St James pay the penalty laid down by the prior and inmates by yielding a part of his income. And if the latter presumes to do such things again, he shall be expelled from our hospital without hope of readmission.*
- *Likewise, in our hospital, from the time of its original foundation, or so we believe, it was the custom that just before the first hour of the clock and after midnight*[8] *there should arise on every single*

night a brother nominated by us as sacristan. He should ring a certain bell to summon the brethren to say the appointed prayers before God. All the brethren, roused by the ringing of the bell, must rise from their beds unless weighed down with serious illness or burdens of office[9] *and, standing up, say individually for the night office*[10] *a commendation especially set down for the Catholic Church, the king and kingdom. They must also say the Creed once for all benefactors, living and dead, of the hospital, and in the middle the Lord's Prayer and* salvatione *of the Blessed Virgin, with a creed at the end. Whatever is missed at night is to be completed on the following day.*

- *And for the daytime office, it is each day the same as described above, and no-one shall be admitted as an inmate unless he can first demonstrate that he knows the Lord's Prayer with the angelic greeting and the Apostles' Creed at least generally in the manner of the laity.*

[Financial arrangements: contingency funding]

- *And because of negligence and damage in guarding the muniments of the hospital … the liberties and gifts by name have perished, to the harm of the customs of the said hospital, we wish that henceforward all the archives and charters of this kind that are now held and in future may be held, together with our common seal and communal funds, if such there be, should remain in one chest already prepared for this purpose under two or three locks and watched over in the prior's chamber. The keys are to be distributed to several of the brothers but they shall not have access to the chest without the agreement of all the brothers of the said hospital.*
- *Furthermore, we have heard that a particular sum of money that was the gift of a certain chaplain of ours and other benefactor, and would have provided a permanent protection against sudden misfortune, has completely vanished after it was received into the hands of our predecessors here (as inmates), for want of a contract of restitution. Therefore we, equally moved by vow and agreement, and considering their pious and necessary intention for the opportune relief of our present state, we have collected 13s 4d, that is: from the gift of John Hinere 6s 8d, from the gift of John Aylmer 40d, from the gift of our chaplain, Thomas, also 40d which we wish to be retained in our common chest so that only when a great need for the utility of the said hospital arises shall there be access to the said chest. Then let as much as is required for the work be taken from that money by agreement of the prior and the inmates and within the twelve months immediately following let it be recouped from among the inmates by the prior and repaid into the aforesaid chest.*
- *And if the prior shall prove negligent in any way or remiss in gathering up the money thus expended or if the same prior or any of the brothers makes it difficult to return a portion of the money expended in this way or refuses to make this restitution for days or for several years, and it shall happen that it is not restored for days or several years or beyond the memory of mortal men, our chaplain will be able to exact and recover the money from those then present just as now, and to restore it to the said chest. He will be allowed to bring to justice anyone who refuses or proves difficult in any way in violation of his oath and to seek to punish him and to recover the appropriate sum for the use named above, together with expenses.*
- *And when an emergency arises requiring the expenditure of part or all of the money thus saved, the prior shall indicate first to our chaplain how much of it he wishes to take out and name the date of its restitution. It is permitted that our chaplain should always be fully informed and privy to the terms of this arrangement; if these conditions are not observed, he can compel matters and bring this to justice as aforesaid.*[11]
- *Likewise all the inmates of our hospital shall wear outer clothing that is shabby, either white or black, demonstrating their poverty lest a covering of pleasing raiment may deceive them to prefer rich living to mercy.*[12]
- *Likewise whoever is to be admitted to our hospital in the future shall, on entry, in the presence of our chaplain and all the inmates before the high altar in the church of the said hospital, give a corporal oath on the Lord's holy gospels that he will observe all and every one of the aforesaid articles faithfully and without deceit.*

And so we the aforesaid Dean, observing these customs and rites to be reasonable and honest, after a promise was made to us by all that hospital's inmates that they and their successors would observe everything aforementioned, have given our authority for these arrangements, as we are bound. In witness of all this and in faith our seal which we use for suits is appended. Given at the aforesaid hospital on 10th January AD 1408.

Notes

1. *Capellanus perpetuus*. This was the person in charge of the establishment who, at similar hospitals, might be described as the Master.
2. *Continenter* could alternatively be translated as 'continuously' but 'chastely' seems to fit the context better.
3. As is explained later in the document, the prior was a local term for the senior inmate.
4. *Coram ordinaris iudex*. In a different context this could be translated as 'before a judge of the Order' but of course there is no religious order involved in the running of St James'. It may have some technical sense such as 'the bishop acting within his own competence'. The Scottish

legal 1system included the post of Justice-in-ordinary, a term that translates literally the two Latin words.

5. *hanc prioritatem* 'the foremost position'.
6. The gist of this seems to be that leave, unless unavoidable, should not be granted to any brother in case there are too few brethren remaining to celebrate the Office.
7. This is ambiguous. It could mean that the able-bodied were to look after the sick to help them perform their duties *or* that the able-bodied were to do these duties on behalf of the enfeebled, or even that the weak were not to be robbed of their possessions, although this last would seem self-evident.
8. *citra primam horam de clok post mediam noctem* 'before the first hour of the clock after middle night'. The use of English 'clock' should not be taken literally. Although such existed for chiming the canonical hours, they were not likely to be found in modest hospitals such as St James'.
9. *quem piam infirmitas gravior necessitesve oppresserit*. An alternative translation of *necessites* could be 'official duties'. We cannot be sure whether some were always excused on the grounds of their post or occasionally on account of extra duties that were not a permanent responsibility.
10. *et dicent sigillatim* (sic) *pro officiis nocturno statum*. The meaning of *statum* seems to be 'standing up'. This was normal monastic practice and may explain the concern at St James's for the ill and enfeebled, who were perhaps unable to stand and therefore to participate properly.
11. This is difficult. It could mean that the chaplain is allowed to act if the conditions in the previous paragraph are ignored, but it could also mean that he is able to enforce matters if he is not kept fully informed about arrangements
12. This paragraph and the one below belong with the first section on inmates' admission, conduct and organisation. Their displacement may mean that they are effectively addenda. The reference to shabby clothing (*vestimentis ellidis*) may be a new rule to reflect the hospital's more recent role in looking after the poor. The shirts and coats mentioned in the first confirmation charter were presumably new, although it could have been the custom even then to conceal them below older outer garments.

Appendix 3 Inmates, ages and afflictions, 1594

[**Charles Lascelles,** master]

William Egle, now proctor, and
Dorothy, his wife, both about 50

Hugh Young, impotent, age 33
Richard Mottle, cripple, 35
Richard Parshaw, cripple, 16
Thomas Mawrynge, cripple, 18
John Pellard, a diseased idiot, 30

Agnes Patchinge, a maid without legs, 30
Agnes Barnes, a maid without legs
Margaret Croucher, a maid about 40, a cripple
Elizabeth Vody, an idiot, 17
Alice Taylor, a cripple, 30, and
Constance Cutt, an impotent cripple in her loins, 15

All of honest conversation.
(Quoted in Page 1907, 99)

[The number of beds at this time may have been six for men, with one unfilled, and six for women. The proctor and his wife presumably count as staff rather than inmates although in the Middle Ages the 'prior' of the hospital was the senior inmate. The absence of any mention of children is surprising but it would be incautious to assume that there was none resident.]

Appendix 4 Gifts and bequests to the Hospital of St James and other Chichester hospitals

Sources: 1. Godfrey 1935, 366–7; 2. Peckham 1950, 117–62; 3. Peckham 1948, 1–27; 4. Peckham 1942–43; 5. WSRO STDI/3, f. 250; 6. WSRO STCI/14, f. 124.

Date	Donor /testator	Gifts / bequests
1156–62[4]	King Henry II	To the sick of Chichester, whatever is reasonably due to them
1173–80[4]	William de St John	One beech tree in Goodwood to the church of St Mary Magdalene for the sick of Chichester
1237–[4]	William de Keynesham, Canon of Chichester. Will	6d to the Hospital of St James 4d to the lepers of Londesdon 3d to the lepers of Wikes 3d to the lepers of Stocbrugg
1246[4]	Ernis de Tywa, precentor. Grant to Dean and Chapter	8d to St Mary's Hospital 2d to the lepers of the hospital of St James 9d to the chaplain serving there
1246–49[4]	William de Nevill, Treasurer of Chichester. Grant	6d to the chaplain of St Mary's Hospital 6d to the sick in the same hospital 8d to the lepers of St James' hospital 2d to the chaplain serving there
17 July 1247[4]	Geoffrey de Glovernia, Dean of Chichester. Will	7d for a pittance for the brethren and sisters of St Mary's Hospital 12d for food for the sick there 3d to the lepers of St James' Hospital 1d to the recluse of St Cyriac
7 April 1320[4]	Henry de Garlandia, Dean of Chichester. Will	6d to the sick poor in St Mary's Hospital 3d to the lepers of St James, Chichester 3d to the lepers of la Portefelde 3d to the two houses of lepers at Loddesdone
9 Jan 1366–67[1]	Lady Margaret Covert of Sullington. Will	2s to the poor of St James' Hospital at Chichester and to St Mary Magdalene's Hospital in the same place
22 Sept 1372[1]	John Borle, Rector of West Tarring. Will	6s 8d to the Hospital of St James near Chichester
29 Dec 1373[1]	William de Lenne, Bishop of Worcester. Will	20s to the poor of the Hospital of St Mary Magdalene and St James near Chichester and to the lepers of Lodsdown
6 July 1375[1]	Sir William Tawke, kt, of Westhampnett. Will	Half a mark to the Hospital of St James near Chichester
21 Oct 1375[1]	Katherine Husee. Will	Half a mark to the Hospital of St James, Chichester
16 Nov 1384[1]	John Bisshopiston, Chancellor. Will	6s 8d to the poor of the Hospital of St James, Chichester
21 Jan 1396–97[2]	Henry Prycklove. Probate	6d to the poor of the Hospital of St James without Eastgate
30 June 1404[1]	John Tregoz of Goring. Will	3s 4d to the poor of the Hospital of St James at Chichester
31 May 1414[1]	John Taverner of St Pancras. Will	2s to the brothers of St James'
9 Aug 1418[1]	William Neel of Chichester. Will	6s 8d to the lepers of St James'
6 Oct 1487[1]	Robert Grey, rector of Merston. Will	3s 4d to the poor of St James' outside the east gate
4 Sept 1487[2]	Richard Myldewe. Probate	6d to the poor of the Hospital of St Mary Magdalene in le portefeelde 6d of the Hospital of St Laci of Loddisdown 8d of the Hospital of St James nigh Chichester 6d of St Mary's Hospital
25 Dec 1491[1]	Ivo Darell, Canon. Will	6s to the poor of St James' Hospital outside the east gate

Date	Donor /testator	Gifts / bequests
31 July 1492[3]	Richard Dorkyng, citizen of Chichester. Will	6d to the poor of the Brotherhood of St George 4d each to St James' Hospital, Loddysdown, St Mary Magdalene nigh Chichester
9 March 1492–93[3]	Thomas Wood, citizen of Chichester. Will	A shirt to each of the poor of St George and St Mary's hospital
6 July 1493[3]	Walter Maryng of Subdeanery. Will	8d to the poor men of St Mary's Hospital 6d to the poor men of St George 8d to the poor men and women of St Mary Magdalene and St James
13 Nov 1495[3]	Richard Aspynalgh, Precentor. Will	2s to the brethren and sisters of the hospitals of St Mary, St James and St George
9 Oct 1499[1]	William Holte *alias* Smyth. Will	4d to each of the poor of the hospital of St James at Chichester
8 Dec 1502[1]	Edward Storey, Bishop. Will	6s 8d to John of the poor of the Hospital of St James near Chichester 6s 8d to the poor of the Hospital of St James
3 July 1520[1]	Agnes Cressweller of All Saints, Pallant. Will	4d to every poor almsman of St James' House without the east gate of Chichester
21 Aug 1526[1]	John Arthur of St Pancras. Will	18d to the House of St James
29 Oct 1527[1]	John Cressweller of Subdeanery. Will	2d to every brother and sister of St James'
27 Feb 1537–38[1]	Nycolas Bright of St Andrew, Will	12d to St James' House
14 Oct 1544[1]	William Bradbrigge of St Olave. Will	12d to the almsmen of St James'
9 Aug 1550[1]	Henry Marshall, vicar of Wilmington. Will	20d to the poverty at St James near Chichester
30 Aug 1555[1]	William Purchyne, St Peter the Great. Will	3s 4d to the Spital of St James
28 May 1551[1]	Augustyne Creswellar, St Peter the Great. Will	8d in St James' House without Chichester
1589[6]	John Redfern, tailor. Will	11 bushels of barley to the use of the poor of St James' 6 shirts and smocks to 6 poor folks
1637[5]	Humfrey Knapp, cathedral verger. Will	12d to the poor of St James his House

Appendix 5 *The Highway to the Spitalhouse* *by Robert Copland* (*c* 1535–36)

This doggerel, based on a satirical French original, *Le Chemin de lospital,* by Robert de Balsac (*c* 1440–1503), translated and adapted to address the problems of Tudor England, is set in London, and the spital in question may be St Bartholomew's. The full text, in a modernised version, is in A V Judges (1930) *The Elizabethan Underworld,* 1–25, from which the following is abstracted. The identity of the speakers has been inserted to aid the reader.

Although a hospital forms the starting-point, the second half of the poem (not cited below) is really a discussion of the ills of Tudor society. It is nevertheless a useful insight into the poet's perception of hospitals on the eve of the Reformation. The poem in its published form must be later than 1531 since it mentions the statute concerning beggars of that year and a reference to the 'false popery' of proctors must put it in 1535–36. In 1547 the poet was described as 'the oldest printer in England'.

Narrator: About a fortnight after Hallowmas,[1]
I chanced to come by a certain spital
Where I thought it best to tarry a little
And under the porch for to take succour
To bide the passing of a stormy shower…

The porter of the house stood also by me
With whom I reasoned of many divers things
Touching the course of all such weatherings;
And as we talked there gathered at the gate
People, as me thought, of very poor estate,
With bag and staff, both crooked, lame and blind,
Scabby and scurvy, pock eaten flesh and rind,
Lousy and scald[2] and pilled[3] like as apes,
With scantly a rag for to cover their shapes,
Breechless, bare-footed, all stinking with dirt,
With thousand of tatters drabbling to the dirt:
Boys, girls and luskish[4] strong knaves
Diddering and daddering,[5] leaning on their staves,
Saying 'Good master, for your mother's blessing,
Give us a halfpenny towards our lodging!'

Porter: The porter said, 'What need you to crave
That in the spital shall your lodging have?
Ye shall be entreated as ye ought to be,
For I am charged that daily to see
The sisters shall do their observance,[6]
As of the house is the due ordinance.

Narrator: Porter (said I), God's blessing and our Lady
Have ye for speaking so courteously
To these poor folk, and God his soul pardon,
That for their sake made this foundation!
But sir, I pray you, do ye lodge them all
That do ask lodging in this hospital?

Porter: Forsooth, yea! We do all such folk in take
That do ask lodging for Our Lord's sake,
And indeed, it is our custom and use
Sometime to take in and some to refuse.

Narrator: But sir, I pray you of your goodness and favour
Tell me which ye leave and which ye do succour

For I have seen at sundry hospitals
That many have lain dead without the walls
And for lack of succour have died wretchedly
Unto your foundation I think contrary…

Porter: Forsooth they that be at such mischief
That for their living can do no labour
And have no friends to do them succour,
As old people sick and impotent,
Poor women in childbed have here easement,
Weak men sore wounded by great violence
And sore men eaten with pox and pestilence,
And honest folk fallen in great poverty
By mischance or other infirmity;
Wayfaring men and maimed soldiers
Have their relief in this poor house of ours,
And all other which we seem good and plain
Have here lodging for a night or twain:[7]
Bedrid folk and such as cannot crave
In these places most relief they have,
And if they hap within our place to die,
Then they are buried well and honestly,
But not every unsick stubborn knave,
For then we should over many have…

Some counterfeit lepry, and other some
Put soap in their mouth to make it scum,
And fall down as St Cornelys evil.
These deceits they use worse than the devil,
And when they be in their own company,
They be as whole as either you or I.
But at the last, when sickness cometh indeed,
Then to the spital-house must they come need…

Narrator: But cometh any pardoners this way?

Porter: Yea, sir, they be our proctors, and fain they may,
Chiefly since their false popery was known,
And their bullish indulgence overthrown,
They be all nought; reckon each with other,
Subtlety is their father, and falsehood their mother…

Notes

1. ie about mid-November.
2. With inflammation or scabs.
3. Bare, bald or shaven.
4. Idle.
5. Doddery, trembling.
6. Looking after the temporal needs of the sick poor was the sisters' responsibility. The brethren restricted their input to concern for the soul.
7. ie poor wayfarers will be accommodated for a night or two as well as the sick.

Appendix 6 Rentals etc

The gift of the farm of The Broyle, 1401

(The transcript below occurs at the end of a 19th-century copy of the hospital's rules held in the British Library (BL Add Ms 5706). As far as is known, it has not been published before.)

2.Hen.4. In a Computus of Tho. atte Gate Custodis Palatij Cicestr. & Firmar. de Brayl ad 1400 I find this Entry under Allocationes et Resolutiones:

Resolut fratribus Hospitalis S Jacobi juxta Cicestr pro annua pensione dicto Hospiti debit xviijs per pro annuni Ble. Marie p.i. Acquietancia cujus dat est vi^{to} die April a^{o}.r.r. Hen 4th 2do et resolute eisdem fratribus hospit pro annua pensione dict hospit. debit xviijs. vid p. Feo. S. Miches p.i. Acquietan cujus dat est vi^{to} die Octobris a^{o}.r.r.Hen.4.3^{to}

A grant to the brothers of the Hospital of St James next Chichester as a yearly payment to the said Hospital. It shall render 18s at the Annunciation of the Blessed Mary, taking that to be the 6th day of April in the 2nd year of Henry IV's reign. A grant to the same brothers of the said hospital as a yearly payment to the said hospital. It shall render 18s at Michaelmas, taking that to be the 6th day of October in the third year of Henry IV's reign.

Notes

The Broyles north of Chichester were woodland granted by Henry III in 1229 to the Bishop of Chichester and divided up into farming units. The bishop's own farm lay at Graylingwell next to the former forest and on his death he left both to the Church and his successors (Morgan 1992, 191). The soil is mostly an extremely flinty silty Head deposit that must have been impossible for arable farming until recent times and perhaps explains why woodland had survived almost to the north gate of the medieval city in the 13th century. The feast dates are now wrong following calendrical reforms. They were common quarter days for the payment of rents etc in the Middle Ages and Lady Day (Old Style) still marks the end of the financial year.

The hospital income in a local copy of the *Valor Ecclesiasticus*, 1535

(The text below is from Peckham 1954. The numbers on the left have been allocated to aid reference.)

Hospital or house of poor lepers of SS James and Mary Magdalene nigh Chichester

		£	s	d
1	Richard Oakley, Master, value	3	14	10
2	In money from the King's exchequer	3	00	10
3	(Rents of land in Portefeld and Spitelfeld		08	00)
4	(Rents of land and tithes in Oving		20	00)
5	(Rents of two cottages in Chichester		06	00)
	(Deduct)			
6	(To Christopher More, receiver		06	08)
7	(To Matthew Broune, kt., rent resolute		03	07)
8	(Clear value £4. 3*s*. 9*d*.)			

Notes

Adding together the income from the royal exchequer, no. 2, and sundry rents, nos. 3, 4 and 5, gives the value of the hospital in line 1. It should read £**4** 14s 10d. Subtracting from it the deductions due to the receiver and Matthew Brown (nos. 6 and 7) gives the clear value, line 8, which should be £4 4s 7d. The Crown contribution is the same 2d per day that it had made in the 13th century, long before the Black Death drove up prices, for the maintenance of the chaplain or master. The master himself presumably enjoyed at least the same 2d per day as his medieval predecessors, so there was a maximum surplus of £1 14s, reduced to £1 3s 9d when deductions are taken into account, for food, clothing, fuel and building maintenance. One item of income that seems to have disappeared is Bishop Seffrid's bequest of clothing as well as the 10s from the Archdeaconry of Lewes. The *Valor* itself records an annual payment to the prior of 4s 4d (Ray 1931, 2).

The hospital rental in 1539

(This is from the same source as The Broyle rental (BL Add Ms 5706) and is similarly hitherto unpublished. The numbers on the left in the translation have been allocated to aid reference.)

Rentales Hospitalis S^{i}. Jacobi juxta Cicestriam renovat Term. Mich.^{s} a.^{o}r.r. Hen 8^{ve}. 31^{a}. tpe. Rici Audeby Magistri Hospitalis predicti

	£	s	d
Imprimis de firm. de Broyle p. ann		xxxvj	
Item de Scaccario d?ne Regis solut per mrm Xtoferum More, p. ann	iij		x
De Decimis de Coleworth solut' per Thom Sandham ad iiij^{or}. anni tios quae tenet per indent pro term^{o} annor		x	
De Decano & Capitul Ecclie Cathedrali Cicestren & redd. p. ann ad fest' S. Mich		vij	vj
De duobus cotagiis cõtigue situat. in little London p. locaeam per ann ad iiij anni t[erm]i[n]os		viij	
De tento Will Boyse angular in quo Johes Kynkham modo inhaitat redd per ann			xij
De Thomas Barnham uno tento cu cotagio annexo jac infra parochiam s. Pancratij sup le hed-acre juxta tent dicti Thome q ten.p. indent & redd. per ann iis, Unde allocatur capitli dno.viijd ut dicit & sic reman clare			xvj
De John Boyse p. una pcella tre prope dom. suam apud Stokebridge redd. p.ann p. quieto redd			iiij
De Nicho Hills p. tribus acris terre et di jacen in le Portefeild q ten p. locacistium per ann. iiijs. vid. Un allocat mro Browne iiis. viid. ob. Sic reman clare			x.ob
De John Boone p. gardino infra parochia S. Pancratij exopposito sit. tent in q^{o}. Idem Johes modo inhabitat q ten p. locacionem			xij
De Jacobo West & confratribus dicti Hospitalis p. Cemitorio dic. Hospitalis p. ann. ultra separationes. mur dicti Cemitorij q. tenent p. locationem			xij
De Johe Barton pro xx sol. p.ann. iiij^{or} anni tios		viij	
De Cuthberto Atkynson & al pro x		viij	
De eodem pro parlorio cum Camera in Hospital praedict p. ann		v	
Sum total	vj	ij	x.ob
Unde allocatur pro decimis Dno Rege		viii	iiij.ob
Et sic reman. clar	v	xiiij	vj

The rents of the Hospital of St James next Chichester reaffirmed at Michaelmas in the 31st year of Henry VIII's reign, Richard Audeby being master of the said hospital

		£	s	d
1	Firstly from the farm of the Broyle per annum	1	16	00
2	Then from the Exchequer of the Lord King, paid through Master Christopher More per annum	3	00	10
3	From the Colworth tithes paid through Thomas Sandham at the four quarter-days, which he holds through indenture for a period of years		10	00
4	From the Dean and Chapter of the Cathedral Church of Chichester which pays annually at Michaelmas		07	06
5	From two adjoining cottages lying in Little London held by lease per annum, four times a year		08	00
6	From William Boyse's corner house in which John Kynkham now resides paying per annum		01	00
7	From Thomas Barnham for a tenement with cottage annexed lying within the parish of St Pancras on the Headacre next to the tenement of the said Thomas who holds it by indenture for a rent of 2s per annum Of which is allocated 8d in chief rents, it is said. Balance		01	04

		£	s	d
8	Quit-rent from John Boyse for land at Stockbridge near his house			04
9	From Nic Hills for 3½ acres of land at Portfield 4s 6d. Paid to Mr Browne 3s 7½d. Balance			10½
10	From John Boone for a garden in St Pancras opposite the tenement where he lives		01	00
11	From Jacob West and the hospital inmates for the cemetery, in addition to the repairs of the cemetery wall		01	00
12	From John Barton for 20 shillings per annum, four times a year		08	00
13	From Cuthbert Atkynson and others for x		08	00
14	From the same for a parlour and a chamber in the aforesaid hospital per annum		05	00
15	**Sum total**	**6**	**02**	**10½**
16	Allocated in tithes to the crown		08	04½
17	**Disposable income**	**5**	**14**	**06**

Notes

As well as its intrinsic interest, the rental offers a contrast with the hospital income as stated in a local copy of the *Valor Ecclesiasticus* made just four years earlier. The totals in the *Valor* are considerably less, partly because income from the farm of The Broyle is omitted, and perhaps was deliberately understated. The other main difference is the value of the Colworth tithes, which had seemingly halved by 1539. Also absent from the 1535 document are entries corresponding to 11–14 above, which may have been new initiatives to raise extra money by more fully exploiting the hospital's assets. Richard Audeby/Odeby was master of St James' in both years and someone with the same surname was steward of St Mary's Hospital in Chichester in 1535, a post worth 13s 4d per year.

1. The income from the farm of The Broyle is the same 36s granted at the start of the 15th century.
2. The Exchequer contribution was transcribed as £3 10s but should be £3 0s 10d (ie 2d per day), as stated in the *Valor*, and the figure has been corrected. Christopher More, receiver, was the Dean's steward and in 1535 received £1 per annum in that capacity from the Deanery tithes and rents.
3. The Colworth tithes were said in 1535 to be worth £1, not 10s. Thomas Sandham is perhaps charging a usurious 50% for collecting them.
5. The cottages were worth only 6s in 1535.
9. Matthew Broune, kt, received 3s 7d in 1535.
11. It is not clear what J West and the inmates were doing with the cemetery. Perhaps the old part had become a garden for which they paid partly in cash and the rest in service by maintaining the wall, or perhaps this agreement was for the current year only.
12. This entry makes no sense. Either the rent due is 20s per annum, as the text says, or 8s per annum as in the figures column. Since 20s pa is a very large sum, the lesser figure has been taken as correct.

13, 14. Cuthbert and the others are perhaps corrodians.

15. The total income should be £7 13s 2d, not as shown.
17. The disposable income should be £6 0s 6d. It had been only £4 4s 7d in 1535.

Hospital rents compared, 1535 and 1539

	1535 Valor			1539 Rental		
	£	**s**	**d**	**£**	**s**	**d**
Income						
The farm of The Broyle				1	16	00
Royal Exchequer	3	00	10	3	00	10
Colworth tithes	1	00	00		10	00
Dean and Chapter					07	06
Two cottages in Little London		06	00		08	00
Corner house					01	00
Thos. Barnham for tenement and cottage					02	00
John Boyse for land at Stockbridge						04
Nic. Hills for land at Portfield		08	00		04	06
St Pancras garden					01	00
Jacob West *et al* for the cemetery					01	00
John Barton					08	00
Cuthbert Atkinson *et al*					08	00
Room and parlour in hospital					05	00
Sum total	4	14	10	7	13	02

	1535 Valor			1539 Rental		
	£	**s**	**d**	**£**	**s**	**d**
Expenditure						
Tithes to crown and otherwise allocated					08	04½
To Matthew Brown		03	07		03	07
Chief rent on house next Thos Barnham's						08½
To Christopher More, receiver		6	08			
Total expenditure		10	03		12	08
Disposable income	4	4	07	6	00	06

Notes

The table attempts to compare income in 1535 (left) recorded in a local copy of the *Valor* and in 1539 as recorded in the rental. Apart from sundry rents, the big difference is the absence of income from The Broyle farm from the 1535 list. It does not appear to be recorded elsewhere in 1535, and its absence is unexplained. The sum of 8s received for rents of land at Portfield and Spitalfield in 1535 may be represented in the later rental by the properties itemised below the two cottages in Little London as far as, and including, the St Pancras garden, the total value of which was 8s 10d. If the value of the Little London cottages is any guide, property values may have risen slightly between the two dates. The original totals appear to be wrong and have been corrected here to accord with the individual sums recorded.

Appendix 7 Data to support Chapter 9

Table 1 Bone counts (postcranial)

	Sternum	manubrium	R.clavicle	L.clavicle	R.scapula	L.scapula	R.humerus	L.humerus	R. radius	L.radius	R.ulna	L.ulna	R.innominate	L.innominate	R.femur	L.femur	R.tibia	L.tibia	R.fibula	L.fibula	R.patella	L.patella
male	124	119	166	165	154	156	165	169	163	166	165	169	159	161	169	168	158	160	155	154	106	113
female	45	45	66	66	64	64	69	67	70	69	68	69	67	68	72	72	69	71	64	65	51	51
adult	1	2	5	5	6	5	7	6	4	5	6	6	6	7	9	8	13	12	12	13	5	7
subadult	11	15	54	58	62	61	72	75	59	66	59	71	59	57	78	77	70	77	52	58	6	6
Total	**181**	**181**	**291**	**294**	**286**	**286**	**313**	**317**	**296**	**306**	**298**	**315**	**291**	**293**	**328**	**325**	**310**	**320**	**283**	**290**	**168**	**177**

Table 2 Bone counts for Areas A and B

	Sternum	manubrium	R.clavicle	L.clavicle	R.scapula	L.scapula	R.humerus	L.humerus	R.radius	L.radius	R.ulna	L.ulna	R.innominate	L.innominate	R.femur	L.femur	R.tibia	L.tibia	R.fibula	L.fibula	R.patella	L.patella
Male A	78	72	98	96	93	92	97	96	95	97	98	97	91	96	97	96	89	90	87	89	63	68
Male B	46	47	68	69	61	64	68	73	68	69	67	72	68	65	72	72	69	70	68	65	43	45
Total	**124**	**119**	**166**	**165**	**154**	**156**	**165**	**169**	**163**	**166**	**165**	**169**	**159**	**161**	**169**	**168**	**158**	**160**	**155**	**154**	**106**	**113**
Female A	6	3	9	12	10	12	11	13	11	13	10	13	10	12	12	12	11	13	10	11	8	8
Female B	39	42	57	54	54	52	58	54	59	56	58	56	57	56	60	60	58	58	54	54	43	43
Total	**45**	**45**	**66**	**66**	**64**	**64**	**69**	**67**	**70**	**69**	**68**	**69**	**67**	**68**	**72**	**72**	**69**	**71**	**64**	**65**	**51**	**51**

Table 3 Bone counts (cranial)

	Nos	skull compl	mandible	maxilla	frontal	R.parietal	L.parietal	occipital
Female A	14	9	13	11	13	12	12	12
Female B	60	50	56	49	55	55	55	54
Total	**74**	**59**	**69**	**60**	**68**	**67**	**67**	**66**
Male A	108	72	82	78	78	82	80	85
Male B	75	60	68	61	66	66	64	65
Total	**183**	**132**	**150**	**139**	**144**	**148**	**144**	**150**

Table 4 Adult vertebral counts (whole site)

	Cervical							Thoracic													Lumbar							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**	**4**	**5**	**sacrum**	**transit vert**	**indivs**
Male	135	134	126	130	138	137	141	151	150	150	152	150	152	155	154	155	154	157	158	161	160	160	161	156	158	3	178
Female	56	59	56	56	56	58	56	60	61	60	62	59	58	58	62	59	57	59	59	64	65	66	67	68	68		73
Unknown	3	3	4	3	3	3	3	3	3	3	3	3	2	2	2	2	4	3	4	5	3	4	4	4	4		7
Total	**194**	**196**	**186**	**189**	**197**	**198**	**200**	**214**	**214**	**213**	**217**	**212**	**212**	**215**	**218**	**216**	**215**	**219**	**221**	**230**	**228**	**230**	**232**	**228**	**230**	**3**	**258**

Table 5 Cranial metrics

	Range	Mean	No.		Range	Mean	No.
L				**L**			
Area A	165–189	181	34	Area A	179–193	185.8	4
Area B	172–198	183.4	26	Area B	155–191	175.7	29
TOTAL	**165–198**	**182.04**	**60**	**TOTAL**	**157–193**	**177.4**	**33**
B				**B**			
Area A	135–158	146.5	30	Area A	135–140	137.3	3
Area B	136–163	147.4	24	Area B	97.3–157	141.8	27
TOTAL	**135–163**	**146.87**	**54**	**TOTAL**	**134–157**	**143.3**	**30**
B'				**B'**			
Area A	92.1–111.4	100.4	53	Area A	92.5–100.4	95.6	9
Area B	91.9–109.8	98.9	41	Area B	89.4–109.7	97.95	44
TOTAL	**91.9 -111.4**	**99.75**	**94**	**TOTAL**	**89.4–109.7**	**97.6**	**53**
H'				**H'**			
Area A	123 – 143	134	23	Area A	120–132.3	126.2	2
Area B	120–144	130.4	19	Area B	113–136	127	21
TOTAL	**120–144**	**132.11**	**42**	**TOTAL**	**113–136**	**126.7**	**23**
LB				**LB**			
Area A	93.1–108	99.8	22	Area A	95.1–98	96.6	2
Area B	93–110	99.4	18	Area B	91.1–104	96.3	22
TOTAL	**93–110**	**99.57**	**40**	**TOTAL**	**91.1–104**	**96.4**	**24**
GL				**GL**			
Area A	83.5–100.7	92.71	12	Area A	90.4	90.4	1
Area B	86.4–100.5	91.8	13	Area B	75–95.1	87.7	18
TOTAL	**83.5–100.7**	**92.23**	**25**	**TOTAL**	**75–95.1**	**87.8**	**19**
G1				**G1**			
Area A	59–78.9	68. 96	18	Area A	57.1–70.2	63.65	2
Area B	55.8–74.2	67.6	19	Area B	61–71.1	66	19
TOTAL	**55 .8–78.9**	**68.23**	**37**	**TOTAL**	**57.1–71.1**	**65.7**	**21**
GB				**GB**			
Area A	87–108.8	95.9	13	Area A	92.1–93.6	92.85	2
Area B	84.8–100	94.2	18	Area B	79–96.89	89	14
TOTAL	**84.8–108.8**	**94.9**	**31**	**TOTAL**	**79–96.7**	**89.47**	**16**
J				**J**			
Area A	123.4–143.1	132.2	9	Area A	0	0	0
Area B	120.7–142.3	132.5	6	Area B	121–136.5	127.7	11
TOTAL	**120.7–143.1**	**132.3**	**15**	**TOTAL**	**121–136.5**	**127.7**	**11**
NH				**NH**			
Area A	43.9–69.9	52	20	Area A	43.5–47.9	45	3
Area B	39.6–68.3	49.93	20	Area B	24–69.9	49.7	18
TOTAL	**39.6–69.9**	**51**	**40**	**TOTAL**	**43.5–69.9**	**50.2**	**21**
NB				**NB**			
Area A	18.2–27.3	23.6	28	Area A	20.5–23.1	22	3
Area B	20.5–27.8	24.37	24	Area B	20.3–38.5	24.24	23
TOTAL	**18.2–27.8**	**23.9**	**52**	**TOTAL**	**20.3–27.8**	**23.4**	**26**

Table 5 *(cont.)* **Cranial metrics**

	Range	Mean	No.		Range	Mean	No.
O1				**O1**			
Area A	32.2–42.4	38.06	16	Area A	36.7–40.9	38.8	2
Area B	34.3–41.6	38.3	20	Area B	34.9–41.7	38.22	22
TOTAL	**32.2–42.4**	**38.2**	**36**	**TOTAL**	**34.9–41.7**	**38.3**	**24**
O2				**O2**			
Area A	31.9–41.6	34.5	15	Area A	32.7–38.5	35.6	2
Area B	29.2–39.5	33.3	19	Area B	29–38.8	34.3	22
TOTAL	**29.2–41.6**	**33.8**	**34**	**TOTAL**	**29–38.8**	**34.4**	**24**
G1				**G1**			
Area A	39.2–51.2	45.5	32	Area A	42.4–48.8	45.1	3
Area B	38.8–50.7	45	31	AreaB	40–49.2	45.12	22
TOTAL	**38.8–51.2**	**45.3**	**63**	**TOTAL**	**40.49.2**	**45.12**	**25**
G2				**G2**			
Area A	30.5–58.8	39.1	41	Area A	33.2-36	34.4	3
Area B	32.7–44.4	38.4	34	Area B	33.2–43.7	37.9	23
TOTAL	**30.5–58.8**	**38.8**	**75**	**TOTAL**	**33.2–43.7**	**37.5**	**26**
S'1				**S'1**			
Area A	99–125	110.4	51	Area A	105.6–116	110.78	6
Area B	105.2–124.2	112.9	41	Area B	93.8 119.5	107.58	43
TOTAL	**99–125**	**111.5**	**92**	**TOTAL**	**93.8–119.5**	**108**	**49**
S'2				**S'2**			
Area A	102.2–138	114.2	46	Area A	95.7–110	104.8	8
Area B	93.1–129	110.9	40	Area B	94–121.7	108.8	43
TOTAL	**93.1–138**	**112.7**	**86**	**TOTAL**	**94.2–121.7**	**108.2**	**51**
S'3				**S'3**			
Area A	86.8–119	98.3	46	Area A	89.1- 109.2	99.1	4
Area B	82.9–112.5	97.1	32	Area B	73.4–112.4	93.8	39
TOTAL	**82.9–119**	**97.83**	**78**	**TOTAL**	**73.4–112.4**	**94.3**	**43**
FL				**FL**			
Area A	28.5–40.3	34.6	29	Area A	33.4–36.6	34.7	4
Area B	31.5–42	35.5	22	Area B	29.9–37.4	33.7	22
TOTAL	**28.5–42**	**35**	**51**	**TOTAL**	**29.9–37.4**	**33.8**	**26**
FB				**FB**			
Area A	26–36.7	30.4	33	Area A	28.3–31.8	30.25	4
Area B	28.1–39	31.4	24	Area B	25.6–39	29.7	23
TOTAL	**26–39**	**30.87**	**57**	**TOTAL**	**25.6–39**	**29.7**	**27**
SC				**SC**			
Area A	6–12.3	9.7	20	Area A	12.2	12.2	1
Area B	7–13.6	9.8	19	Area B	5.8–12.4	10.2	22
TOTAL	**6–13.6**	**9.8**	**38**	**TOTAL**	**5.8–12.4**	**10.3**	**23**
DA				**DA**			
Area A	36–45	40.5	2	Area A	0	0	0
Area B	35	35	1	Area B	0	0	0
TOTAL	**35–45**	**38.7**	**3**	**TOTAL**	**0**	**0**	**0**

Table 5 *(cont.)* **Cranial metrics**

	Range	Mean	No.		Range	Mean	No.
DC				**DC**			
Area A	19.4–28.9	22.9	15	Area A	17.7–20.9	19.3	2
Area B	18.1–26.4	22.9	19	Area B	18.6–28.6	23.4	19
TOTAL	**18.1–28.9**	**22.9**	**34**	**TOTAL**	**17.7–28.6**	**23**	**21**
PB				**PB**			
Area A	122–136	129.3	25	Area A	0	0	0
Area B	110.5–144	129.9	21	Area B	119–133	125.4	22
TOTAL	**110.5–144**	**129.6**	**46**	**TOTAL**	**119–133**	**125.4**	**22**
BQ				**BQ**			
Area A	289–335	314.5	24	Area A	0	0	0
Area B	295–341	313.1	15	Area B	290–328	307.7	21
TOTAL	**289–341**	**313.97**	**39**	**TOTAL**	**290–328**	**307.7**	**21**
TT (R)				**TT (R)**			
Area A	41.1–52.1	45.8	32	Area A	41–45.8	43.4	2
Area B	46.1–55.9	48.51	18	Area B	41.8–50.9	46	21
TOTAL	**41.1–55.9**	**46.78**	**50**	**TOTAL**	**41–50.9**	**45.7**	**23**
TTT(L)				**TTT(L)**			
Area A	40.5–57.8	47.1	25	Area A	40.4–47.7	44.5	8
Area B	42.2–53.4	46.37	22	Area B	41.4–49.5	45.8	22
TOTAL	**40.5–57.8**	**46.8**	**47**	**TOTAL**	**40.4–49.5**	**45.5**	**30**
BIAST B				**BIAST B**			
Area A	103–123.3	113.9	29	Area A	101.4–109.1	105.25	2
Area B	98.3–130	111.9	25	Area B	104.9–119.6	110.2	22
TOTAL	**98.3–130**	**113**	**54**	**TOTAL**	**101.4- 119.6**	**109.8**	**24**
MANDIBLE				**MANDIBLE**			
W1				**W1**			
Area A	108–133.3	122.42	52	Area A	106.5–123.6	116.5	9
Area B	107.3–133	122.1	32	Area B	108.3–126.1	118.6	29
TOTAL	**107.3–133.3**	**122.3**	**84**	**TOTAL**	**106.5–126.1**	**18.1**	**38**
ZZ				**ZZ**			
Area A	39.9–52.1	45.4	76	Area A	40.7–47	43.4	11
Area B	37.5–51	44.9	57	Area B	38.1–47.2	43.1	47
TOTAL	**37.5–52.1**	**45.2**	**133**	**TOTAL**	**38.1–47.2**	**43.2**	**58**
H1				**H1**			
Area A	19.4–48.2	30.1	66	Area A	21.2–36.9	28.96	11
Area B	24.2–37.2	30.3	51	Area B	22.1–34.1	28.4	41
TOTAL	**19.4–48.2**	**30.2**	**117**	**TOTAL**	**21.1–36.9**	**28.5**	**52**
CrH				**CrH**			
Area A	49.5–75.6	64.7	67	Area A	50.2–65.2	57.2	11
Area B	48.5–76	62.4	48	Area B	50.3–68.9	58.7	44
TOTAL	**48.5–76**	**63.7**	**115**	**TOTAL**	**50.2–68.9**	**58.4**	**55**
Ma				**Ma**			
Area A	45–80	62.2	67	Area A	48–60	52.91	11
Area B	45–75	59.4	53	Area B	40–72	59	47

Table 5 *(cont.)* **Cranial metrics**

	Range	Mean	No.		Range	Mean	No.
GoGo				**GoGo**			
Area A	88.4–115.2	101.2	61	Area A	84–103.4	94.01	10
Area B	85.5–115.4	101.2	39	Area B	83.9–107.3	95.6	38
TOTAL	**85.5–115.4**	**101.2**	**100**	**TOTAL**	**83.9–107.3**	**95.3**	**48**
RB				**RB**			
Area A	24.6–39.8	31.1	74	Area A	24.9–33.5	29.7	12
Area B	24.5–36.9	31.6	55	Area B	25.9–35.4	30.17	46
TOTAL	**24.5–39.8**	**31.3**	**129**	**TOTAL**	**24.9–35.4**	**30.1**	**58**

Table 6 Cranial indices for the two areas

	Male and ? Male				Female and ? Female		
	Range	Mean	No.		Range	Mean	No.
C/L				**C/L**			
Area A	73.1–91.3	80.8	29	Area A	72.5–75.4	73.95	2
AreaB	72.2–87.6	80.6	24	Area B	73.5–91.2	81.9	27
TOTAL	**72.2–91.3**	**80.74**	**53**	**TOTAL**	**72.5–91.2**	**81.3**	**29**
H/L				**H/L**			
Area A	69.5–78.8	73.8	21	Area A	67–68.5	67.8	2
Area B	64.7–76.7	71.3	15	Area B	64.2–80	72.5	18
TOTAL	**64.7–78.8**	**72.76**	**36**	**TOTAL**	**64.2–80**	**72**	**20**
H/B				**H/B**			
Area A	83.5–96.4	91.3	21	Area A	88.9–94.5	91.7	2
Area B	52–101	86.4	17	Area B	77.4–95.8	87.9	18
TOTAL	**52–100.6**	**89.14**	**38**	**TOTAL**	**77.4–95.8**	**88.3**	**20**
Nasal				**Nasal**			
Area A	35.9–56.7	46.5	19	Area A	47.1–53.1	50.1	2
Area B	33.1–57.4	48.3	18	Area B	37.3–51.5	46.7	18
TOTAL	**33.1–57.4**	**47.37**	**37**	**TOTAL**	**37.3–53.1**	**47.1**	**20**
Up Fac				**Up Fac**			
Area A	51.1–58	54	7	Area A	0	0	0
Area B	39.4–55.9	50.9	5	Area B	49.7–57.6	52	10
TOTAL	**39.4–58**	**52.72**	**12**	**TOTAL**	**49.7–57.6**	**52**	**10**
Foramen				**Foramen**			
Area A	76.8–95.4	87.3	27	Area A	80–88.7	85.1	4
Area B	73.8–100	85.9	22	Area B	75–99	86	19
TOTAL	**73.8–100**	**86.64**	**49**	**TOTAL**	**75–99**	**85.9**	**23**
Palatal				**Palatal**			
Area A	72.2–94.6	84.1	25	Area A	75.1–80	77.6	2
Area B	71.1–99.8	86.2	30	Area B	74–101	84.5	20
TOTAL	**71.1–99.8**	**85.26**	**55**	**TOTAL**	**74–101**	**83.9**	**23**
Orbit				**Orbit**			
Area A	77.9–96	87.8	15	Area A	94.1	94.1	1
Area B	74.5–99.1	85.9	18	Area B	74.2–103.5	89.9	22
TOTAL	**74.5–99.1**	**86.74**	**33**	**TOTAL**	**74.2–103.5**	**90.1**	**23**

Table 6 *(cont.)* **Cranial indices for the two areas**

	Male and ? Male				Female and ? Female		
	Range	**Mean**	**No.**		**Range**	**Mean**	**No.**
ML				**ML**			
Area A	91–116	101.9	55	Area A	92–109	98.1	9
Area B	91–117	102.03	40	Area B	85–107.5	98.23	37
TOTAL	**91 -117**	**102**	**95**	**TOTAL**	**85–109**	**98.2**	**46**
CYl (R)				**CYl (R)**			
Area A	17.5–24	20.5	42	Area A	15.5–21.9	18.7	9
Area B	18–23.6	20.4	30	Area B	16.6–28.9	19.45	30
TOTAL	**17.5–24**	**20.5**	**72**	**TOTAL**	**15.5–28.9**	**19.3**	**39**
CYL (L)				**CYL (L)**			
Area A	17–23.9	20.6	46	Area A	17.9–21.4	19.2	7
Area B	18–22.9	20.4	25	Area B	17.1–22.8	19.6	25
TOTAL	**17–23.9**	**20.6**	**71**	**TOTAL**	**17.1–22.8**	**19.5**	**32**

Table 7 Postcranial metrics for the two areas

	Male and ? Male				Female and ? Female		
	Range	**Mean**	**No.**		**Range**	**Mean**	**No.**
ClL1				**ClL1**			
Area A	121.3–170	143.2	70	Area A	124–154	135.5	7
Area B	126–162	143.6	31	Area B	124–146	136.4	28
TOTAL	**121.3–170**	**140.5**	**101**	**TOTAL**	**124–154**	**136.2**	**35**
GCL				**GCL**			
Area A	32.4–45.2	39.9	69	Area A	32.5–38.8	35	11
Area B	32.8–44.9	38.4	46	Area B	31.2–46	35.3	38
TOTAL	**32.4–45.2**	**39.3**	**115**	**TOTAL**	**31.2–46**	**35.3**	**49**
GCB				**GCB**			
Area A	22.9–34.7	29.2	65	Area A	22.3–28.3	25.01	9
Area B	23.7–33.6	27.9	38	Area B	22.1–32.3	25.1	27
TOTAL	**22.9–34.7**	**28.7**	**103**	**TOTAL**	**22.1–32.3**	**25.1**	**36**
HUL1				**HUL1**			
Area A	289–370	327.3	72	Area A	289–316	298.6	5
Area B	275–346	319.2	39	Area B	279–334	304.7	35
TOTAL		**324.5**	**111**	**TOTAL**	**279–334**	**303.9**	**40**
HuD1				**HuD1**			
Area A	38.4–56	47.4	73	Area A	37.6–44.6	42.3	8
Area B	40.6–52.3	46.1	37	Area B	37.8–44.6	41.2	37
TOTAL		**47**	**110**	**TOTAL**	**37.6–44.6**	**41.4**	**45**
HuD2				**HuD2**			
Area A	39–49.2	45.1	59	Area A	39.2–42.2	40.3	6
Area B	39.3–47.8	43.6	18	Area B	36.1–44.5	39	20
TOTAL		**44.7**	**77**	**TOTAL**	**36.1–44.5**	**39.3**	**26**

Table 7 *(cont.)* Postcranial metrics for the two areas

	Male and ? Male				Female and ? Female		
	Range	**Mean**	**No.**		**Range**	**Mean**	**No.**
Hc				**Hc**			
Area A	48–83	66.7	81	Area A	52–65	59.5	8
Area B	51–76	64	51	Area B	51–68	59.4	46
TOTAL		**65.7**	**132**	**TOTAL**	**51–68**	**59.4**	**54**
UlL1				**UlL1**			
Area A	226–298	263.1	52	Area A	221–243	237	5
Area B	228–280	257.6	27	Area B	224–269	243.7	15
TOTAL		**261.2**	**79**	**TOTAL**	**221–269**	**242**	**20**
RaL1				**RaL1**			
Area A	204–270	240.5	55	Area A	201–231	215	6
Area B	211–262	238.2	38	Area B	191–252	223.8	26
TOTAL		**239.6**	**93**	**TOTAL**	**191–252**	**222.1**	**32**
FeL1				**FeL1**			
Area A	366–520	454.8	64	Area A	405–447	425.1	10
Area B	391–484	442.6	50	Area B	371–461	418.9	41
TOTAL		**449.4**	**114**	**TOTAL**	**371–461**	**420.1**	**51**
FeD1				**FeD1**			
Area A	22.3–39.3	27.5	83	Area A	21.3–27.5	24.3	10
Area B	20.3–30.8	26.45	60	Area B	19.8–30.9	24.5	53
TOTAL		**27.1**	**143**	**TOTAL**	**19.8–30.9**	**24.5**	**63**
FeD2				**FeD2**			
Area A	27.1–42.8	34.1	85	Area A	26 -37.5	31.3	10
Area B	27.8–38.1	33.6	60	Area B	24.1–38.4	31.9	52
TOTAL		**33.9**	**145**	**TOTAL**			**62**
FeH1				**FeH1**			
Area A	37.4–57.1	49.3	77	Area A	39–48.5	43.7	8
Area B	40.2–54.2	47.4	54	Area B	39.2–46.2	42.4	42
TOTAL		**48.5**	**131**	**TOTAL**	**39–48.5**		**50**
FEC				**FEC**			
Area A	65–112	91.8	67	Area A	68–86	80.1	9
Area B	73–106	90.4	47	Area B	71.5–95	82.7	40
TOTAL		**91.3**	**114**	**TOTAL**	**68–95**		**49**
FeE1				**FeE1**			
Area A	69–85.3	77.05	56	Area A	64.6–72.3	68.7	7
Area B	64.1–79.9	74.1	32	Area B	61.8–75.4	67.8	19
TOTAL		**76**	**88**	**TOTAL**	**61.8–75.4**		**26**
TiL1				**TiL1**			
Area A	307–455	367	63	Area A	328–362	346.8	6
Area B	316–416	362	52	Area B	316–377	341.6	39
TOTAL		**364.8**	**115**	**TOTAL**	**316–377**		**45**

Table 7 *(cont.)* Postcranial metrics for the two areas

	Male and ? Male				Female and ? Female		
	Range	**Mean**	**No.**		**Range**	**Mean**	**No.**
TE1				**TE1**			
Area A	69.2–85.6	76.4	62	Area A	63–73.1	68.8	5
Area B	62–80.1	72.7	32	Area B	65.3–72.5	68.3	19
TOTAL		**75.1**	**94**	**TOTAL**	**63–73.1**		**24**
T1D1				**T1D1**			
Area A	24.4–43.1	34.8	72	Area A	21–34.2	30	10
Area B	24.6–42	33.6	60	Area B	18.9–35.7	30.5	50
TOTAL		**34.3**	**132**	**TOTAL**	**18.9–35.7**		**60**
TiD2				**TiD2**			
Area A	18.5–36.5	25.6	73	Area A	17.1 -27.2	21.9	10
Area B	19.6–31.2	24.4	60	Area B	19.5–26.5	22.6	50
TOTAL		**25**	**133**	**TOTAL**	**17.1–27.2**		**60**
FiL1				**FiL1**			
Area A	324–393	352.4	22	Area A	330–344	336	3
Area B	330– 375	352.4	14	Area B	310–356	328.8	13
TOTAL		**342.6**	**36**	**TOTAL**	**310–356**		**16**

Table 8 Cranial non-metric traits in males

Trait	**Area B1**	**Area B2**	**Area B total**
Nuchal line	0/37	0/14	**0/51**
Lambdoid oss	15/22	9/7	**24/29**
Ossicle at lambda	5/31	2/11	**7/42**
Bregmatic bone	0/32	1/10	**1/42**
Metopism	5/43	1/15	**6/58**
Coronal ossicle	0/28	0/10	**0/38**
	1/28	1/8	**2/36**
Epiteric bone	1/25	0/10	**1/35**
	1/28	0/8	**1/36**
Fronto/temp artic	0/24	0/9	**0/33**
	0/26	0/7	**0/34**
Oss at asterion	3/19	0/10	**3/29**
	3/21	1/7	**4/28**
Mastoid exosut	15/29	5/13	**20/42**
	14/35	3/12	**17/47**
Mastoid foram ab	2/42	0/18	**2/60**
	0/48	0/15	**0/63**
Parietal foramen	1/40	6/9	**7/49**
	19/19	5/9	**24/28**
Ac inf orb foramen	2/29	2/12	**4/41**
	0/33	1/12	**1/45**
Zygofacial foramen		7/	**7/**
		6/	**6/**

Trait		**Area B1**	**Area B2**	**Area B total**
Frontal foramen		5/40	1/13	**6/53**
		4/42	2/10	**6/52**
F.Huschke		2/41	0/16	**2/57**
		2/44	0/13	**2/57**
Ac less, palatine foramen		11/26	4/11	**15/37**
Auditory torus		1/45	0/16	**1/61**
		1/41	0/14	**1/55**
Mandibular torus		2/50	1/17	**3/67**
Palatine torus		3/42	1/15	**4/57**
Os Inca		0/32	1/10	**1/42**
Precondylar tubercle	L	0/30	0/11	**0/41**
Post cond facet	R	0/30	0/10	**0/40**
	L	0/29	0/9	**0/38**
Ant cond double	R	13/29	4/15	**17/44**
	L	8/34	4/14	**12/48**
Condylar facet double	R	1/33	0/12	**1/45**
	L	1/35	0/12	**1/47**
Post cond canal	R	19/15	2/13	**21/28**
	L	19/15	5/10	**24/25**
Occip temp oss	R	0/18	0/8	**0/26**
		0/18	0/9	**0/27**

Table 9 Cranial non-metric traits in females

Trait		Area B1	Area B2	Area B total
Nuchal line		0/33	0/10	**0/43**
Lambdoid oss		13/21	4/6	**17/27**
Oss at lambda		2/30	2/9	**4/39**
Bregmatic bone		0/33	0/10	**0/43**
Metopism		6/32	2/10	**8/42**
Coronal ossicle	L	1/31	0/9	**1/40**
	R	0/11	0/9	**0/20**
Epipteric bone	L	1/17	1/7	**2/24**
	R	1/22	1/7	**2/29**
Fronto-temporal articulation	L	0/23	0/8	**0/31**
	R	0/22	0/8	**0/30**
Ossicle at asterion	L	1/24	1/6	**2/30**
	R	3/22	1/6	**4/28**
Mastoid foramen exsutural	L	9/28	1/11	**10/39**
	R	11/20	2/9	**13/29**
Mastoid foramen absent	L	1/37	0/12	**1/49**
	R	0/33	0/12	**0/45**
Parietal foramen	L	14/23	3/10	**17/33**
	R	12/25	6/9	**18/34**
Accessory infra orb foramen	L	2/25	0/10	**2/35**
	R	2/25	0/10	**2/35**
Zygofacial foramen	L	7/7		
	R	6/5		
Frontal foramen	L	3/35	0/12	**3/47**
	R	3/34	0/12	**3/47**
Foramen of Huschke	L	0/38	0/13	**0/51**
	R	1/37	0/13	**1/50**
Ac less palatine foramen		10/21	5/7	**15/28**
Auditory torus	L	0/39	0/13	**0/52**
	R	1/36	0/13	**1/49**
Mandibular torus		0/38	0/14	**0/52**
Palatine torus		1/33	1/11	**2/44**
Os Inca		1/30	0/8	**1/38**
Precondylar tubercle		0/30	0/7	**0/37**
Posterior condylar facet	L	0/29	0/7	**0/36**
	R	0/27	0/7	**0/35**
Anterior dondyle double	L	6/25	1/12	**7/37**
	R	7/26	2/11	**9/37**
Condylar facet double	L	0/30	1/7	**1/37**
	R	0/30	2/6	**2/36**
Posterior condylar canal	L	18/12	8/4	**26/16**
	R	19/12	5/1	**24/13**
Occip temp ossicle	L	0/24	0/7	**0/31**
		0/23	0/4	**0/27**

Table 10 Postcranial non-metric traits in males

Trait	Side			
Medial tibial sqatting facet	L	2/77	0/63	2/140
	R	0/77	0/61	0/138
Lateral tibial sqatting facet	L	28/52	24/35	52/87
	R	25/51	25/33	50/84
Inferior talar facet double	L	33/43	36/30	69/73
	R	33/42	31/31	64/73
Medial talar facet	L	3/71	0/67	3/138
	R	2/68	0/66	2/134
Lateral talar extension		4/	5/	9/
		4/	4/	8/
Lateral talar facet	L	11/51	6/38	17/89
	R	13/49	8/30	21/79
Talar squat facet	L	7/65	3/63	10/128
	R	4/66	2/63	6/129
Anterior calcaneal facet double	L	35/46	34/26	69/72
	R	30/42	32/30	62/72

Table 10 *(cont.)* Postcranial non-metric traits in males

Trait	Side			
Os trigonum	L	3/75	2/64	5/139
	R	1/71	1/66	2/137
Access navicular	L	0/59	1/52	1/111
	R	0/56	0/54	0/110
Acc calc/talar facet	L	7/61	1/64	8/125
	R	4/63	2/62	6/125
Acc talar/calc facet	L	5/62	1/61	6/123
	R	5/62	2/61	7/123
Acc navic/cuboid facet	L	23/40	22/29	45/69
	R	24/37	24/26	48/63
Acc cuboid /navic facet	L	20/42	25/25	45/67
	R	21/45	27/22	48/67
Navicular prong	L	14/	10	24/
	R	12/	9/	21/
Ant calcaneal facet abs	L	3/	5	8/
	R	3/	3/	6/
Capitate facet double	L	6/	2/	8/
	R	4/	6/	10/
Hamate facet double	L	4/	2/	6/
	R	4/	3/	7/
Hamate hook abs	L	1/	0/	1/
	R	1/	1/	2/
Clavicle bridge	L	1/		1/
	R			
Radius lat facet	L			
	R	1/		1/
Ulna groove	L	1/		1/
	R	1/		1/
Inferior gluteal ridge	L			
	R	1/		1/
Distal tibial foramen	L		1/	1/
	R	1/	2/	3/
Calcaneal notch	L	1/	0/	1/
	R	1/	1/	2/

Table 11 Postcranial non-metric traits in females

Trait	Side			total
Medial tibial squatting facet	L	1/9	0/51	**1/60**
	R	0/6	0/50	**0/56**
Lateral tibial squatting facet	L	5/5	29/20	**34/25**
	R	3/2	31/21	**34/23**
Inferior talar facet double	L	4/5	25/25	**29/30**
	R	2/6	29/23	**31/29**
Medial talar facet	L	1/9	0/53	**1/62**

Table 11 *(cont.)* Postcranial non-metric traits in females

Trait	Side			total
	R	1/6	0/54	**1/60**
Lateral talar extension	L	3/0	1/22	**4/22**
	R	0/2	2|23	**2/25**
Lateral talar facet	L	4/3	4/26	**8/29**
	R	1/5	2/29	**3/34**
Talar squatting facet	L	0/9	2/51	**2/60**
	R	0/7	2/52	**2/59**
Anterior calcaneal facet double	L	4/6	31/23	**35/29**
	R	2/7	34/22	**36/29**
Os trigonum	L	0/9	0/50	**0/59**
	R	0/8	0/52	**0/60**
Access navicular	L	0/7	1/41	**1/48**
	R	1/3	1/37	**2/40**
Acc calc/talar facet	L	0/9	2/48	**2/57**
	R	0/8	2/47	**2/55**
Acc talar/calc facet	L	0/8	2/48	**2/56**
	R	0/7	2/47	**2/54**
Acc navic/cuboid facet	L	3/4	26/15	**29/19**
	R	4/3	20/12	**24/15**
Acc cuboid /navic fac	L	4/4	21/15	**25/19**
	R	3/2	25/14	**28/16**
Navicular prong	L	/2	3/	**5/**
	R		2/	**2/**
Ant calcaneal facet abs	L		2/	**2/**
	R		1/	**1/**
Capitate facet double	L	2/	5/	**7/**
	R	2/	3/	**5/**
Hamate facet double	L	1/		**1/**
	R	1/		**1/**

Appendix 8 Case studies to support Chapter 10

346, a male aged 25–35 years, has a left-sided partial sacralisation affecting L5, in which the left transverse process has developed into a sacral ala-like extension that meets an abnormally raised left sacral ala. The sacrum itself is very short even though it has five elements. This may, in fact, indicate a lumbarisation of S1, making the apparent 'L5' into S1. This is uncertain. L1 has bilateral rib facets. The atlas (C1) is fused on the left side to the cranium, with damage to the right side.

370, a possible male, aged 17–25 years, has a fractured sacrum that has a VAN at S1, comprising overlapping, uneven spinous processes.

190, a female aged 25–34 years, has bifid spinous processes at C4–6, with damage to the other posterior cervical vertebrae. L5 is bilaterally fused to S1, with spondylolysis. The left side of the S1 arch is open below the L5 arch above it (ie, a VAN defect). The upper coccygeal vertebra is fused to S5. Dentally, there is an extra tooth between the left lateral incisor and canine.

335, a mature male, has L5 unilaterally (right side) fused to S1. There is a VAN defect at S1, with uneven development of both arch halves, and a very narrow midline non-fusion.

19, a young to middle-aged male, has a completely sacralised L6 joined to S1. There is a left-sided unilateral sacralisation of the first coccygeal vertebra. The whole sacrum is asymmetric and has a slightly twisted appearance. There are bifid spinous processes at C3–5, with the others being damaged post mortem.

21, a male aged 20 to 25 years, has a very narrow neural canal between L2–5.

25, a mature male, has a sacralised L6. S1 has a VAN defect. The first coccygeal vertebra is fused to S5 bilaterally.

129, a male aged 25 to 34 years, has a bilaterally sacralised L6. There is unusual hipping to both sides of the sacrum at the level of S3.

146, a young to middle-aged male, has a possible cervical rib or transverse process anomaly at C7. There is a sixth lumbar vertebra.

275, a young adult male, has a C7 transverse foramen anomaly that may represent a left-sided pseudo-cervical rib. There is a possible rib facet present on the right side of the vertebra.

330, a mature male, has an anomaly at C2 in which the arch halves meet but are unfused and uneven, with the right half being more developed (wider and deeper) than the left.

339, a young adult female, has VAN defects at C2 and S1. There appear to be eleven thoracic vertebrae and an 'extra' lumbar vertebra. The spinous processes of T6 and T8 (T7 spinous process is damaged post mortem) are deviated to the left. The whole sacrum is tiny and triangular.

226, an adolescent of *c* 10 years, has a cleft sacrum with the arch halves at S1 partially present but flat and underdeveloped.

235, an adult male, has a VAN defect from S2–S5, with an almost completely cleft sacrum. The left arch of S1 is underdeveloped and damaged post mortem, but the right arch is extended over the midline to almost meet the left half.

Appendix 9 Case studies to support Chapter 11

Burial 32a is a middle adult male (Fig 11.3) who has extreme asymmetry values including a dropped right orbit that is 3mm (FA 2.3%) lower and 2mm (FA 6%) larger in height than the left, while the left orbit is broader by 1.4mm (FA 3.7%). The left malar is in a more superior position and the right mastoid process is broader by 2mm (FA 7%), while the left is longer by 1.6mm (FA 4.6%). There is rotation of the viscerocranium to the left by 3.1mm (FA 6.5%), with the foramen magnum offset posteriorly to the left by 3.5mm (FA 4.8%). Further, there is flattening to the right occipital, the attachments for the nuchal muscles are offset to the right, and there is mandibular asymmetry that indicates the chin was pointed to the right. The frontal bone has a metopic trace with ridging, producing an overall trigoncephalic skull shape. Further postcranial extreme asymmetry measurements are found in the ulnae, tibiae, femora, and feet of this individual (Storm forthcoming).

Burial 38 is a young adult female with scaphocephaly (Fig 11.4). The sagittal suture is closed at bregma for 2mm posteriorly, at varying locations along this suture, and obliterated for 2mm near obelion. The coronal suture is fused from bregma for 4mm to the right and 5mm to the left. A marked increase in antero-posterior length, with a cranial index of 70.4 (Ward 1996), gives the individual's cranium a boat-shaped appearance. The individual also has relatively large orbits in relation to facial size and has further postcranial asymmetries (Storm forthcoming), including the humeri (6.5mm to the right) and the tibiae (5mm to the left).

Burial 74 is a middle adult male possessing frontal plagiocephaly with associated torticollis (Fig 11.5). This individual has premature closure of the left coronal suture, which is obliterated for 63mm from bregma, while the right is still open. There is right prominent frontal bossing and flattening of the frontal and occipital on the left side. There are changes in the contour of the superior orbital margin, which has asymmetry difference of 3mm (FA 4.8%) to the right. The foramen magnum is offset and twisted to the right by 2.7mm (FA 4.6%) anteriorly and 1.3mm (FA 2%) posteriorly. There is a twisting of the viscerocranium to the left by 8mm (FA 6.3%) and the mandible is longer on the right by 7.8mm (FA 6.2%), resulting in the chin pointing to the left. Due to the individual's adult age at death it is unknown whether there were further premature closures of the sagittal and lambdoid sutures, as they are obliterated.

Burial 109 is a middle adult male who demonstrates occipital plagiocephaly with associated muscular torticollis. There is complete premature craniosynostosis of the lambdoid suture on the right side, which is longer by 10mm (FA 10.3%). The cranium as a whole has compensatory extreme rotation and is tilted on its axis to the right, with prominent bossing of the right parietal and occipitoparietal flattening of the right side. Further asymmetries include a larger left mastoid process by 5.4mm (FA 17.4%) in length, 2.4mm (FA 8.5%) in breadth and 8.5mm (FA 78%) in height, and an 8mm (FA 4.7%) difference from the edge of the orbit to the base of the skull.

Burial 142 is a middle adult female with craniosynostosis of the left occipitomastoid suture, metopism and torticollis. The occipitomastoid suture is obliterated on the left and the metopic suture had remained open allowing for the continuous growth of the frontal bones, which locates the coronal suture almost in the middle of the cranium. Extreme asymmetry measurements include the right orbit being both larger in breadth by 1.8mm (FA 4.4%) and height by 1.2mm (FA 3.3%); the right occipital condyle is larger by 1.9mm (FA 7.6%); and the foramen magnum is at an angle, being offset to the left anteriorly by 5.4mm (FA 7.9%) and posteriorly by 2.5mm (FA 4.3%). Further, the right parietal and occipital are larger, and the viscerocranium is rotated to the left by 3mm (FA 2.4%).

Burial 327 is a middle adult female possessing plagiocephaly with associated torticollis. She has a rare premature closure of the left squamosal suture. Due to the adult age at death, it is unknown whether there were further premature closures of the coronal, lambdoid and sagittal sutures. The coronal suture is obliterated on the right for 53mm from bregma, trace for 23mm, and then obliterated again for 36mm; the right side is closed from bregma for 45mm, but the remainder is open. The sagittal suture is completely obliterated and the lambdoid is bilaterally closed, except at asterion. Associated asymmetries with outlying values include a larger left frontal with larger frontal bossing, a more anteriorly placed right parietal, and from bregma to asterion a larger left parietal by 6mm (FA 4.3%) with increased parietal bossing. There is also a deviation of the viscerocranium to the right by 7mm (FA 6.1%), the foramen magnum is offset to the left anteriorly by 3.3mm (FA 5.8%) and posteriorly by 2.8mm (FA 4.1%), the left lambdoid suture is longer by 5mm (FA 3.2%) and the left mastoid process is larger by 1.4mm (FA 4.7%).

Burial 340 is a young adult male demonstrating scaphocephaly. The sagittal suture is obliterated, except near bregma, which contributed to an elongated cranium. Asymmetries include a more superiorly placed and larger left malar by 2.7mm (FA

10.8%), a broader right mastoid process by 3.7mm (FA 14.3%) and a larger right occipital condyle by 2.9mm (FA 13.7%).

Burial 370 is a young adult male with craniosynostosis of the right occipitomastoid. Associated asymmetries include a more posteriorly placed right mastoid process, a shift of the nuchal muscles to the right, an underdeveloped left malar, the right lambdoid suture is longer by 4.3mm (FA 4.5%) on the right, and the foramen magnum is offset from the left by 5mm (FA 7.3%) posteriorly and 4.1mm (FA 6.8%) anteriorly. Postcranially, the humerus on the left has delayed development, being 7mm smaller than the right. There is also delayed epiphyseal fusion bilaterally of the postcranial skeleton.

Burial 374 is a young adult male possessing multiple craniosynostoses. The right squamosal suture is obliterated for 43.4mm anteriorly from asterion, the left squamosal suture is closed 58.3mm from asterion and the left coronal suture is fused from the sphenoid for 78.6mm toward bregma. This early closure has influenced the growth of the greater wing of the sphenoid on the left side as it is reduced in size, measuring 18.2mm at its widest. It is enlarged on the right side, measuring 38.9mm at its widest. Extreme asymmetries include a rotation of the viscerocranium by 8mm (FA 6.8%) to the left, a larger right parietal by 5mm (FA 3.6), a larger left frontal by 7mm (FA 6.2%), a longer right supraorbital ridge by 6.1mm (10.7%) and a larger right mastoid process by 4.2mm (FA 12%) in length and 3mm (FA 10.1%) in breadth.

Burial 267 is a middle adult male (Fig 11.7) possessing cranial asymmetries that include a broader right orbit by 1.3mm (FA 3.4%), a left occipital condyle that is larger by 2.8mm (FA 11%), a left parietal that is larger diagonally by 5mm (FA 3.6%) and a viscerocranium that is rotated to the left by 4mm (FA 3.3%). The occipital is also longer along the lambdoid suture by 2.4mm (2.8%). Furthermore, the curvature of the left parietal is more steeply sloping from the sagittal suture, the right mastoid process is more anteriorly placed, the left malar is positioned superiorly and the left occipital condyle is positioned inferiorly.

Appendix 10 Bone changes in leprosy: pathogenesis and palaeopathology *by Keith Manchester*

Calvin Wells Laboratory, School of Archaeological Sciences, University of Bradford, UK

1. Pathogenesis

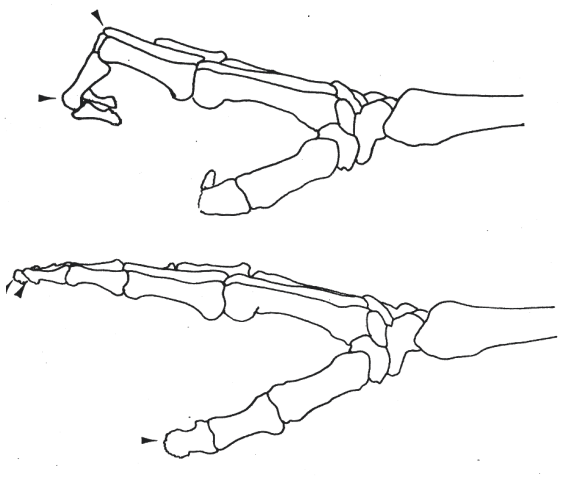
1.1 Direct effect of Mycobacterium leprae *invasion of bone*

1.1.1 Leprous osteomyelitis
due to haematogenous spread of *M. leprae* to medullary cavities, principally of the bones of the hands and feet.

1.1.2 Rhinomaxillary change
secondary to oronasal soft tissue infection by *M. leprae*. This change is only present in lepromatous or near lepromatous leprosy.

1.2 Indirect effect of neuropathy due to Mycobacterium leprae

1.2.1 Sensory neuropathy
- a. cutaneous anaesthesia: painless superficial trauma leading to ulceration, secondary bacterial invasion, deep tissue spread to bone and joint cavities, giving rise to pyogenic osteomyelitis and pyogenic septic arthritis. The changes are accentuated by ischaemia due to *M. leprae* arteritis.
- b. deep pain anaesthesia: spreading deep tissue sepsis, accentuated by ischaemia due to *M. leprae* arteritis.
- c. proprioceptive loss: dissociation of joint spatial sensation, leading to subluxation, dislocation, and the disintegration of hand and foot architecture.



Areas of trauma in normal and claw-hand deformity

1.2.2 Motor neuropathy
paralysis of muscle groups with loss of synergistic action, leading to
- a. claw hand deformity of median/ulnar neuropathy
- b. drop foot
- c. longitudinal arch collapse of foot
- d. transverse arch collapse of foot
- e. claw 'hammer' toe deformity.

1.2.3 Autonomic neuropathy
the disruption of sympathetic-parasympathetic balance in arterial control leads to an alteration of stable osteoblast-osteoclast harmony, and may be the cause of
- a. concentric diaphyseal remodelling in which there is extracortical bone absorption and coincident endocortical bone deposition with consequent reduction of medullary cavity in phalanges, metatarsals and metacarpals.

1.3 Indirect effects of Mycobacterium leprae *infection* (possibly due to metabolic and immunoreactive components)

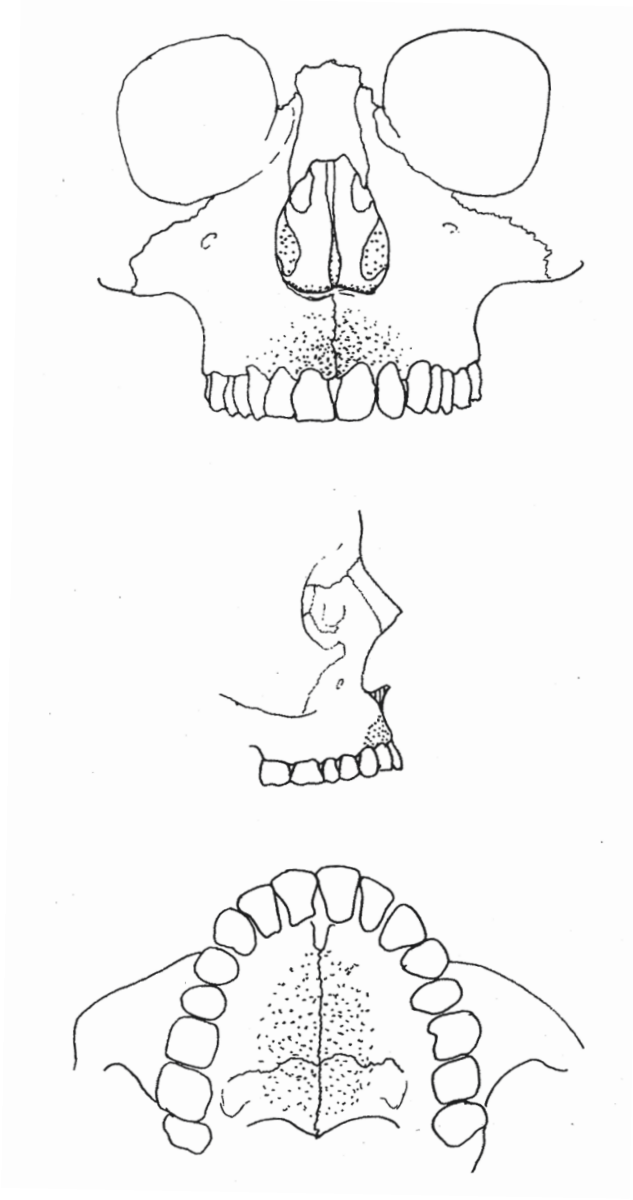
1.3.1 Acroosteolysis
the loss of peripheral bone substance through diffuse absorption.

1.3.2 Osteoporosis
due to disuse, and to testosterone deficiency secondary to testicular involvement by *M. leprae*.

2. Diagnostic criteria: palaeopathological and radiological features

2.1 Rhinomaxillary change

2.1.1 Anterior nasal spine: absorption and ultimate loss with exposure of medullary bone followed, possibly, by cortical remodelling.
Quantification:
1. Well-defined reduction of the spine.
2. Advanced absorption but spine remnant remains.
3. Complete absence of spine.



Areas of involvement in rhinomaxillary change

2.1.2 Alveolar processes of maxilla: recession of APM, usually with little or no inflammatory cortical pitting, commencing centrally at the prosthion and extending to the alveolae of the central and lateral incisors, with loss of these teeth. Later there may be further lateral extension to canine and premolar alveolae. Bilateral symmetry.
Quantification:
1. Recession of prosthion and early exposure of central incisor roots.
2. Marked recession of bone with exposure of central and lateral incisor roots and loosening of one or more incisor teeth.
3. Severe recession of bone with antemortem loss of one or more incisor teeth, usually central.

2.1.3 Palatine process of maxilla: inflammatory change of nasal surface of palatine process of maxilla (PPMN) leading to ultimate perforation of the palate, usually in the median or paramedian position.
Quantification:
1. Slight inflammatory pitting of the cortical surface.
2. Extensive pitting possibly associated with irregular new bone formation.
3. Irregular perforation of the palate.

2.1.4 Palatine process of maxilla: inflammatory change of oral surface of palatine process of maxilla (PPMO) leading to ultimate perforation. This change may or may not be associated with inflammatory change of the PPMN. The change is usually median or paramedian position towards the middle or posterior zone of the palatine process.
Quantification:
1. Slight inflammatory pitting of the cortical surface.
2. Extensive inflammatory pitting with regular perforation.
3. Advanced destructive change with extensive perforation.

2.1.5 Turbinate bones and nasal septum: inflammatory pitting with or without slight irregular new bone formation. There may be ultimate loss of the bony nasal septum, and loss, through absorption, of one or more turbinate bones.

2.1.6 Nasal aperture: progressive smooth recession of the normally sharp margins of the nasal aperture, inferiorly. The change may or may not be associated with inflammatory pitting.

2.2 Leprogenic odontodysplasia

Concentric constriction around the tooth root followed by arrested tooth growth, usually of the incisor, principally maxillary, teeth. Radiologically the affected teeth show constriction and irregular pulp cavity.

2.3 Upper limb

2.3.1 Distal phalanx
a. Smoothing of unguicular process, sometimes with volar and dorsal inflammatory pitting, leading to erosion of the distal ends, usually with nicking. Change is a sequel to pulp space infection secondary to cutaneous anaesthesia.
b. Acroosteolysis, producing terminal bone absorption leading to shark-toothed or collar-stud deformity, and, through continuing absorption, to beret-shaped phalangeal base. Change may occur in the absence of pulp space infection.

2.3.2 Middle phalanx
- a. Concentric diaphyseal remodelling: true concentric remodelling commences and is maximal at mid-diaphysis. Midshaft bone loss may lead to pathological fracture and, through acroosteolysis, the distal fragment may absorb, leading to proximal fragment shark-tooth or collar-stud deformity and eventual beret-shaped base.
- b. Basal bevelling: in association with proximal phalangeal volar grooving there may be smooth remodelled bevelling of the volar edge of the proximal articular surface.

2.3.3 Proximal phalanx
- a. Concentric diaphyseal remodelling: change as with middle phalanx, but the change of the proximal phalanx usually precedes and is more marked than the middle phalanx. The early stages of concentric remodelling in phalanges of hands and feet give rise to an hourglass appearance of the bone.
- b. Volar phalangeal groove: there may be a shallow groove of the volar surface of the proximal phalanx at the distal end in the juxta-articular zone. There is compensatory endocortical new bone formation at the site, maybe giving a greater overall thickness of cortical bone at the site of grooving. This is a sequel to, and only occurs in association with, claw-hand deformity, with metacarpophalangeal joint hyperextension and interphalangeal joint.

2.3.4 Metacarpophalangeal and interphalangeal joints
- a. Juxta-articular dorsal inflammatory change: because of hand-clawing and hyperflexion of joints, there may be superficial pitting of the dorsal surface around the interphalangeal joints, secondary to soft tissue damage.
- b. Septic arthritis: destructive disorganisation of joint surfaces due to pyogenic sepsis secondary to dorsal ulceration in claw-hand deformity and to spreading infection from terminal pulp spaces. This is a sequel to cutaneous and deep anaesthesia and to motor paralysis.
- c. Subluxation and dislocation: may occur at interphalangeal joints resulting from hyperflexion secondary to motor paralysis and loss of proprioception. May be associated with volar phalangeal grooving.
- d. Ankylosis: may occur, usually at interphalangeal joints, resulting from pyogenic septic arthritis.
- e. Cupping, with or without peg deformity: the proximal ends of the phalanxes may become cupped secondary to subluxation and circumferential osteophyte formation in joint capsular tissues. The proximal joint surface may remain visible and intact. Coincidental acroosteolysis may produce a peg deformity of the distal end of the proximal bone in the affected joint.

2.3.5 Metacarpals and carpals: concentric remodelling, septic arthritis and bone absorptive processes occur uncommonly in metacarpals, carpals and bones of the forearm.

2.4 Lower limbs

2.4.1 Distal phalanx
- a. inflammatory changes are the same as those in the distal phalanx of the hand, but occur less commonly in the feet, and are usually associated with claw-toe deformity secondary to motor paralysis. In the absence of clawing there may be no terminal inflammatory changes seen.

2.4.2 Middle phalanx
- a. Concentric remodelling and achroosteolytic changes are the same as those in the middle phalanx of the hand.

2.4.3 Proximal phalanx
- a. Concentric remodelling and acroosteolysis: the changes are the same as those in the proximal phalanx of the hand. Proximal phalangeal concentric remodelling precedes and is greater than the change in other bones of the foot. With progressive osteolysis and loss of distal bones, overlying soft tissue infection may lead to inflammatory change and nicking in the distal ends of the remaining bones.

2.4.4 Metatarsus
- a. Surface inflammatory pitting: probably uncommon and indicative of overlying soft tissue infection, and maybe an early stage in the deep tissue spread of pyogenic infection.
- b. Concentric diaphyseal remodelling: the change commences at and is maximal at the distal third of the diaphysis. Progressive development and acroosteolysis leads to peg deformity. The fifth metatarsal is frequently the most severely affected. Concentric remodelling of the metatarsals is of two types:
  i. 'true' pancircumferential concentric remodelling often associated with metapodial joint sepsis.
  ii. knife-edge remodelling.
  Concentric remodelling maximal at the medial and lateral sides of the metatarsals produces a knife-shaped bone with 'sharp' superior and inferior borders. Knife-edge remodelling occurs most commonly in the absence of metapodial joint sepsis.
- c. Acroosteolysis: as with the phalanges,

acroosteolysis is progressive proximally. Occasionally, acroosteolysis leading to complete bone absorption can occur in the absence of concentric remodelling. Rapid and complete absorption of bone can occur in as short a time as six weeks, but the process is usually much slower.

2.4.5 Tarsus

a. Surface inflammatory pitting: may be of both plantar and dorsal surfaces, as a sequel to overlying soft tissue infection. Advancing infection leads to destruction and disorganisation of tarsus.
b. Dorsal bar formation: transverse bars of bone may develop on the dorsal surface of the neck of the talus, navicular, cuneiforms and cuboid in response to dorsal ligament stress consequent upon intertarsal joint subluxation with longitudinal arch collapse. This is a result of motor paralysis and loss of proprioception. The bars appear more radiolucent than the parent bone.
c. Navicular 'squeezing': as a result of navicular dislocation in motor paralysis, the navicular may be compressed as a thin plate.
d. Tarsal disintegration: the tarsus may be so changed by infection by pyogenic bacteria, be altered morphologically by dislocation, and the joints ankylosed through sepsis, that the total tarsal architecture and anatomy may be destroyed.
e. Calcaneal erosion: there may be cortical erosion of the postero-inferior zone of the calcaneum, resulting from the spread of pyogenic infection from an overlying soft tissue infection of the plantar surface of the heel. This results from cutaneous anaesthesia.

2.4.6 Joints

a. Interphalangeal: changes of pyogenic arthritis, subluxation, dislocation and cupping may occur as with the upper limb.
b. Metatarsophalangeal: pyogenic septic arthritic change occurs mainly in the first and fifth metapodial joints in the presence of integrity of the transverse arch. In the presence of transverse arch collapse due to motor paralysis and loss of proprioception, ulceration of the plantar surface of the mid-metapodial joints with subsequent septic arthritis of the second, third and fourth metapodial joints occurs. There may sometimes be a transient phase of calcification concentrically around the distal end of the metatarsal, proximal to metapodial joint sepsis.
c. Cupping and peg deformity: peg deformity in association with cupping is more common in metapodial joints, because of the more peripheral zone concentric remodelling in metatarsals.
d. Intertarsal joints: Infective destructive change of joint surfaces, with dislocation, ankylosis and disorganisation. Midtarsal infective change without infective change in the forefoot may occur in the presence of longitudinal arch collapse, plantar ulceration and spreading deep sepsis.

General points in relation to change in the hands and feet

a. Concentric diaphyseal remodelling: the process is one of smooth absorption of the outer cortical surface with coincident deposition of new bone on the endocortical surface. In consequence there is a progressive loss of medullary bone at the site, leading ultimately to a site of diaphysis which consists only of compact bone. After obliteration of the medullary cavity by endocortical new bone, progressive absorption of outer cortical surface leads to thinning and ultimate pathological fracture at the site.
b. Bone absorption: acroosteolysis, with or without osteomyelitis, particularly of metatarsals may lead to absorption of cortical bone with exposure of medullary bone beneath. Such a defect at the distal end of the bone may be confused with post-mortem bone loss. Later in the process the end defect may be covered by new compact bone in a thin plate. Osteoarchaeologically therefore, the absence of phalanges or metatarsals or the loss of the distal ends thereof, may not indicate post-mortem loss, but may be indicative of the ante-mortem achroosteolytic and osteomyelitic process resulting in loss of digits.

2.4.7 Tibia and fibula

a. Inflammatory change: bilateral symmetrical inflammatory change of pitting with marked periosteal new bone formation. The new bone appears as a smooth undulating layer which is completely applied to the cortical surface. The changes are most marked on the adjacent surfaces of the tibia and fibula. This may be a toxic 'abacterial' process. Tibiofibular change is only associated with infection in the foot, but the infection may not have involved bone at an early stage. The tibiofibular change seems to be more common in the presence of longitudinal arch collapse and midfoot plantar ulceration.

2.5 Miscellaneous lesions

2.5.1 Erosive joint lesions: 'osteochondritis dissecans' type lesions, principally of the

base of the first proximal phalanx in the foot, are probably not directly associated with leprosy. The lesions may be a manifestation of chronic subluxation, due to motor paralysis and loss of proprioception.

2.5.2 Bone cysts: lepromatous cysts are uncommon, but are frequently juxta-articular, regular and smooth-walled, with surrounding osteosclerosis.

Appendix 11 Data to support Chapter 18

Table 1 Percentage of vertebrae affected by spinal degenerative joint disease and osteoarthritis of the facet joints according to sex

		Slight–moderate		Moderate–severe	
		Male %	Female %	Male %	Female %
Cervical	**1**	3.7	7.1	1.5	1.8
	2	23.1	18.6	19.4	11.9
	3	27.8	21.4	21.4	14.3
	4	22.3	21.4	16.9	14.3
	5	18.1	17.9	10.1	14.3
	6	16.1	10.3	10.9	6.9
	7	14.2	14.3	9.2	3.6
Thoracic	**1**	17.2	18.3	9.3	6.7
	2	11.3	14.8	6.7	8.2
	3	19.3	19.4	10	13.3
	4	28.9	24.2	21.7	11.9
	5	32.7	30.5	19.3	22
	6	23	20.7	11.8	15.5
	7	13.5	5.2	7.7	5.2
	8	14.3	6.5	6.5	4.5
	9	16.1	6.8	8.4	3.4
	10	18.2	7	9.1	1.8
	11	11.5	15.3	5.1	5.1
	12	11.4	5.1	7.6	5.1
Lumbar	**1**	11.2	14.1	5.6	4.7
	2	8.1	6.2	3.1	3.1
	3	10	6.1	1.9	3
	4	12.4	9	5	4.5
	5	16	8.8	7.1	7.4
Sacrum		8.2	7.4	6.3	5.9

Table 2 Individuals with spinal degenerative joint disease and osteoarthritis of the facet joints according to area

		Area A									Area B								
		male	no	%	female	no	%	total	no	%	male	no	%	female	no	%	total	no	%
Cervical	1	2	81	**2.5**		11		2	93	**2.2**	3	54	**5.6**	4	45	**8.9**	7	101	**6.9**
	2	23	82	**28.0**		13		23	96	**24.0**	8	52	**15.4**	11	46	**23.9**	19	100	**19.0**
	3	25	81	**30.9**	1	13	**7.7**	26	95	**27.4**	10	45	**22.2**	11	43	**25.6**	21	91	**23.1**
	4	21	80	**26.3**	2	13	**15.4**	24	94	**25.5**	8	50	**16.0**	10	43	**23.3**	18	95	**18.9**
	5	18	85	**21.2**	1	13	**7.7**	19	99	**19.2**	7	53	**13.2**	9	43	**20.9**	16	98	**16.3**
	6	9	88	**10.2**	1	12	**8.3**	2	101	**2.0**	13	49	**26.5**	5	46	**10.9**	18	97	**18.6**
	7	16	90	**17.8**		13	**0.0**	16	104	**15.4**	8	51	**15.7**	8	43	**18.6**	16	96	**16.7**
Thoracic	1	20	93	**21.5**	1	12	**8.3**	21	106	**19.8**	6	58	**10.3**	10	48	**20.8**	16	108	**14.8**
	2	11	93	**11.8**		12	**0.0**	11	106	**10.4**	6	57	**10.5**	9	49	**18.4**	15	108	**13.9**
	3	20	91	**22.0**	1	12	**8.3**	21	104	**20.2**	9	59	**15.3**	11	48	**22.9**	20	109	**18.3**
	4	28	93	**30.1**	1	11	**9.1**	29	105	**27.6**	16	59	**27.1**	14	51	**27.5**	30	112	**26.8**
	5	32	92	**34.8**	1	11	**9.1**	33	104	**31.7**	17	58	**29.3**	17	48	**35.4**	34	108	**31.5**
	6	26	91	**28.6**	1	10	**10.0**	27	102	**26.5**	9	61	**14.8**	11	48	**22.9**	20	110	**18.2**
	7	15	91	**16.5**	1	11	**9.1**	17	103	**16.5**	6	64	**9.4**	2	47	**4.3**	8	112	**7.1**
	8	13	92	**14.1**	1	11	**9.1**	15	104	**14.4**	9	62	**14.5**	3	51	**5.9**	12	114	**10.5**
	9	15	94	**16.0**		10	**0.0**	16	105	**15.2**	10	61	**16.4**	4	49	**8.2**	14	111	**12.6**
	10	19	92	**20.7**		9	**0.0**	20	103	**19.4**	9	62	**14.5**	4	48	**8.3**	13	112	**11.6**
	11	12	94	**12.8**		9	**0.0**	12	105	**11.4**	6	63	**9.5**	9	50	**18.0**	15	114	**13.2**
	12	13	94	**13.8**		9	**0.0**	13	106	**12.3**	5	64	**7.8**	3	50	**6.0**	8	115	**7.0**
Lumbar	1	14	95	**14.7**	1	10	**10.0**	15	108	**13.9**	4	66	**6.1**	8	54	**14.8**	12	122	**9.8**
	2	8	93	**8.6**		10	**0.0**	8	105	**7.6**	5	67	**7.5**	4	55	**7.3**	9	123	**7.3**
	3	10	89	**11.2**		10	**0.0**	10	102	**9.8**	6	71	**8.5**	4	56	**7.1**	10	128	**7.8**
	4	14	92	**15.2**	1	11	**9.1**	16	106	**15.1**	6	69	**8.7**	5	56	**8.9**	11	126	**8.7**
	5	18	89	**20.2**	2	11	**18.2**	20	104	**19.2**	7	67	**10.4**	4	57	**7.0**	11	124	**8.9**
	6	2						2			2						2		
Sacrum		12	91	**13.2**	1	11	**9.1**	13	105	**12.4**	2	67	**3.0**	4	57	**7.0**	6	125	**4.8**

Table 3 Percentage of individuals with spinal degenerative joint disease and osteoarthritis according to age and sex

	Area	Young	Middle	Mature	Unknown	Total	Total individuals with vertebrae	%
Male	A	10	20	31	2	63	104	60.6
	B	6	15	15	1	37	74	50.0
Female	A	0	1	3	0	4	14	28.6
	B	4	12	18	1	35	59	59.3

Table 4 Percentage of vertebrae with osteoarthritis of the costovertebral facet in Areas A and B

		Area A		Area B	
		Male	Female	Male	Female
Thoracic	1	16.1		17.2	33.3
	2	4.3		3.5	2
	3	11.0		0	2.1
	4	8.6		3.4	3.9
	5	10.9		6.9	2.1
	6	8.8		6.6	6.3
	7	9.9		7.8	10.6
	8	7.6		8.1	9.8
	9	7.4		8.2	8.2
	10	13.0	11.1	4.84	22.9
	11	21.3		15.9	28
	12	20.2	11.1	18.8	20

Table 5 Percentage of vertebrae with osteoarthritis of the costotransverse facet in Areas A and B

		Area A		Area B	
		Male	Female*	Male	Female
Thoracic	1	3.2	0	1.7	6.3
	2	0.0	0	0	4.1
	3	2.2	0	5.1	0
	4	2.2	0	1.7	2
	5	5.4	0	1.7	0
	6	3.3	0	1.6	4.2
	7	6.6	0	3.1	8.5
	8	10.9	0	11	12
	9	9.6	0	15	16
	10	4.3	0	6.5	10
	11	0.0	0	1.6	4
	12	0.0	0	3.1	2

*There were only 11 females in Area A

Table 6 Percentage of vertebrae exhibiting osteophytes, slight to severe

		Male %	Female %
Cervical	1	13.3	23.2
	2	17.9	13.6
	3	17.5	10.7
	4	24.6	19.6
	5	22.5	32.1
	6	26.3	32.8
	7	22.7	28.6
Thoracic	1	8.6	10.0
	2	8.0	4.9
	3	13.3	13.3
	4	25	17.7
	5	18.7	23.7
	6	20.4	27.6
	7	23.9	27.5
	8	24.0	27.4
	9	30.3	28.8
	10	29.2	24.6
	11	26.1	22.0
	12	26.4	16.9
Lumbar	1	23.0	15.6
	2	25.0	21.5
	3	26.9	31.8
	4	32.9	35.8
	5	26.3	27.9
Sacrum		19.6	14.7

Table 7 Percentage of vertebrae exhibiting osteophytes, moderate to severe

		Male %	Female %
Cervical	1	4.4	3.6
	2	3.7	6.8
	3	5.6	5.4
	4	10.8	10.7
	5	9.4	8.9
	6	13.9	12.1
	7	12.1	14.3
Thoracic	1	4	1.7
	2	2	
	3	4.7	3.3
	4	9.9	3.2
	5	7.3	3.4
	6	7.9	5.2
	7	8.4	10.3
	8	9.7	12.9
	9	18.1	13.6
	10	16.9	12.3
	11	14.6	8.5
	12	12	6.8
Lumbar	1	7.5	7.8
	2	11.9	6.2
	3	16.3	6.1
	4	14.9	17.9
	5	17.3	14.7
Sacrum		12	7.4

Table 8 Percentage of vertebrae with marginal osteophytes in Area A compared with Area B

		Area A		Area B	
		Male %	Female %	Male %	Female %
Cervical	1	13.6	9.1	13	26.7
	2	17.1	15.4	19.2	13
	3	16	15.4	20	9.3
	4	22.5	15.4	28	20.9
	5	22.4	15.4	22.6	37.2
	6	28.4	0	22.4	41.3
	7	21.1	7.7	25.5	34.9
Thoracic	1	9.7	0	6.9	12.5
	2	9.7	0	5.3	6.1
	3	16.5	8.3	8.5	14.6
	4	17.2	9.1	20.3	19.6
	5	16.3	18.2	22.4	25
	6	16.5	20	26.2	29.2
	7	20.9	18.2	28.1	29.8
	8	20.7	18.2	29	29.4
	9	29.8	20	31.1	30.6
	10	27.2	22.2	32.3	25
	11	28.7	22.2	22.2	22
	12	25.5	0	23.4	20
Lumbar	1	23.2	10	22.7	16.7
	2	23.7	20	26.9	21.8
	3	30.3	10	22.5	35.7
	4	27.2	9.1	40.6	41.1
	5	20.2	18.2	34.3	29.8
Sacrum		22	0	16.4	15.8

Table 9 Percentage of vertebrae affected by intervertebral osteochondrosis (early to severe)

Vertebrae		Male %	Female %
Cervical	**1**	3.7	5.4
	2	9	10.2
	3	20.6	14.3
	4	26.2	23.2
	5	23.9	32.1
	6	26.3	34.5
	7	20.6	23.2
Thoracic	**1**	5.9	8.3
	2	6.6	0
	3	4	3.3
	4	3.9	6.5
	5	6.7	20.3
	6	11.8	22.4
	7	9.7	13.8
	8	7.1	14.5
	9	10.3	13.6
	10	13	19.3
	11	12.7	20.3
	12	10.1	11.9
Lumbar	**1**	9.3	10.9
	2	9.4	9.2
	3	8.8	10.6
	4	14.9	14.9
	5	14.7	23.5
Sacrum		10.1	20.6

Table 10 Percentage of vertebrae affected by intervertebral osteochondrosis according to phase of the cemetery

Vertebrae	Male	Area A	Area B	Female	Area A	Area B
Cervical	**1**	2.5	5.6	**1**	0.0	6.7
	2	11.0	5.8	**2**	0.0	13
	3	22.2	20	**3**	0.0	18.6
	4	30.0	20	**4**	7.7	27.9
	5	25.9	20.8	**5**	0.0	41.9
	6	29.5	20.4	**6**	0.0	43.5
	7	23.3	15.7	**7**	0.0	30.2
Thoracic	**1**	9.7	0	**1**	0.0	10.4
	2	9.7	1.8	**2**	0.0	0
	3	5.5	1.7	**3**	0.0	4.2
	4	6.5	0	**4**	9.1	5.9
	5	8.7	3.4	**5**	9.1	22.9
	6	15.4	6.6	**6**	10.0	25
	7	13.2	4.7	**7**	9.1	14.9
	8	8.7	6.5	**8**	9.1	15.7
	9	12.8	4.9	**9**	0.0	16.3
	10	13.0	12.9	**10**	11.1	20.8
	11	13.8	11.1	**11**	0.0	24
	12	9.6	10.9	**12**	0.0	14
Lumbar	**1**	9.5	9.1	**1**	0.0	13
	2	9.7	9	**2**	10.0	9.1
	3	7.9	9.9	**3**	10.0	10.7
	4	15.2	14.5	**4**	9.1	16.1
	5	14.6	14.9	**5**	9.1	26.3
Sacrum		13.2	6		0.0	24.6

Table 11 Percentage of male and female vertebrae affected by Schmorl's nodes

	Thoracic												Lumbar				
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**	**4**	**5**
Male	–	–	–	3.3	14.7	28.9	32.2	33.1	35.5	37.7	37.6	36.7	26.7	28.8	23.8	13	5.1
Female	–	–	1.7	4.8	15.3	19	24.1	35.5	33.9	29.8	32.2	23.7	25	26.2	24.2	14.9	2.9
Total	**–**	**–**	**0.5**	**3.6**	**15.1**	**26.4**	**29.8**	**33.2**	**35.2**	**35.3**	**36.1**	**32.5**	**26.1**	**27.6**	**23.9**	**13.8**	**4.9**

Table 12 Percentage of male and female vertebrae affected by Schmorl's nodes in Areas A and B

		Area A						Area B					
		Male	Female	Unknown	Total	Total vertebrae	%	Male	Female	Unknown	Total	Total vertebrae	%
Thoracic	**1**	0	0	0	0	106	0	0	0	0	0	108	0
	2	0	0	0	0	106	0	0	0	0	0	108	0
	3	0	0	0	0	104	0	0	1	0	1	109	0.9
	4	1	1	0	2	105	1.9	4	2	0	6	112	5.4
	5	14	3	0	17	104	16.3	8	6	1	15	108	13.9
	6	24	2	1	27	102	26.5	20	9	0	29	110	26.4
	7	28	3	0	31	103	30.1	22	11	0	33	112	29.5
	8	30	5	1	36	104	34.6	21	17	0	38	114	33.3
	9	35	5	1	41	105	39	20	15	0	35	111	31.5
	10	33	5	1	39	103	37.9	25	12	0	37	112	33
	11	35	3	1	39	105	37.1	24	16	0	40	114	35.1
	12	31	2	0	33	106	31.1	27	12	0	39	115	33.9
Lumbar	**1**	26	2	1	29	108	26.9	17	14	0	31	122	25.4
	2	27	2	0	29	105	27.6	19	15	0	34	123	27.6
	3	23	2	0	25	102	24.5	15	14	1	30	128	23.4
	4	11	2	0	13	106	12.3	10	8	1	19	126	15.1
	5	6	1	0	7	104	6.7	2	1	1	4	124	3.2
Sacrum		3			3	105	2.9				0	125	
Totals		328						235	155			136	

Table 13 Comparison of Schmorl's nodes between males and females

	Area	Young	Middle	Mature	Unknown	Total	Total individuals	Total %
Male	A	20	22	24	2	68	104	65.4
	B	18	16	14	1	49	74	66.2
Total		**38**	**38**	**38**	**3**	**117**	**178**	**65.7**
Female	A	3	0	2	1	6	14	42.9
	B	9	10	17	1	37	159	62.7
Total		**12**	**10**	**19**	**2**	**43**	**173**	**58.9**