

CONTENTS

<i>List of Figures</i>	<i>page</i> ix
<i>Preface</i>	xi
PART I INTRODUCTION AND CONCEPTS	
1 An Introduction to the Development of Palaeopathology	3
1.1 Beginnings	3
1.2 Relics	5
1.3 Curiosities	6
1.4 And So, Back to Esper	8
1.5 An Obsession with Skulls	9
1.6 The First Palaeopathologist	16
1.7 Post-Bellum Developments	20
2 Basic Assumptions	23
2.1 The Response to Pathological Stimuli	23
2.2 Bone Cells and Cytokines	26
2.3 Maximum Bone Mass	32
2.4 Bone Metabolism and the Bone Remodelling Unit	32
2.5 Pathological Mechanisms	35
2.6 The Antiquity of Bone	37
2.7 The Stability of Reaction to Pathological Insults	38
2.8 The Expression of Disease	40
2.9 Pathology, Pseudo-Pathology and Normal Variation	44
3 Health and Disease	47
3.1 Health	47
3.2 Some Theories of Health . . .	48
3.3 . . . And Disease	52
3.4 A Model of Health and Disease (and Some Definitions)	55
3.5 The Consequences for Palaeopathology	58

vi CONTENTS

4	Diagnosis	60
4.1	Diagnosis in the Past	62
4.2	Diagnosis in Modern Clinical Practice	63
4.3	Diagnosis in Palaeopathology	66
PART II PATHOLOGY		
5	Joint Diseases 1: Osteoarthritis	73
5.1	Osteoarthritis	76
5.2	Precipitants of Osteoarthritis	78
5.3	Other Types of Osteoarthritis	80
5.4	The Natural History of Osteoarthritis	82
5.5	Diagnosis of Osteoarthritis	84
5.6	Osteoarthritis at Individual Sites	85
5.7	The Association between Osteoarthritis and Some Other Conditions	91
5.8	Osteoarthritis in Animals	94
6	Joint Diseases 2: The Erosive Arthropathies	96
6.1	Rheumatoid Arthritis	96
6.2	The Pathophysiology of Rheumatoid Arthritis	99
6.3	Seronegative Arthropathies	103
6.4	Erosive Osteoarthritis	103
6.5	The Spondyloarthritides	106
6.6	Ankylosing Spondylitis	107
6.7	Reactive Spondyloarthropathy (Reiter's Syndrome)	111
6.8	Psoriatic Arthropathy	114
6.9	Enteropathic Arthropathy	116
6.10	Undifferentiated Spondyloarthritides	117
6.11	Juvenile Arthritis	118
6.12	Gout and Other Crystal Arthropathies	118
6.13	Other Crystal Arthropathies	122
6.14	Bunions	122
7	Spinal Pathology	125
7.1	Intervertebral Disc Disease (IVD)	125
7.2	Schmorl's Nodes	128
7.3	Ossification of the Ligamentum Flavum	129
7.4	Diffuse Idiopathic Skeletal Hyperostosis	129
7.5	Ossification in the Posterior Longitudinal Ligament	134
7.6	Kyphosis and Scoliosis	135
7.7	Klippel–Feil Syndrome	139
7.8	Spondylolysis and Spondylolisthesis	140
7.9	Baastrup's Disease	142
7.10	Other Spinal Anomalies	143

8 Infectious Diseases	147
8.1 Osteomyelitis	148
8.2 Special Forms of Osteomyelitis	151
8.3 Tuberculosis	154
8.4 Leprosy	162
8.5 Venereal Syphilis	167
8.6 The Origins of Syphilis	169
8.7 Changes in the Skeleton	171
8.8 Poliomyelitis	174
8.9 Smallpox	175
8.10 Fungal Infections of Bone	176
8.11 Parasitic Disease	176
8.12 Non-specific Infections	179
9 Metabolic Diseases	188
9.1 Osteoporosis	188
9.2 Paget's Disease of Bone (PDB)	193
9.3 Rickets and Osteomalacia	198
9.4 Osteomalacia	201
9.5 Scurvy	202
9.6 Other Metabolic Diseases	205
10 Trauma	208
10.1 Fractures and Dislocations	208
10.2 Fractures	210
10.3 Dislocations and Subluxations	221
10.4 Wounding	223
10.5 Amputation	225
10.6 Trephination	228
10.7 The Autopsy	229
10.8 Legalised Trauma	232
11 Neoplastic Diseases	235
11.1 Epidemiology of Bone Tumours	235
11.2 Benign Tumours	237
11.3 Malignant Tumours	247
11.4 Metastatic Bone Tumours	254
12 Disorders of Growth and Development	262
12.1 Normal Growth	262
12.2 Abnormal Growth and Development	266
12.3 Dwarfism	266
12.4 Gigantism	278
12.5 Disorders of Skull Growth	279
12.6 Developmental Disorders of the Hips	282

viii CONTENTS

12.7	Hemimelia	285
12.8	Os Acromiale	289
12.9	Fibrous Dysplasia	289
13	Special Pathology	292
13.1	Neuropathology	292
13.2	Soft-Tissue Lesions	296
13.3	Bone Forming and Bone Formers	302
13.4	Hyperostosis Frontalis Interna	304
13.5	Anaemia	305
13.6	Stones and Cysts	307
14	Dental Disease	310
14.1	Caries	310
14.2	Ante-mortem Tooth Loss	313
14.3	Periodontal Disease	314
14.4	Dental Calculus	315
14.5	Periapical Cavities	316
14.6	Developmental Defects of Enamel	318
14.7	Dental Tumours	321
14.8	Dental Cysts	322
PART III ANALYSIS		
15	Analysis	325
15.1	What Are We Dealing With?	325
15.2	The Frequency of Disease	326
15.3	Comparing Prevalences	331
15.4	Qualitative Comparisons	336
15.5	A Problem	339
15.6	Death Rates	340
15.7	Case-Control (Case-Referent) Studies	343
16	Interpretation	345
16.1	Morphology and Morbidity	346
16.2	Being at the Wrong End	347
16.3	Osteoarthritis and Occupation	348
16.4	Stress Markers and Their Relation to the Mortality of Children	351
16.5	Height and Longevity	353
16.6	Implications for Palaeopathology of Wrong-End Epidemiology	354
	<i>Index</i>	356