

Contents *Homo sapiens, the rational animal*

Preface: <i>Homo sapiens, the rational animal</i>	vii
Chapter 1 Evolution, genetics, and systematics	1
1.1 The theory of evolution	1
1.2 Population and evolutionary genetics	9
1.3 The classification of living beings	33
Chapter 2 The evolution of hominoids	44
2.1 Hominoid taxonomy	44
2.2 Early Miocene hominoids	54
2.3 Middle Miocene: the migration of apes out of Africa	61
2.4 Late Miocene: the divergence of great apes	70
Chapter 3 The hominin lineage	81
3.1 The origin of hominins	81
3.2 Bipedal locomotion	92
Chapter 4 Miocene and Pliocene genera and species	106
4.1 The first hominins	106
4.2 <i>Australopithecus</i>	117
Chapter 5 Pliocene hominins: South Africa and the Rift Valley	135
5.1 South African sites	135
5.2 South African hominins of the Pliocene	145
5.3 The "gracile" and "robust" alternatives in East Africa	156
Chapter 6 The Pliocene cladogenesis: <i>Paranthropus</i> versus <i>Homo</i>	166
6.1 Evidence from Koobi Fora	166
6.2 Alternatives in the evolution of robust and gracile clades	181
Chapter 7 The radiation of <i>Homo</i>	194
7.1 Asian <i>Homo erectus</i>	194
7.2 The <i>erectus</i> grade in Africa	205
Chapter 8 Evolutionary characteristics of the <i>erectus</i> grade	216
8.1 Cultural patterns in the migration out of Africa	216
8.2 The earliest cultures	228
8.3 <i>Homo</i> in Europe	241

Chapter 9 The late-Pleistocene transition	253
9.1 Archaic <i>Homo sapiens</i>	253
9.2 Neanderthals	271
9.3 Molecular data	287
9.4 The origin of modern humans	300
Chapter 10 The uniqueness of being human	314
10.1 Culture and mental traits during the late Paleolithic	314
10.2 The origins of symbolism	326
10.3 The origin of language	339
10.4 The evolution of moral behavior	353
Glossary	367
References	377
Index	419