Contents

Preface		xi
1 T	The Biological Background	1
T T C	The fact of evolution The path of evolution The theory of evolution: natural selection The theory of evolution: modern genetics Good science? Conclusion	1 4 16 18 20 27
2 E	Evolutionary Epistemology	29
S T T T E K	Evolution as analogy Herbert Spencer and the law of progress Stephen Toulmin's Darwinian model The analogy considered: the fact of evolution The analogy considered: the path of evolution The analogy considered: the cause of evolution The analogy considered: the path of evolution The analogy considered: the cause	31 37 45 46 49 53 58 61 65
3 E	Evolutionary Ethics	67
E S V	Moral issues Evolution and ethics Herbert Spencer and the moral value of progress Spencerian problems Villiam Graham Sumner and Social Darwinism Thomas Henry Huxley and his stand against nature	68 71 73 75 78 82
	Hume's law and the naturalistic fallacy	86

viii Contents

	Is the natural innately good? Edward O. Wilson and the foundations of morality The evolution of the moral sense Conclusion	90 93 99 101
4	Human Evolution	103
	The fact of human evolution The path of human evolution The cause of human evolution The problem of culture The biology of language Ape language Is culture independent of biology? Epigenetic rules Conclusion	104 109 115 123 126 134 140 143
5	Darwinian Epistemology	148
	The nature of science Scientific reasoning The case for a biological backing The case for (continued) The case against The rivals to science Philosophical precursor: Kant? Philosophical precursor: Hume? Common-sense realism Metaphysical scepticism Konrad Lorenz and the biological a priori The ultimate foundations Conclusion	149 155 160 164 168 174 178 182 184 192 196 199 206
6	Darwinian Ethics	207
	Substantive ethics Meta-ethics The evolution of morality The empirical evidence: social animals The empirical evidence: chimpanzees The empirical evidence: humans Substantive ethics reconsidered: utilitarianism My family and other animals To give and not to count the cost Substantive ethics reconsidered: Kantianism Moral disagreements Darwinian meta-ethics Objectifying morality Stepping around Hume's law Freedom of choice	208 213 217 223 227 230 235 238 242 244 247 250 252 256 258
	Possible precursor: Kant?	262

Contents	ix
Possible precursor: Hume? Looking forward	266 269
Conclusion	273
References	280
Index	297