Contents

I PHILOSOPHY 🍋

Introduction 1

- I Is Biology an Autonomous Science? 8
- 2 Cause and Effect in Biology 24
- 3 The Multiple Meanings of Teleological 38
- 4 The Probability of Extraterrestrial Intelligent Life 67
- 5 The Origins of Human Ethics 75
- II NATURAL SELECTION 🌤

Introduction 93

- 6 An Analysis of the Concept of Natural Selection 95
- 7 Philosophical Aspects of Natural Selection 116
- III ADAPTATION 🍋

Introduction 127

8 Adaptation and Selection 133

9 How To Carry Out the Adaptationist Program? 148

IV DARWIN 🍋

Introduction 161

- 10 Darwin, Intellectual Revolutionary 168
- 11 The Challenge of Darwinism 185
- 12 What Is Darwinism? 196
- 13 Darwin and Natural Selection 215
- 14 The Concept of Finality in Darwin and after Darwin 233
- 15 The Death of Darwin? 258

V DIVERSITY 🍋

Introduction 265

- 16 Toward a Synthesis in Biological Classification 268
- 17 Museums and Biological Laboratories 289
- 18 Problems in the Classification of Birds 295
- VI SPECIES 🍋

Introduction 313

- 19 The Species Category 315
- 20 The Ontology of the Species Taxon 335
- VII SPECIATION 🍋

Introduction 359

- 21 Processes of Speciation in Animals 364
- 22 Evolution of Fish Species Flocks 383
- VIII MACROEVOLUTION 🍋

Introduction 399

- 23 Does Microevolution Explain Macroevolution? 402
- 24 The Unity of the Genotype 423
- 25 Speciation and Macroevolution 439
- 26 Speciational Evolution through Punctuated Equilibria 457
- IX HISTORICAL PERSPECTIVE 🍋

Introduction 489

- 27 On Weismann's Growth as an Evolutionist 491
- 28 On the Evolutionary Synthesis and After 525

Index 555