

# Contents

<i>Preface</i>	viii
<i>Acknowledgments</i>	xi
<i>List of Contributors</i>	xii
<i>Introduction</i>	1
<b>I. BACKGROUND MATERIALS</b>	
EDITOR'S PREFACE	21
1. Balfour versus Huxley on Evolutionary Naturalism: A Twenty-First-Century Perspective	27
<i>John Greene</i>	
2. From Paley to Darwin: Design to Natural Selection	50
<i>Francisco J. Ayala</i>	
3. Reduction, Emergence, Naturalism, Dualism, Teleology: A Précis	76
<i>Francisco J. Ayala</i>	
4. Egg-to-Adult, Brain-to-Mind, and Ape-to-Human Transformations	88
<i>Francisco J. Ayala</i>	
5. Neo-Darwinism: Scientific Account and Theological Attributions	99
<i>Jeffrey Schloss</i>	

## II. TO BROADEN AND DIVERSIFY EVOLUTIONARY THEORY

EDITOR'S PREFACE	121
6. Six Scientific Alternatives to Neo-Darwinism <i>A. Y. Gunter</i>	128
7. Evolution, Complexity, and Energy Flow <i>Dorion Sagan</i>	145
8. Hydrogen: Humanity's Maker and Breaker <i>Reg Morrison</i>	157
9. Gaia and Machines <i>Lynn Margulis</i>	167
10. The Role of Symbiogenesis in Evolution <i>Lynn Margulis and Dorion Sagan</i>	176
11. Punctuated Equilibrium and Species Selection <i>Francisco J. Ayala</i>	185
12. The Baldwin Effect <i>Francisco J. Ayala</i>	193
13. Evolution and Process Thought <i>Ian G. Barbour</i>	196
14. Organisms as Agents in Evolution <i>John B. Cobb, Jr.</i>	215

## III. THE PHILOSOPHICAL CHALLENGE TO NEO-DARWINISM

EDITOR'S PREFACE	245
15. Why Aren't We Zombies? Neo-Darwinism and Process Thought <i>Charles Birch</i>	250

16. Introduction to “The Metaphysics of Consciousness and Evolution”	263
<i>Robert J. Valenza</i>	
17. Neo-Darwinism and Its Religious Implications	268
<i>David Ray Griffin</i>	
18. Process and Emergence	288
<i>Philip Clayton</i>	
 <b>IV. EVOLUTION AND GOD</b>	
EDITOR’S PREFACE	311
19. Darwinism, Design, and Cosmic Purpose	319
<i>John F. Haught</i>	
20. Divine Providence and the Question of Evolutionary Directionality	330
<i>Jeffrey P. Schloss</i>	
21. From Calvinism to Claremont: Now That’s Evolution! Or, From Calvin’s Supernaturalism to Griffin’s Theistic Naturalism	351
<i>Howard J. Van Till</i>	
22. Whitehead’s Naturalism and a Non-Darwinian View of Evolution	364
<i>David Ray Griffin</i>	
23. What God Does	391
<i>John B. Cobb, Jr.</i>	
APPENDIX: The Metaphysics of Consciousness and Evolution	412
<i>Robert J. Valenza</i>	