

# Contents

<i>Introduction</i>	1
---------------------	---

## PART I

<b>1. The Construction of a New World Picture</b>	11
The Completeness of Natural Philosophy	13
A New Metaphysics	17
Physico-Theology	30
The Rationalization of Religion	40
<b>2. The Mathematical Principles of Natural Philosophy</b>	55
From <i>Principia Philosophiae</i> to <i>Principia Mathematica</i>	57
The Structure of Newton's <i>Principia</i>	64
Gravitation: Matter Theory versus Mechanics	83

## PART II

<b>3. The Metaphysical Unity of Natural Philosophy</b>	97
Leibniz and the Unity of Knowledge	98
The Role of Metaphysics	104
Leibnizian Dynamics	115
Demonstration: Geometry versus Analysis	125
Phenomenalism and the Rise of Rational Mechanics	145
<b>4. From Experimental Philosophy to Empiricism</b>	150
The Vindication of Experimental Philosophy	157
The Origins of Locke's <i>Essay</i>	163
Natural Philosophy and Primary Qualities	170
Locke and the Defence of Newton	184
<b>5. Explaining the Phenomena</b>	187
The 'Nature' of Species	188
The 'Nature' of Electricity	196
The 'Nature' of Metals	206
Causation and Explanation	217

## PART III

<b>6. Natural Philosophy and the Republic of Letters</b>	229
The Académie des Sciences and the Republic of Letters	232
Vortices, Attraction, and the Shape of the Earth	247
<b>7. The Realm of Reason</b>	257
The Birth of the <i>Philosophe</i>	257
The <i>Encyclopédie</i>	269
Reason and the Unity of Knowledge	283

## PART IV

<b>8. The Fortunes of a Mechanical Model for Natural Philosophy</b>	293
Explanatory Models and the Unity of Natural Philosophy	294
Mechanics as an A Priori Discipline	304
The Limits of Mechanics	317
<b>9. Material Activity</b>	328
The Resurgence of an Autonomous Matter Theory	330
Electrified Matter	336
The Chemistry of Fluids and Sympathies	350
<b>10. Living and Dead Matter</b>	355
Matter and Activity	356
A Developmental History of the World	365

## PART V

<b>11. The Realm of Sensibility</b>	387
From Sensibility to Sensibilism	389
Physiological Sensitivity	394
Moral Sensibility	402
The Unity of Sensibility	409

<b>12. Historical Understanding and the Human Condition</b>	421
The History of Manners	423
From Myth to Reason	427
Reason and Sensibility	438
The Varieties of Understanding	444
Conclusion	453
<i>Bibliography of Works Cited</i>	454
<i>Index</i>	493