Contents

Foreword	v
Preface	xiii
Chapter 1. Clockwork	1
Intermission 1A: A Technical Defeat of Determinism	10
Intermission 1B: The Debate on Determinism in Physics	15
Chapter 2. A DNA Blueprint	19
Intermission 2A: From Genes to DNA	27
Chapter 3. A Network of Neurons	31
Intermission 3A: What Makes Mental Concepts Unique	41
Intermission 3B: Are We the Only Rational Beings on Earth?	43
Chapter 4. Thoughts, Hopes, and Dreams	47
Intermission 4A: The Mirror Test	57
Intermission 4B: Is There a Ghost in the Machine?	60
Chapter 5. What Ought to Be Done	63
Intermission 5A: Human Dignity	71
Intermission 5B: Is There Altruism in the Animal World?	73
Chapter 6. Help from Beyond	77
Intermission 6A: The Boundary Conditions of the Universe	91
Intermission 6B: What Obscures the Grand Beyond	94
Chapter 7. A New Neuroscience	97
Intermission 7A: Thinking Animals	107
Intermission 7B Do Machines Think Like We Do?	111
Chapter 8. The Shadow of a Paradigm Shift	115
Index	129