Contents

Notes on Contributors vii
Preface xi
Introduction: What is the Philosophy of Science? 1

DO THOUGHT EXPERIMENTS TRANSCEND EMPIRICISM? 21
1 Why Thought Experiments Transcend Empiricism *James Robert Brown* 23
2 Why Thought Experiments do not Transcend Empiricism *John D. Norton* 44

DOES PROBABILITY CAPTURE THE LOGIC OF SCIENTIFIC CONFIRMATION OR JUSTIFICATION? 67
3 Probability Captures the Logic of Scientific Confirmation *Patrick Maher* 69
4 Why Probability does not Capture the Logic of Scientific Justification *Kevin T. Kelly and Clark Glymour* 94

CAN A THEORY'S PREDICTIVE SUCCESS WARRANT BELIEF IN THE UNOBSERVABLE ENTITIES IT POSTULATES? 115
5 A Theory's Predictive Success can Warrant Belief in the Unobservable Entities it Postulates *Jarrett Leplin* 117
6 A Theory's Predictive Success does not Warrant Belief in the Unobservable Entities in Postulates *André Kukla and Joel Walmsley* 133

ARE THERE LAWS IN THE SOCIAL SCIENCES? 149
7 There are no Laws of the Social Sciences *John T. Roberts* 151
8 There are Laws in the Social Sciences *Harold Kincaid* 168

ARE CAUSES PHYSICALLY CONNECTED TO THEIR EFFECTS? **187**

9 Causes are Physically Connected to their Effects: Why Preventers and Omissions are not Causes *Phil Dowe* 189

10 Causes need not be Physically Connected to their Effects: The Case for Negative Causation *Jonathan Schaffer* 197

IS THERE A PUZZLE ABOUT THE LOW-ENTROPY PAST? **217**

11 On the Origins of the Arrow of Time: Why there is Still a Puzzle about the Low-Entropy Past *Huw Price* 219

12 There is no Puzzle about the Low-Entropy Past *Craig Callender* 240

DO GENES ENCODE INFORMATION ABOUT PHENOTYPIC TRAITS? **257**

13 Genes Encode Information for Phenotypic Traits *Sahotra Sarkar* 259

14 Genes do not Encode Information for Phenotypic Traits *Peter Godfrey-Smith* 275

IS THE MIND A SYSTEM OF MODULES SHAPED BY NATURAL SELECTION? **291**

15 The Mind is a System of Modules Shaped by Natural Selection *Peter Carruthers* 293

16 The Mind is not (just) a System of Modules Shaped (just) by Natural Selection *James Woodward and Fiona Cowie* 312

Index 335