TABLE OF CONTENTS

PREFACE

PART I/SYMPOSIUM: SPACE, TIME AND MATTER: THE FOUNDATIONS OF GEOMETRODYNAMICS

v

ADOLF GRÜNBAUM / Space, Time, and Matter: The Foundations	
of Geometrodynamics. Introductory Remarks	3
CHARLES W. MISNER / Some Topics for Philosophical Inquiry	
Concerning the Theories of Mathematical Geometrodynamics	
and of Physical Geometrodynamics	7
JOHN STACHEL / The Rise and Fall of Geometrodynamics	31

PART II / PHILOSOPHICAL PROBLEMS OF BIOLOGY AND PSYCHOLOGY

STUART KAUFFMAN / Elsasser, Generalized Complementarity,	
and Finite Classes: A Critique of His Anti-Reductionism	57
WILLIAM C. WIMSATT / Complexity and Organization	67
RICHARD F. KITCHENER / B. F. Skinner – The Butcher, The	
Baker, The Behavior-Shaper	87

PART III/SYMPOSIUM: FUNDAMENTAL PROBLEMS IN THE CONCEPT OF RANDOMNESS

WESLEY C. SALMON / Fundamental Problems in the Concept	
of Randomness. Dedication to Leonard J. Savage	101
J. ALBERTO COFFA / Randomness and Knowledge	103
IRVING JOHN GOOD / Random Thoughts about Randomness	117
HENRY E. KYBURG / Randomness	137

TABLE OF CONTENTS

PART IV / HISTORICAL ISSUES IN THE PHILOSOPHY OF SCIENCE

JILL VANCE BUROKER / Kant, the Dynamical Tradition, and the Role of Matter in Explanation 153

PART V/PHILOSOPHICAL PROBLEMS OF THE SOCIAL SCIENCES

THOMAS MCCARTHY / The Operation Called Verstehen: To-	
wards a Redefinition of the Problem	167
N. KOERTGE / On Popper's Philosophy of Social Science	195
LAIRD ADDIS / Monistic Theories of Society	209

PART VI/SYMPOSIUM: VALUES, IDEOLOGY AND OBJECTIVITY IN THE SOCIAL SCIENCES

MICHAEL SCRIVEN / The Exact Role of Value Judgments in Science 219

PART VII/PHILOSOPHICAL PROBLEMS OF THE PHYSICAL SCIENCES

NANCY CARTWRIGHT / A Dilemma for the Traditional Inter-	
pretation of Quantum Mixtures	251
PAUL FITZGERALD / Nowness and the Understanding of Time	259

PART VIII/SYMPOSIUM: MODALITY AND THE ANALYSIS OF SCIENTIFIC PROPOSITIONS

ALDO BRESSAN / On the Usefulness of Modal Logic in Axiomat-	
izations of Physics	285
PATRICK SUPPES / The Essential but Implicit Role of Modal	
Concepts in Science	305
ALDO BRESSAN / Comments on Suppes' Paper: The Essential but	
Implicit Role of Modal Concepts in Science	315

TABLE OF CONTENTS	IX
BAS C. VAN FRAASSEN / Bressan and Suppes on Modality ALDO BRESSAN / Replies to van Fraassen's Comments: Bressan and Suppes on Modality	323
	331
PART IX/SCIENTIFIC EXPLANATION	
JAMES H. FETZER / Statistical Explanations	337
RONALD C. HOPSON / The Objects of Acceptance: Competing Scientific Explanations	349
PART X/TRUTH AND REALISM IN SCIENCE	
MICHAEL BRADIE / Is Scientific Realism a Contingent Thesis?	367
HENRY C. BYERLY / Realist Foundations of Measurement	375
PART XI/SYMPOSIUM: DISCOVERY, RATIONALITY AND PROGRESS IN SCIENCE	
STEPHEN TOULMIN / Rationality and Scientific Discovery DUDLEY SHAPERE / Discovery, Rationality, and Progress in	387
Science: A Perspective in the Philosophy of Science	407
PART XII / INDUCTIVE LOGIC	

ALEX C. MICHALOS / Rationality Between the Maximizers and the Satisficers 423