

TABLE OF CONTENTS

PREFACE	v
HOMAGE TO RUDOLF CARNAP	xI

Herbert Feigl, Carl G. Hempel, Richard C. Jeffrey, W. V. Quine, A. Shimony, Yehoshua Bar-Hillel, Herbert G. Bohnert, Robert S. Cohen, Charles Hartshorne, David Kaplan, Charles Morris, Maria Reichenbach, Wolfgang Stegmüller

SYMPOSIUM: THEORETICAL ENTITIES IN STATISTICAL EXPLANATION

JAMES G. GREENO / Theoretical Entities in Statistical Explanation	3
WESLEY C. SALMON / Explanation and Relevance: Comments on James G. Greeno's 'Theoretical Entities in Statistical Explanation'	27
RICHARD C. JEFFREY / Remarks on Explanatory Power	40

SYMPOSIUM: CAPACITIES AND NATURES

MILTON FISK / Capacities and Natures	49
ERNAN MCMULLIN / Capacities and Natures: An Exercise in Ontology	63
BRUCE AUNE / Fisk on Capacities and Natures	83

SYMPOSIUM: HISTORY OF SCIENCE AND ITS RATIONAL RECONSTRUCTION

IMRE LAKATOS / History of Science and Its Rational Reconstructions	91
--	----

THOMAS S. KUHN / Notes on Lakatos	137
HERBERT FEIGL / Research Programmes and Induction	147
RICHARD J. HALL / Can We Use the History of Science to Decide Between Competing Methodologies?	151
NORETTA KOERTGE / Inter-Theoretic Criticism and the Growth of Science	160
IMRE LAKATOS / Replies to Critics	174

CONTRIBUTED PAPERS

I. Observation

PETER K. MACHAMER / Observation	187
BURKE TOWNSEND / Feyerabend's Pragmatic Theory of Observation and the Comparability of Alternative Theories	202
J. O. WISDOM / Observations as the Building Blocks of Science in 20th-Century Scientific Thought	212

II. Philosophical Problems of Biology

EDWARD MANIER / Functionalism and the Negative Feedback Model in Biology	225
WILLIAM C. WIMSATT / Some Problems with the Concept of 'Feedback'	241
STUART A. KAUFFMAN / Articulation of Parts Explanation in Biology and the Rational Search for Them	257

III. Equivalence, Analyticity, and In-Principle Confirmability

CLARK GLYMOUR / Theoretical Realism and Theoretical Equivalence	275
JOHN A. WINNIE / Theoretical Analyticity	289
EDWARD ERWIN / The Confirmation Machine	306

IV. Probability, Statistics and Acceptance

JAAKKO HINTIKKA / Unknown Probabilities, Bayesianism, and de Finetti's Representation Theorem	325
WILLIAM W. ROZEBOOM / New Dimensions of Confirmation Theory II: The Structure of Uncertainty	342
ALEX C. MICHALOS / Cost-Benefit vs Expected Utility Acceptance Rules	375
BEN ROGERS / Material Conditions on Tests of Statistical Hypotheses	403

V. Problems in Quantum Physics; Genetic Epistemology

PAUL FITZGERALD / Tachyons, Backwards Causation, and Freedom	415
GEN-ICHIRO NAGASAKA / The Einstein-Podolsky-Rosen Paradox Reexamined	437
MILIČ ČAPEK / The Significance of Piaget's Researches on the Psychogenesis of Atomism	446

VI. Theoretical Pluralism; Understanding; Methodological Agreement

ANDREW MCLAUGHLIN / Method and Factual Agreement in Science	459
---	-----

VII. Induction and Reduction

JAMES H. FETZER / Dispositional Probabilities	473
BERNARD GENDRON / On the Relation of Neurological and Psychological Theories: A Critique of the Hardware Thesis	483
NELSON POLE / 'Self-supporting' Inductive Arguments	496

VIII. Scientific Theories: Comparison and Change

SCOTT A. KLEINER / Ontological and Terminological Commitment and the Methodological Commensurability of Theories	507
--	-----

CARL R. KORDIG / Objectivity, Scientific Change, and Self-Reference	519
WARREN D. SIEMENS / A Logical Empiricist Theory of Scientific Change?	524
<i>IX. The Future of Philosophy of Science; Theory in the Social Sciences</i>	
RONALD N. GIERE / The Structure, Growth and Application of Scientific Knowledge: Reflections on Relevance and the Future of Philosophy of Science	539
STEPHEN TOULMIN / From Logical Systems to Conceptual Populations	552
PAUL G. MORRISON / Two Kinds of Theory in the Social Sciences	565
<i>X. Relativity and Congruence</i>	
CARLO GIANNONI / Einstein and the Lorentz-Poincaré Theory of Relativity	575
EDWIN LEVY / Competing Radical Translations: Examples, Limitations and Implications	590
GERALD J. MASSEY / Is 'Congruence' A Peculiar Predicate?	606