The Philosophy of Karl Popper

Karl Popper is one of the greatest and most influential philosophers of the twentieth century. Perhaps his greatest book, *The Logic of Scientific Discovery*, sets out his epistemology of critical rationalism, while his most famous book, *The Open Society and Its Enemies*, applies the principles of critical rationalism to social philosophy.

Herbert Keuth’s book (first published in German in 2000) is a systematic exposition of Popper’s philosophy covering, in Part I, the philosophy of science; in Part II, the social philosophy; and in Part III, the later metaphysics, in particular the theses proposed by Popper to solve the indeterminism/determinism and mind/body problems, and the famous idea of a third world of objective thought contents.

This book is more comprehensive than any current introduction to Popper. Owing to its perspicuous structure and lucid exposition, it could be used in courses in both the philosophy of science and the philosophy of social science.

Herbert Keuth is Professor of Philosophy of Science at Eberhard Karls Universität, Tübingen.
The Philosophy of Karl Popper

HERBERT KEUTH
Eberhard Karls Universität, Tübingen
To Marianne
## Contents

<table>
<thead>
<tr>
<th>List of Abbreviations</th>
<th>page xiii</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preface</td>
<td>xv</td>
</tr>
<tr>
<td>Introduction</td>
<td>1</td>
</tr>
</tbody>
</table>

### PART I. THE PHILOSOPHY OF SCIENCE

1 The Two Fundamental Problems in the Theory of Knowledge
   1.1 The Problem of Induction
      1.11 Hume’s Logical Problem
      1.12 Hume’s Empirical Problem
      1.13 Popper’s ‘Restatement and Solution’ of the Logical Problem
   1.2 The Problem of Demarcation
      1.21 Falsifiability as a Criterion of Demarcation
      1.22 The Problem of Meaning
      1.23 Are Metaphysical Statements Open to Criticism?
      1.24 Objections to the Criterion of Demarcation
      1.25 From Falsifiability to Testability
      1.26 What Is Demarcation For?

2 The Role of Theories
   2.1 The Principle of Causality and the “Regularity Theory” of Causation
   2.2 Causal Explanation
      2.21 Formal Requirements of Adequate Explanation
      2.22 Material Requirements of Adequate Explanation
   2.3 Prediction

© Cambridge University Press www.cambridge.org
2.4. Strict and Numerical Universality 63
2.5. Universal Concepts and Individual Concepts 64
2.6. Strictly Universal and Existential Statements 65

3. On the Problem of a Theory of Scientific Method 66
3.1. Why Methodological Decisions are Indispensable 66
3.2. The “Naturalistic” Approach to the Theory of Method 67
3.3. Methodological Rules as Conventions 68
3.4. Methodological Rules against Conventionalist Stratagems 71
3.5. On Popper’s “Negative Methodology” 74
3.6. The Duhem–Quine Thesis 76
3.6.1. Duhem’s Holism 77
3.6.2. Quine’s Criticism of the “Dogmas of Empiricism” 79

4. The Problem of the Empirical Basis 85
4.1. Psychologism and the Debate on Protocol Sentences 86
4.2. Physiology and Epistemology 89
4.3. Formal Properties of Basic Statements 94
4.4. Material Properties of Basic Statements 96
4.5. The Transcendence Inherent in Any Description 97
4.6. Resolution of the Trilemma 100
4.7. Why Judgments on Basic Statements Depend on Theories 103

5. Corroboration 109
5.1. Quasi-induction by Testing Hypotheses 110
5.2. Number and Severity of Tests 113
5.3. Degrees of Testability 114
5.4. The Degree of Corroboration 118
5.4.1. The Formal Definition 119
5.4.2. Purpose and Appropriateness of the Definition 122
5.4.3. On the Revisability of Corroborative Appraisals 123
5.5. Four Problems of Induction 124
5.5.1. On the Distinction between Good and Bad Theories 125
5.5.2. On the Problem of Rational Belief 126
5.5.3. On Hume’s Problem of Tomorrow 129
5.5.4. On the Problem of Regularities 131
5.6. Pragmatic Induction or Realist Taking to Be True 133
5.6.1. On the Requirement of a Pragmatic Principle of Induction 133
5.6.2. Truth and Realist Interpretation of Statements 135

6. Realism and the Concept of Truth 139
6.1. Can We Do without the Word “True”? 139
6.2. Tarski’s Semantic Definition of Truth 141
Contents

6.3. Popper’s Version of the Correspondence Theory 145
6.4. On the Standard Use of the Word “True” 148
6.5. On the Realist Interpretation of Statements 149
7 Verisimilitude 151
  7.1. The Customary Idea of Approximation to Truth 152
  7.2. Popper’s Idea of Approximation to the Truth 154
    7.2.1. Comparisons of Contents 155
    7.2.2. The Comparative Definition of Verisimilitude 157
    7.2.3. The Numerical Definition of Verisimilitude 162
8 Probability 166
  8.1. Interpretations of the Calculi of Probability 166
  8.2. Popper’s Modified Frequency Theory 168
    8.2.1. Chance and Convergence 169
    8.2.2. Irregularity and Freedom from Aftereffects 170
    8.2.3. Objective Probability 173
  8.3. The Problem of Decidability 175
  8.4. Formal Systems of Absolute and of Relative Probability 177
  8.5. The Propensity Theory 180
    8.5.1. The Probability of Single Events 182
    8.5.2. From Causality to Propensity 185

PART II. THE SOCIAL PHILOSOPHY

9 Knowledge, Decision, Responsibility 193
10 The Poverty of Historicism 196
  10.1. On the Methodology of the Social Sciences 197
    10.1.1. The Unity of Method 197
    10.1.2. Peculiarities of the Social Sciences 198
  10.2. On the Refutation of Historicism 200
  10.3. Piecemeal Social Engineering 202
11 The Open Society 205
  11.1. Plato 206
    11.1.1. Totalitarian Justice 207
    11.1.2. The Constitutions 210
    11.1.3. Plato’s Political Programme 212
    11.1.4. Plato’s Anti-individualism 214
    11.1.5. Rule and Lying Propaganda 215
    11.1.6. Conventional Criticism of Popper’s Criticism of Plato 216
    11.1.7. Hermeneutical Criticism of Popper’s Criticism of Plato 219
  11.2. Aristotle 222
  11.3. Hegel 223
    11.3.1. Dialectics and Philosophy of Identity 223
    11.3.2. Historicism 226
## Contents

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.33.</td>
<td>State and Society</td>
<td>227</td>
</tr>
<tr>
<td>11.34.</td>
<td>Greatness and Dangers of Hegel’s Way of Thinking</td>
<td>228</td>
</tr>
<tr>
<td>11.4.</td>
<td>Marx</td>
<td>230</td>
</tr>
<tr>
<td>11.4.1.</td>
<td>Sociological Determinism</td>
<td>231</td>
</tr>
<tr>
<td>11.4.2.</td>
<td>The Autonomy of Sociology</td>
<td>231</td>
</tr>
<tr>
<td>11.4.3.</td>
<td>Economic Historicism</td>
<td>232</td>
</tr>
<tr>
<td>11.4.4.</td>
<td>Classes</td>
<td>234</td>
</tr>
<tr>
<td>11.4.5.</td>
<td>The Legal and the Social System</td>
<td>235</td>
</tr>
<tr>
<td>11.4.6.</td>
<td>Marx’s Prophecy</td>
<td>235</td>
</tr>
<tr>
<td>11.4.7.</td>
<td>The Moral Theory of Historicism</td>
<td>238</td>
</tr>
<tr>
<td>11.5.</td>
<td>The Aftermath</td>
<td>238</td>
</tr>
<tr>
<td>11.5.1.</td>
<td>The Sociology of Knowledge</td>
<td>239</td>
</tr>
<tr>
<td>11.5.2.</td>
<td>A Plea for Critical Rationalism</td>
<td>239</td>
</tr>
<tr>
<td>11.6.</td>
<td>On the Meaning of History</td>
<td>241</td>
</tr>
<tr>
<td>11.7.</td>
<td>The Theory of Democracy</td>
<td>242</td>
</tr>
<tr>
<td>12.</td>
<td>The “Positivist Dispute”</td>
<td>243</td>
</tr>
<tr>
<td>12.1.</td>
<td>Horkheimer’s Criticism of “Positivism”</td>
<td>245</td>
</tr>
<tr>
<td>12.2.</td>
<td>Habermas’s Criticism of Critical Rationalism</td>
<td>248</td>
</tr>
</tbody>
</table>

### PART III. METAPHYSICS

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.</td>
<td>Natural Necessity</td>
<td>255</td>
</tr>
<tr>
<td>13.1.</td>
<td>Natural Laws and Strictly Universal Statements</td>
<td>256</td>
</tr>
<tr>
<td>13.2.</td>
<td>Degrees of Universality and Structural Properties of the World</td>
<td>257</td>
</tr>
<tr>
<td>14.</td>
<td>Determinism versus Indeterminism</td>
<td>260</td>
</tr>
<tr>
<td>14.1.</td>
<td>Kinds of Determinism</td>
<td>262</td>
</tr>
<tr>
<td>14.1.1.</td>
<td>“Scientific” Determinism</td>
<td>262</td>
</tr>
<tr>
<td>14.1.2.</td>
<td>Metaphysical Determinism</td>
<td>263</td>
</tr>
<tr>
<td>14.1.3.</td>
<td>Physical Determinism</td>
<td>264</td>
</tr>
<tr>
<td>14.1.4.</td>
<td>Philosophical Determinism</td>
<td>268</td>
</tr>
<tr>
<td>14.2.</td>
<td>Popper’s Criticism of Metaphysical Determinism</td>
<td>269</td>
</tr>
<tr>
<td>14.3.</td>
<td>The Determinist’s Burden of Proof</td>
<td>271</td>
</tr>
<tr>
<td>14.4.</td>
<td>Arguments against ‘Scientific’ Determinism</td>
<td>273</td>
</tr>
<tr>
<td>14.4.1.</td>
<td>Laplace’s Demon and the Principle of Accountability</td>
<td>273</td>
</tr>
<tr>
<td>14.4.2.</td>
<td>Limits of Accountability</td>
<td>275</td>
</tr>
<tr>
<td>14.5.</td>
<td>Arguments for Indeterminism</td>
<td>276</td>
</tr>
<tr>
<td>14.5.1.</td>
<td>The Approximate Character of Scientific Knowledge</td>
<td>276</td>
</tr>
<tr>
<td>14.5.2.</td>
<td>The Asymmetry of the Past and the Future</td>
<td>277</td>
</tr>
<tr>
<td>14.5.3.</td>
<td>On the Prediction of Future Knowledge</td>
<td>279</td>
</tr>
</tbody>
</table>
Contents

14.6. Metaphysical Issues 282
   14.61. On the Motion Picture Analogy 282
   14.62. The Physical Theory of Propensities 284
14.7. Indeterminism Is Not Enough 287

15. The Body-Mind Problem and the Third World 293
   15.1. Objective and Subjective Knowledge 295
      15.11. The Problem of Two Kinds of Knowledge 295
      15.12. The Body-Mind Problem 297
   15.2. The Autonomy of World 3 299
   15.3. World 3 and Emergent Evolution 303
      15.31. On the Prehistory of the Theory of World 3 303
      15.32. Evolutionary Theory in General 304
   15.4. Description, Argumentation, and Imagination 308
      15.41. The Machine Argument 309
      15.42. The Evolution of Human Language 311
      15.43. The Ideas of Truth and Validity 313
   15.5. Interaction and Consciousness 315
      15.51. Monistic Theories 315
      15.52. Dualistic Theories 316
      15.53. Popper’s New Theory of the Mind and of the Ego 317
   15.6. The Self, Rationality, and Freedom 320
      15.61. The Self 320
      15.62. Rationality 323
      15.63. On Freedom and Responsibility 325
      15.64. On Self-transcendence 326

Résumé 327

Bibliography 331
Index of Names 347
Index of Subjects 350
Abbreviations

BJPS  The British Journal for the Philosophy of Science
CP   Peirce, Collected Papers
CPR  Kant, Critique of Pure Reason
EHU  Hume, An Enquiry Concerning Human Understanding
EPW  Enzyklopädie Philosophie und Wissenschaftstheorie
HWP  Historisches Wörterbuch der Philosophie
PI   Wittgenstein, Philosophical Investigations
PKP  Schilpp, The Philosophy of Karl Popper
Proleg. Kant, Prolegomena to Any Future Metaphysics That Will Be Able to Present Itself as a Science

Works of Karl Popper

A    Intellectual Autobiography
CR   Conjectures and Refutations
EH   Das Elend des Historizismus
GPE  Die beiden Grundprobleme der Erkenntnistheorie
KBMP Knowledge and the Body-Mind Problem
LdF  Logik der Forschung
LP   Alles Leben ist Problemlösen
LSD  The Logic of Scientific Discovery
OG   Die offene Gesellschaft und ihre Feinde
OK   Objective Knowledge
OS   The Open Society and Its Enemies
OU   The Open Universe
PH   The Poverty of Historicism
List of Abbreviations

QTSP  Quantum Theory and the Schism in Physics
RAS   Realism and the Aim of Science
WP    A World of Propensities
Preface

In 2000, the German version of the present book, *Die Philosophie Karl Popper*, was published by Mohr Siebeck in Tübingen. I have tried to provide a translation that is as close to the original as possible. A few minor errors, mostly bibliographical, have been corrected, and summaries have been omitted.

In Chapter 7, “Verisimilitude,” the original section 7.24, on attempts to rehabilitate Popper’s comparative definition of verisimilitude, has been reduced to a single paragraph at the end of section 7.23, because in the meantime the concept of “relevant consequence,” which was central in section 7.24, has been refined by its authors. In section 15.32, four paragraphs on Carnap’s methodological solipsism have been reduced to a very short paragraph, both because they are not essential to my argument and because it proved too difficult to provide an adequate translation of certain (more or less) phenomenalistic statements into English. The bibliography now includes more English and fewer German titles.

Many of the texts from which I quoted in the German original have been translated into English. Wherever possible, I now quote from the English editions. Unfortunately, a number of texts, even Popper’s *Die beiden Grundprobleme der Erkenntnistheorie*, are not (yet) available in English. Moreover, some of the translations were inaccessible to me. Thus I have had to provide some translations myself. Wherever I have considered the slightest misunderstanding possible, I have added “m.t.” for “my translation.” Where emphasis has been supplied, I have added “i.a.” for “italic added.”

I thank Mr. Thomas Piecha, who carefully looked through my translation and prepared the files for the diagrams.