

Contents

<i>List of Figures and Tables</i>	<i>page</i> vii
<i>Preface</i>	ix
<i>List of Articles</i>	xiii
1 The Nature of Explanation	I
The Epistemic versus Ontic Conception of Explanation	2
The Influence of Ontology	4
Understanding	8
Tautology	12
Explanatory Completeness	17
Explanatory Generality	22
Explanatory Interestingness	26
An Overview of the Book	29
2 Causation	32
Regularity Theory of Causation	33
A Counterfactual Analysis of Causation	41
Probabilistic Causation	45
Causal Graph Modeling	47
Vector Space Modeling	53
Agent versus Event Causation	60
Mechanisms	61
3 Modes of Explanation	75
Aristotle’s Doctrine of the Four Causes	75
Covering Law Model	77
Mechanismic Explanation	88
Intentional Explanation	97
Teleological or Functional Explanation	102
Historical Explanation	111
Process Organization Studies	119

4	Microfoundations	126
	Methodological Individualism	127
	Ontological Individualism	131
	Coleman's Macro-Micro Relations	134
	Emergent Entities and Properties	141
5	Theory versus Non-theory-Based Explanation	146
	Atheoretical Explanation	147
	Luck as an Explanation	149
	Theory-Ladenness of Observation	152
	Incommensurability of Paradigms or Theories	156
	Substantive Theory and Metatheory	162
6	Multi-theoretical Explanation	167
	Relatively Few Multi-theoretical Studies	168
	Functions of a Multi-theoretical Approach	170
	Some Suggestions	177
7	Research Methods	185
	Structural versus Reduced Models	186
	Post Hoc Hypothesizing	190
	Replication	193
	A Multi-method Approach	198
8	Explanation as Science (or Art?)	203
	Inference to the Best Explanation	203
	Some Suggested Heuristics	208
	The Craft of Explanation	211
	<i>Appendix: Chinese Philosophy and Scientific Research</i>	213
	Science in Ancient and Medieval China	214
	The Role of Philosophy	216
	Concluding Remarks	218
	<i>Notes</i>	220
	<i>References</i>	226
	<i>Index</i>	253