

Contents

1	Introduction	1
1.1	Basic Principles and Structure of the Book	2
1.2	The Scientific World View in the Knowledge Society	6
	References	9
2	Logical Propaedeutic	13
2.1	Semiotics	15
2.1.1	Terms	17
2.1.2	Definitions	18
2.1.3	Concept Analysis and Concept Explanation	21
2.1.4	Intension and Extension	21
2.2	Statements	24
2.2.1	Statement-logical Connections	24
2.2.2	Contradiction, Tautology, Contingency	26
2.3	Arguments	28
2.3.1	Basic Components of an Argument	29
2.3.2	Inductive and Deductive Conclusions	31
2.3.3	The Hempel-Oppenheim Schema	33
2.3.4	The Abductive Conclusion	35
2.4	Fallacies	37
2.4.1	Formal Fallacies	38
2.4.2	Violation of a Rule of Reasonable Thinking and Arguing	39
2.4.3	Weak Reasons	39
2.4.4	Naturalistic and Normativist Fallacy	41
	References	44
3	Philosophy of Science—Philosophical Foundations and Positions	47
3.1	Philosophical Basics	49
3.1.1	Theory of Science and Other Sciences of Science	49
3.1.2	Criteria of Scientificity	53
3.1.3	Truth Theories	59

3.2	Essentialism	66
3.2.1	The Platonic-Aristotelian Tradition of Essentialism	66
3.2.2	Normative Consequences of Essentialism	67
3.3	Empiricism, Inductivism and the Principle of Causality	69
3.3.1	Preparation of Empiricism by Criticism of Prejudice and Induction: Francis Bacon	71
3.3.2	Empiricism's Justification Through a Return to the Experiential Origin of All Knowledge: John Locke	73
3.3.3	Exaggeration of Empiricism in the Form of Immaterialism: George Berkeley	74
3.3.4	The Limits of Empiricism, the Principle of Causality and the Induction: David Hume	75
3.4	Positivism, Ideal- and Normalsprache and Logischer Empirismus	79
3.4.1	Positivism	80
3.4.2	Ideal and Normal Language	81
3.4.3	Neopositivism or Logical Empiricism of the "Vienna Circle": Verification Problem and Induction Problem	85
3.4.4	Criterion of Meaning and Pseudo-Problems	88
3.4.5	Physics as a Unified Science	90
3.5	Pragmatism and Hermeneutics	92
3.5.1	Pragmatism	92
3.5.2	Hermeneutics	94
3.6	Falsificationism: Karl Popper	97
	References	103
4	The Contextualization of Science I: Time	111
4.1	Karl Popper as the High Point and Culmination of Classical Philosophy of Science	112
4.2	Paradigm Shift: Thomas S. Kuhn	114
4.3	Theory Dynamics and 'Sophisticated Falsificationism': Imre Lakatos	120
4.4	Research Traditions: Larry Laudan	121
4.5	Methodological Pluralism: Paul Feyerabend	122
	References	125
5	The Contextualization of Science II: Social Affinity	129
5.1	The Social Embeddedness of Knowledge: Sociology of Knowledge	130
5.2	On the Genesis of Scientific Facts: Ludwik Fleck	134
5.3	Sociology of Science	135
5.4	Science and Politics: From World Views and the Mutual Dependence of Science and Politics Today	140
5.4.1	Political Ideational Systems and Their Implications on the Evaluation of Spaces: Socialism, Liberalism and Conservatism	140

5.4.2	The Transition from Mode 1 to Mode 2 Science	146
	References	153
6	Conceptions of Space and Theories of Spaces	161
6.1	'Space 1' Understandings: Container or Container Space, the Relational Space and the Space-Time Continuum	166
6.2	The Focus 'Space 2': Space as a Priori in Kant's Understanding of Space	168
6.3	'Space 3': The Social Production of Space—Spaces in Radical Constructivism and Discourse Theory	169
6.4	The Dominance of 'Space 3' Over 'Space 1': The Inscription of System Logics and the Domestication of Spaces	171
6.5	The Interaction of 'Space 2' and 'Space 3': The Social Constructivist Understanding of Space or Landscape	173
6.6	The Individual Experience: 'Space 2' Between 'Space 1' and 'Space 3'—Phenomenology	175
6.7	The Relations of Space 2 to Spaces 1 and 3: Space as a Result of Action—Benno Werlen	177
6.8	The Powerful Inscriptions of Society in Space 1: The Space Theory of Pierre Bourdieu	178
6.9	The Shift in Perspective from the Separate Consideration of Space 1 and Space 3 to an Integrated Thirdspace—Edward Soja	181
6.10	More-than-Representational Approaches: Assemblage Theory and Actor-Network Theory	183
6.11	Everything Back to Synthesis? Neopragmatic Understandings of Space	185
	References	189
7	Developmental Lines and Breaks in Geography—Outline of a History of the Discipline	199
	References	209
8	Conclusion	215
	References	220
	References	221