

Contents

Preliminary Considerations	13
Part 1 Between Classical and Non-Classical Epistemology	19
Chapter 1 The Problem of Epistemological Realism	19
1. Realism: political connotations	19
2. A social basis for realism	21
3. Is a social ontology of science possible?	22
4. Contradictions within the realist view	25
5. Classical realism. Realism and objectivism	29
6. Are social epistemologists realists?	32
Conclusion	33
Chapter 2 Can Social Epistemology be naturalized?	36
1. Epistemological naturalism as a challenge to classical philosophy	37
2. Interdisciplinarity and empiricism	39
3. Foundationalism and contextualism	40
4. Context: its concept and problems	41
5. Context theories	44
6. The limits of context	50
Chapter 3 Interdisciplinarity 2.0 in the Sciences and STS	54
1. STS: interdisciplinary communication vs disciplinary naturalism	54
2. STS: interdisciplinary communication vs disciplinary naturalism	56
3. Typological remarks	57
4. Discipline as a Social Structure of Science	58
5. Jean Piaget's Problematicization of Interdisciplinarity	61

6. Types of Interdisciplinarity: Criticism, Borrowing, Synthesis	63
7. I-Research as a Type of Cognitive Process	71
8. Interdisciplinarity as Intertextuality	72
Conclusion	73
 Chapter 4 David Hume's Epistemological Legacy	 78
1. The paradox of cognitive reality	79
2. The paradox of empirical necessity	81
3. The paradox of externalist meaning	83
4. The paradox of inductive validity	86
5. The paradox of natural mentality	88
6. The nature of skeptical theorizing	90
 Chapter 5 Wittgenstein on Meaning	 96
1. Meaning and mentality	97
2. Meaning and activity	99
3. Meaning and communication	101
4. Meaning and surroundings	102
Conclusion	104
 Part 2 History & Philosophy of Science: A Social Turn	 107
 Chapter 6 A social philosophy of science for STS	 107
1. Figures and Insights	108
2. Highlights of the Russian Philosophy of Science	112
3. Appendix	114
 Chapter 7 The remote origin of a scientific laboratory	 119
1. Artifacts as crossroads of communication	120
2. Great prescientific archetypes	123
3. From the literary salon and the invisible college to the academy of sciences	131

Chapter 8 The Koiné of Science: Two Types of Trading Zones	137
1. A communicative turn in the philosophy of science	138
2. The making of the trading zone concept	139
3. The subject of mediation	143
4. Internal and external trading zones	147
Conclusion	150
Chapter 9 Avocation and Vocation: Science as a Public Good	153
1. Max Weber's problem situation	156
2. Profession as a social institute	157
3. The mystery of vocation	159
4. Shortcomings of the standard account	160
5. Science's virtues in flux	163
6. Virtue contra truth	167
7. Science, the economy, and a public good	170
Conclusion	173
Chapter 10 Gift vs trade: On the culture of science communication	176
1. Whewell case: physics vs chemistry	176
2. Galison on trading zones	179
3. Boris Hessen's critique of the market metaphor for science studies: commodity fetishism	181
4. Archaic economy: trade disdained	187
Part 3 Science, Technology, and Policy	195
Chapter 11 Social Technologies for Science and Practice	195
1. The technologization of public life: origins and theoretical limitations	195
2. Ways of conceptualizing social technologies	199
Conclusion	203

Chapter 12 How to Make the Social Tech. Terms and cases	205
1. Toward a history of the relevant concepts and issues	205
2. The agent of social technologies: an individual as a social institution	206
3. The cognitive base of social technology: science vs extra-scientific knowledge	206
4. The impact of social technology: methods vs results	207
5. The terms of technologizing activities	208
6. From social practice to social technology	211
7. Applied social knowledge	212
8. The transformation of the experiment into a technology: from education reform to foreign policy strategy	214
Conclusion	218
Chapter 13 Philosophy, Technology, and Policy. The Kara-Kum Channel	221
1. Holism and Complexity: Global Challenges for STS	221
2. Megaprojects of Peter the Great	223
3. Drang nach Süden, or the Amu Dar'ya Project	226
4. "Comrade Platonov, Province Meliorator"	229
5. The Kara-Kum Canal: The Technology of a Social Leap	232
6. The Paradox of Megaprojects	241
Conclusion	243
Chapter 14 Towards a Political Philosophy of Science	247
1. Problematics drift	247
2. Science as a social institution and cultural phenomenon	250
3. The Political Economy of Science and Technology	256
Conclusion	263
Chapter 15 Science as a Political Agent	265
1. Knowledge is Power: A Background	265
2. Faust and Themis	269

3. STS versus post-truth	271
4. Science in search of political success	276
Conclusion	279
 Chapter 16 A New Humanism for Scientific Progress	 281
1. Postmodern reevaluation of scientific progress	281
2. The nature of an epistemic agent	282
3. The paradox of progress	285
4. Resolving the “bold guesses”–“small steps” controversy	290
5. Our knowledge of and shaping the future	293
Conclusion	297
 General Conclusion	 302
 Disclosure statement	 305
 Funding	 305
 About the Author	 305
 Acknowledgements	 306
 Index	 307