Contents

	Prefatory Notes and Acknowledgments	ix
	Introduction: Thinking about Technology Background and Standpoint Collections and Conferences Themes and Variations	1
Part One	Historical Traditions in the Philosophy of Technology	
One	Engineering Philosophy of Technology Mechanical Philosophy and the Philosophy of Manufactures Ernst Kapp and Technology as Organ Projection Technology and Politics according to Peter Engelmeier and Others Friedrich Dessauer and Technology as Encounter with the Kantian Thing-in-Itself The Intellectual Attraction and Power of the Technical	19
Two	Humanities Philosophy of Technology Lewis Mumford: The Myth of the Machine José Ortega y Gasset: Meditation on Technics Martin Heidegger: The Question concerning Technology Excursus on Ortega and Heidegger	39

Jacques Ellul: Technology as the Wager of the Century

Three — From Engineering to Humanities Philosophy of Technology — 62
- The Two Philosophies in Tension: A Dialogue
- Two Attempts at Reconciliation
- The Question of Marxist Philosophy of Technology
- A Brief for the Primacy of Humanities Philosophy of Technology

Four — The Philosophical Questioning of Technology — 94
- Science and Ideas
- Technology and Ideas
- Conceptual Issues
- Logic and Epistemological Issues
- Ethical Issues
- Issues of Political Philosophy
- Religious Issues
- Metaphysical Issues
- Questioning the Questions

Five — Philosophical Questions about *Techne* — 114
- Observations on the History of Technology
- *Techne* and Technology
- Philosophy of Technology versus *Philosophia Technes*

Part Two — Analytical Issues in the Philosophy of Technology

Six — From Philosophy to Technology — 137
- Engineering Objections to Humanities Philosophy of Technology
- Philosophical Objections to Humanities Philosophy of Technology
- Two Usages of the Term "Technology"
- The Extension of "Technology"
- A Framework for Philosophical Analysis

Seven	Types of Technology as Object The Spectrum of Artifacts Types of Machines The Machine (and Object) as Process The Engineering Analysis of Machines Physical, Chemical, and Biological Artifacts Animal Artifacts, Social Artifacts, the Planet as Artifact On the Human Experience of Tools and Machines The Social Dimension of Artifacts Toward a Phenomenology of Artifacts	161
Eight	Types of Technology as Knowledge Cognitive Development and Myth in Technology The Phenomenology of Technical Skill Maxims, Laws, Rules, and Theories Against Technology as Applied Science Cybernetics Ancient and Modern Technology	192
Nine	Types of Technology as Activity Technology as Activity The Action of Making The Process of Using Work: From Alienated Labor to "Action into Nature" Again, Ancient versus Modern Technology	209
Ten	Types of Technology as Volition Philosophies of Technology as Volition Volition as a Conceptual Problem in Relation to Technology Philosophies of Volition in Relation to Technology Toward Ethics Technology and Weakness of the Will	247
	Conclusion: Continuing to Think about Technology The Argument Revisited Science, Technology, and Society Studies	267

Epilogue: Three Ways of Being-with Technology 275
Being-with: From Persons to Technics
Ancient Skepticism
Enlightenment Optimism
Romantic Uneasiness
Coda

Notes 301
References 351
Index 383