Contents

I.	Science as an Intellectual Activity	I
	Growth of Knowledge Objectivity and the External World Prediction and Explanation	3 6 8
2.	Induction	12
	Baconian Induction Presuppositionless Observation The Role of Imagination in Scientific Theorizing Inductive Proof	12 16 21 25
3.	Falsification	35
	Popperian Philosophy of Science A Bayesian Approach	35 41
4.	Science and Non-Science	54
	The Demarcation Criterion Are Theories ever Falsified? Kuhnian Relativism The Relationship between the History and Philosophy of Science	54 60 64 75
5.	Observation and Theory	82
	Observational Common Ground between Theories Observation and Theory Empiricism Unobservability and Underdetermination of Theory	82 89 94
	by Data	97

6.	Scientific Realism	106
	Positivism	106
	The Inference to the Best Explanation	III
	Scientific Laws and the Representation of Reality	123
	The Absolute View of the World	130
	Partial Pictures: Schrödinger's Cat	136
7.	Probability	144
	Probabilistic Explanations	144
	Interpretations of Probability	155
8.	Scientific Reductions	177
	Reductions in the Physical Sciences	179
	Criteria for Reduction	186
9.	Science and Culture	202
	Science as Mythology	202
	Myths and Science	210
	Science and Technology	216
	Science and Value	223
Si	Suggestions for Further Reading	
Index		237