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Reasoning; Necessary and Sufficient Conditions; Forms of Causal Argumentation; Argument from Correlation to Cause; Abductive Causal Reasoning in Law; Causal Abduction in Medical Examination and Diagnosis; Causal Reasoning as Dynamic Improvement of a Hypothesis The Thesis That Causal Reasoning Is AbductiveCausal Explanations; The Chain of Reasoning in the Accident Case; Insights into Causal Argumentation Yielded by the Abductive Theory; 6. Query-Driven Abductive Reasoning; Argument Extrapolation by Chaining Forward; Colligation in Chaining Backward; The Form of Abductive Inference Revisited; Belief-Desire-Intention and Commitment Models; The Abductive Profile of Dialogue; Abduction as a Query-Driven Process; Discovery as an Open Process; Retraction of Commitment; The Four Phases of Abductive Reasoning; 7. Unsolved Problems of Abduction Abduction and Argumentation SchemesEnthymemes, Argumentation Schemes, and the Defeasible Modus Ponens Form of Reasoning; The Role of Examination in Science; Accounts and Explanations; The Problem of Inconsistency; How Abductive Reasoning Moves Forward by Examining Competing Accounts; Question-Answering and Critiquing Systems in Artificial Intelligence; Summary of Abduction as a Heuristic; Notes; References; Index

Sommario/riassunto

This book examines three areas in which abductive reasoning is especially important: medicine, science, and law. The reader is introduced to abduction and shown how it has evolved historically into the framework of conventional wisdom in logic. Discussions draw upon recent techniques used in artificial intelligence, particularly in the areas of multi-agent systems and plan recognition, to develop a dialogue model of explanation. Cases of causal explanations in law are analyzed using abductive reasoning, and all the components are finally brought together to build a new account of abd
