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Jordan Howard Sobel

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Jordan Howard Sobel has long been recognized as an important figure in philosophical discussions of rational decision. He has done much to help formulate the concept of causal decision theory.

In this volume of essays, Sobel explores the Bayesian idea that rational actions maximize expected values, where an action's expected value is a weighted average of its agent's values for its possible total outcomes. Newcomb problems and the Prisoners' Dilemma are discussed, and Allais-type puzzles are viewed from the perspective of causal world Bayesianism. The author establishes principles for distinguishing options in decision problems, and studies ways in which perfectly rational causal maximizers can be capable of resolute choices. Several of the essays concern games, with interacting ideally rational and well-informed maximizing rationality. Sobel also views critically David Gauthier's revisionist ideas about maximizing rationality.

This collection will be a desideratum for anyone working in the field of rational choice theory, whether in philosophy, economics, political science, psychology, or statistics.

“Howard Sobel's work in decision theory is certainly among the most important, interesting, and challenging that is being done by philosophers.”

– David Gauthier

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## *Preface*

The Bayesian idea with which the essays of this volume are concerned is that rational actions maximize agents' expected values. I understand an agent's expected value for an action to be a weighted average of his values for its possible outcome, where the weight for the value of a particular possible outcome is his probability for this outcome given the action.

The essay in Part I features an interpretation of "outcomes" according to which an action's possible outcomes detail all choice-relevant aspects of its possible worlds: "Outcomes" in expected values are "worlds for practical purposes." I explain how interpreting outcomes in this comprehensive manner leads to a theory that accommodates patterns of preference such as those framed by Maurice Allais that can embarrass less comendious Bayesianisms such as those of Leonard Savage and of R. Duncan Luce and Howard Raiffa.

The essays in Part II study problems that challenge so-called evidential decision theories, such as Richard Jeffrey's, that interpret "the probability for an outcome given an action" as a conditional probability that reflects the possible evidential bearing for the agent of this action on that outcome, a probability that would make an action's expected value a measure of the welcomeness to the agent of information that it will take place. I suggest in Chapter 2 that such theories – whether or not "metatrickle enhanced," as Ellery Eells would have them be – yield wrong answers in some Newcomblike problems, and give wrong reasons even when they get right answers. Challenges to the coherence of Newcomblike problems are examined in that chapter; relations of Newcomb problems and prisoners' dilemmas are discussed in Chapters 3 and 4, and in Chapter 5 the two-box prescription of causal decision theories is defended even for infallible-predictor Newcomb problems. Causal maximizing arguments are held to be good in a sense identified in Chapter 6, even when the agent is sure that the predictor has correctly predicted his choice; for even then, causal maximizing – which still prescribes the two-box choice – is certain to lead to a payoff as great as would any other kind of practical thinking. Chapter 7 responds to challenges to the intelligence of maximizers, especially causal

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maximizers, that can be found in the writings of David Gauthier: I oppose the charge that maximizers, since they would in some circumstances not do as well as, are thereby less rational than, certain other thinkers.

Part III explores so-called causal decision theories already in play in Part II, theories that would interpret “the probability for an outcome given an action” as something like the unconditional probability of this action’s causing that outcome. Such theories would make an action’s expected value a measure of the welcomeness, in view of the differences it figures to make, of the fact that it will take place. A theory is described in Chapter 8 that features subjective probabilities for “chancy objective conditionals”; in calculating expected values, this theory uses not probabilities of causal action–outcome “would” conditionals but, rather, probability-weighted averages of chances in action–outcome “chance” conditionals. An account is proposed in Chapter 10 of partitioning agents’ options, and accounts are proposed in Chapters 8 and 9 of partitions of circumstances for applications of causal decision theories. Chapters 10 and 11 contain the suggestion that a rational action must not only maximize causal expected value; additionally, a decision for that action must, in a certain sense, be “ratifiable.” These conditions are said to be individually necessary and jointly sufficient for an action’s being, in a certain thin sense, *rational*. Chapter 12 explores the ways in which agents who are in this sense rational may be able to adopt useful intentions and make resolute choices, including intentions and choices to perform antecedently non-maximizing irrational actions.

Part IV deals with interactions of causal maximizers. I maintain in Chapters 13 and 14 that not even ideally rational and well-informed causal maximizers would invariably do well when interacting: There are situations in which they would do less well than other agents. I contend, further, that situations exist in which they, in their perfect and pure causal maximizing transparency, could do nothing at all. I maintain in Chapters 15 and 16 that perfectly rational and well-informed causal maximizers not only do less well than other agents in prisoners’ dilemmas but do so even when they realize they are in ongoing relationships and will meet in a sequence of such dilemmas.

Debts are acknowledged with appreciation in notes to the essays. Special thanks are due to Włodek Rabinowicz and Willa Freeman-Sobel for their comments and criticisms. Essays were revised and a manuscript for this volume assembled at St. Andrews during Whitsunday term in 1992, when I was a fellow at the Centre for Philosophy and Public Affairs, to which I am grateful. This book is dedicated to my teachers and friends Richard Cartwright and David Falk.