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EVIDENCE, DECISION AND CAUSALITY

Most philosophers agree that causal knowledge is essential to decision-making: agents should choose from the available options those that probably *cause* the outcomes that they want. This book argues against this theory and in favour of Evidential or Bayesian Decision Theory, which emphasizes the symptomatic value of options over their causal role. It examines a variety of settings, including economic theory, quantum mechanics and philosophical thought-experiments, where causal knowledge seems to make a practical difference. The arguments make novel use of machinery from other areas of philosophical inquiry, including first-person epistemology and the free-will debate. The book also illustrates the applicability of decision theory itself to questions about the direction of time and the special epistemic status of agents.

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Preface

Causality is a pointless superstition. These days it would take more than one book to persuade anyone of that. This book focuses on the ‘pointless’ bit, not the ‘superstition’ bit. I take for granted that there are causal relations and ask what doing so is good for. More narrowly still, I ask whether causal belief plays a special role in decision. My argument that it does not consists largely of schemes for extracting money from the people who think it does. I conduct the argument using the framework of decision theory. Decision theory is convenient for this purpose because it (a) quantifies causal beliefs and (b) isolates their role in practical deliberation.

Because of this aim the book couldn’t serve as a stand-alone introduction to decision theory. Anyone who took it that way would find it distorted and lacunary. Distorted because of the focus on the dominance principle at the expense of almost everything else that Savage’s axioms entail; lacunary because of the complete absence from the story of any approach outside the Ramsey–Savage expected-utility paradigm.

Anyway, many excellent introductions to the subject are already available at various levels of mathematical sophistication. For instance, Peterson 2009 is written at a mathematically elementary level, Gilboa 2009 and Kreps 1988 are more difficult and Fishburn 1970 is mathematically fairly advanced. *This* book presupposes no mathematical knowledge beyond completely elementary set theory and probability.

But it probably *could* function as a philosophical companion to any such introduction. Its central topic is perhaps the main debate in the philosophical foundations of decision theory. That subject has a bearing on more traditional preoccupations of metaphysics, including causality itself, the asymmetry of time and the nature of self-knowledge. Pursuing it also forces us to touch upon live issues in psychology, economics, the theory of voting and the foundations of quantum mechanics. So I hope in these chapters to illustrate why the philosophy of decision theory is important, or at least interesting, even if you are not a philosopher of decision theory.

I owe the reader an apology for the number and the length of the footnotes. They largely involve (i) references, (ii) numerical calculations and (iii) objections and clarifications that are unlikely to interest most readers but likely to interest some. In cases (ii) and (iii), I felt that including these items in the main text would break up the main thread of the argument, which you should be able to follow without reading any of them.

Whilst writing this book I have had the benefit of conversations with, and/or written comments from, the following people: Helen Beebe, Sharon Berry, Simon Blackburn, Rachael Briggs, Lucy Campbell, Adam Caulton, John Collins, Tom Dougherty, Adam Elga, Luke Fenton-Glynn, Alison Fernandes, Alexander Greenberg, Alan Hájek, Caspar Hare, Jane Heal, Hykel Hosni, Jennan Ismael, Leon Leontyev, Isaac Levi, Hanti Lin, Penelope Mackie, John Maier, Adam Morton, Daniel Nolan, Harold Noonan, Huw Price, Paolo Santorio, Wolfgang Schwarz, Shyane Siriwardena, Julia Staffel and Paul Weirich. I thank them all. I also thank two referees from the Press for their extremely helpful written comments, Dr John Gaunt for meticulous copyediting, and Alexander Greenberg and Shyane Siriwardena for assistance with the index. And I thank my editors at CUP, Sarah Green and Hilary Gaskin, for their efficiency, patience and goodwill.

I am also grateful to audiences at the Aristotelian Society, the University of Auckland, the Australian National University, Birmingham University, Bristol University, the University of Cambridge, Columbia University, the Institute of Philosophy, Monash University, the University of Nottingham, Princeton University, the Scuola Normale Superiore di Pisa, the University of Sheffield, the University of Sussex and the University of Sydney, where I delivered talks on material that has ended up in the book.

I wrote some of this book whilst holding a Leverhulme Research Fellowship at the Faculty of Philosophy, University of Cambridge, and then at the Sydney Centre for the Foundations of Science, University of Sydney. I wrote some of it whilst holding a Distinguished Visiting Professorship at the Scuola Normale Superiore di Pisa. And I wrote some of it whilst holding a Visiting Fellowship at the Research School of Social Sciences in the Australian National University, Canberra. I am grateful to all of these institutions for their hospitality, and also to the Leverhulme Trust. I also thank the Faculty of Philosophy at the University of Cambridge, and Girton College, Cambridge, for granting me leave from teaching and administrative duties in order to finish the book.

Material from section 3.1 has appeared in my paper ‘Push the button’, *Philosophy of Science* 79 (July 2012): 386–95, and is reproduced by permission

Preface

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Finally, and most of all, I am grateful to my family (Frisbee, Isla, Iona and Skye) for putting up with me during the writing of this book. My father, Dr G. M. Ahmed, died in early 2013 after a period of illness that he bore with characteristic stoicism and good humour. I should like to dedicate the book to my mother, Mrs S. Ahmed, and to the memory of my father.