

Decision Theory with a Human Face

Richard Bradley



When making decisions, people naturally face uncertainty about the potential consequences of their actions due in part to limits in their capacity to represent, evaluate or deliberate. Nonetheless, they aim to make the best decisions possible. In *Decision Theory with a Human Face*, Richard Bradley develops new theories of agency and rational decision making, offering guidance on how 'real' agents who are aware of their bounds should represent the uncertainty they face, how they should revise their opinions as a result of experience and how they should make decisions when lacking full awareness of, or precise opinions on, relevant contingencies. He engages with the strengths and flaws of Bayesian reasoning, and presents clear and comprehensive explorations of key issues in decision theory, from belief and desire to semantics and learning. His book draws on philosophy, economics, decision science and psychology and will appeal to readers in all these disciplines.

Richard Bradley is Professor of Philosophy at the London School of Economics and Political Science. He is an editor of the journal *Economics and Philosophy*, and his work on decision theory, semantics and epistemology has been published in numerous leading journals.

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RICHARD BRADLEY

London School of Economics and Political Science



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For Shura

Preface

The aim of this book is to develop a decision theory that is tailored for ‘real’ agents – i.e. agents who, like us, are uncertain about a great many things and are limited in their capacity to represent, evaluate and deliberate, but who nonetheless want to get things right to the extent that they can. The book is motivated by two broad claims. The first is that Bayesian decision theory provides an account of the rationality requirements on ‘unbounded’ agents that is essentially correct and is applicable in circumstances in which agents are aware of all the options available to them and are able to form precise judgements about all relevant contingencies. The second is that there are many circumstances in which these conditions are not satisfied and hence in which classical Bayesian theory is not applicable. A normative decision theory, adequate to such circumstances, would provide guidance on how bounded agents should represent the uncertainty they face, how they should revise their opinions as a result of experience and how they should make decisions when lacking full awareness or precise opinions (that they have confidence in) on relevant contingencies. The book tries to provide such a theory.

So many people have helped me with this project over the many years it has taken to complete it that I fear that I will forget to mention many of them. Its origins lie in my PhD dissertation completed under the supervision of Richard Jeffrey, David Malament and Dan Garber. Their support and that of Philippe Mongin, Dorothy Edgington and John Broome in the early years after the start of my career was crucial to my sticking with it. The influence of Dick Jeffrey on my thinking is hard to overestimate. The title of this book mirrors that of a paper of his – ‘Bayesianism with a human face’ – in which he espoused the kind of heterodox Bayesianism that pervades my writing. To me, he *was* the human face of Bayesianism.

Almost as much of an influence has been Jim Joyce, whom I first met at a workshop on Jeffrey’s work some 20 years ago. Big chunks of this book can be read as a dialogue with *The Foundations of Causal Decision Theory*

and his subsequent work on Imprecise Bayesianism. Parts of it are based on ideas developed with coauthors on papers: in particular, Christian List and Franz Dietrich (Chapter 10), Mareile Drechsler (Chapter 3), Casey Helgeson and Brian Hill (Chapter 14) and Orri Stefánsson (Chapters 8 and 9). As with many others with whom I have worked over the years (including both PhD students and colleagues), I have largely lost my grip on which ideas are mine and which are theirs, if indeed such a separation can meaningfully be made. It is an unfortunate irony that the ideas that you most thoroughly absorb are often the ones whose origins you forget.

I have been at the LSE for most of my career and it has provided the best possible intellectual environment for writing the book. The weekly seminars of LSE Choice Group have provided an invaluable forum for presenting ideas and acquiring new ones and its members a source of support. A number of people read parts of the book manuscript at various points in its development and gave helpful feedback, including Sven Ove Hansson, Jean Baccelli, Magda Osman, Seamus Bradley, Jay Hodges, Conrad Heilmann, Alex Voorhoeve, Hykel Hosni, Susanne Burri, Philippe van Basshuysen, Casey Helgeson, Aron Vallinder and Silvia Milano. Orri Stefánsson not only read an entire draft, but has been a wonderful interlocutor on its contents over many years. Katie Steele, Anna Mahtani, Jim Joyce, Wlodek Rabinowicz and Christian List provided valuable feedback on individual chapters at a workshop organised by Christian.

I am grateful to the Arts and Humanities Research Council for its support, in the form of a grant (AH/I003118/1) to work on the book and a grant for a project on Managing Severe Uncertainty (AH/J006033/1), the fruits of which are contained in the last part of the book.

Finally, I am deeply grateful to my family, and especially my wife Shura, for putting up with me over the last few years. There have been a good number of ‘holidays’ and weekends lost to book writing, not to mention grumpiness when nothing seemed to progress, but their patience and support have been undiminished by it all.

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