choice

Richard Harper Dave Randall Wes Sharrock

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In memory of Christina Harper and Ted Cuff,
different people loved in different ways but loved all the same

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The Sciences of Reason in the 21st Century:
A Critical Assessment

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polity

First published in 2016 by Polity Press

Polity Press
65 Bridge Street
Cambridge CB2 1UR, UK

Polity Press
350 Main Street
Malden, MA 02148, USA

ISBN-13: 978-0-7456-8386-7
ISBN-13: 978-0-7456-8387-4 (pb)

A catalogue record for this book is available from the British Library.

Library of Congress Cataloging-in-Publication Data

Harper, Richard, 1960–
Choice : the sciences of reason in the 21st century : a critical assessment / Richard Harper, Dave Randall, Wes Sharrock.
pages cm
Includes bibliographical references and index.
ISBN 978-0-7456-8386-7 (hardcover : alk. paper) -- ISBN 0-7456-8386-X (hardcover : alk. paper) -- ISBN 978-0-7456-8387-4 (pbk. : alk. paper) -- ISBN 0-7456-8387-8 (pbk. : alk. paper) 1. Choice (Psychology) 2. Decision making. I. Randall, Dave. II. Sharrock, W. W. (Wes W.) III. Title.
BF611.H375 2015
153.8'3--dc23
2015016787

Typeset in 10.5 on 12 pt Times NR MT by
Servis Filmsetting Ltd, Stockport, Cheshire
Printed and bound in the United Kingdom by Clays Ltd, St Ives PLC

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Acknowledgements

This book has been written on the back of opportunities provided by Microsoft Research, Cambridge. Wes Sharrock joined Richard Harper at Cambridge for a sabbatical, and this in turn resulted in some funding on the role of rational action models in predictive analytics that involved Dave Randall. Throughout this time, Microsoft Research allowed Richard to indulge in the general topic of 'choice', which led to the focused work presented here. Microsoft Research was an unusual corporate establishment for fostering such inquiries, but all three of us, even if we have been recipients of this boon in different ways, are grateful for it.

At the same time, the University of Manchester, and in particular the Sociology Department, has been home to Wes Sharrock. He expresses his gratitude to many long-standing colleagues – as well as some who have moved on to more leisurely pursuits (retirement) – during the creation of this book. Sadly, one of his much loved colleagues passed away suddenly during the period this manuscript was being prepared. Ted Cuff will be missed by many in the common rooms of the universities in Manchester, as will his written work by the world at large. Dave Randall, too, was close to Ted and will miss him greatly. As it happens, a second colleague, also from the North West, passed away too, though his was more expected since he had been ill some time. John Hughes will be missed by many, not just us.

Dave Randall wishes to express his gratitude to the Dipartimento di Scienze Umane e Sociali at the University of Bergamo, and to Fabio Dovigo in particular, for facilitating two productive and enjoyable visits to the lovely city of Bergamo, where much of the work for this book was undertaken. He would also very much like to thank Volker Wulf and colleagues at the University of Siegen for their continued support and engagement. Mark Rouncefield, at Lancaster University, also offered some good-tempered comparisons that helped calm him down.

Richard Harper would like to thank his immediate colleagues in the Human Experience and Design group who put up with his absence while this book was done. Whether this was something they were grateful for is of course for them to decide. Lastly, Richard would like to honour his mother, Christina Harper (née Nolan), who passed away while the manuscript was being finished. Like Ted, but for obviously different reasons, she will be missed.

1

CHOICE: A TWENTY-FIRST CENTURY SCIENCE?

People make decisions every day; indeed, we all make lots of decisions. And yet decisions can seem difficult to comprehend. Others' decisions especially, but even our own, can sometimes seem inexplicable. When we make a choice we cannot account for, we say that we were 'irrational' or were driven by our gut feelings; sometimes it was 'instinct'. That we all make decisions is then a fact of life, just as is their occasional ineffability. Being perplexed about choice is a feature of the human condition. This is hardly a new concern. Historically, cultural techniques have been used to explore this topic. Greek plays made hubris the cornerstone of their narratives about choice; Shakespeare put muddles about identity as the centrepiece of his comedies about choice in love, and he put prejudice as the source of decisions – ones that turn out to be cruel – in his tragedies. In the early twentieth century, the 'death of God' led to the existential turn, and the need to decide – to make decisions – became a 'moral imperative'. In this view, To Be was To Decide, to paraphrase. Much writing on this angst appeared. Sartre's *Roads to Freedom* trilogy comes to mind.[1]

Recently, however, the ineffability of choice has become something that we are at once celebrating and admitting, and yet, even as we do this, treating as a concern we can unpack and better understand. There is, however, a curious paradox about this new understanding of choice – or, rather, how we are thinking about choice and the tension between the ineffable and the analysable. On the one hand, cultural theorists are arguing that people are no longer willing to make choices. This is not because a credo of 'unreason' is coming into the ascendancy, as the cultural theorist-cum-philosopher Slavoj Žižek might put it (1989); it is, rather, because the amount of

[1] Consisting of *The Age of Reason* (*L'Âge de raison*, 1945), *The Reprieve* (*Le Sursis*, also 1945) and *Iron in the Soul* (*Le Mort dans l'âme*, 1949).

information now being produced by computer-based systems is so great that it is overpowering the capacity of the human mind to digest (Andrejevic, 2013). The term cloud-computing evokes not how new technology is helping people reason but how, on the contrary, it is only computing on a massive scale that is capable of making the analysis that leads to right choices. This shift is supposedly visible in the performance of US presidents: 'Reagan, being uninformed, could be utterly clear about his goals. Clinton, being exceedingly informed, sometimes got lost in his facts' (Shenk, 1997: 78, cited by Andrejevic, 2013). After Clinton, the next president didn't even bother with evidence: Andrejevic quotes Laura Bush: 'He [President Bush] has good instincts, and he goes with them. He doesn't need to evaluate and re-evaluate a decision. He doesn't try to overthink. He likes action.' The basis of his choices, according to Laura, was 'gut feel'. In short, we turn to the inner, to our instincts, because we are confronted with 'Infoglut'.[2]

The view from cultural theory turns on the ineffability of choice. But there is another side to the debates about choice. If the cultural theorists are claiming that we are losing our desire to choose, being confronted by an all too awesome amount of information upon which to make up our minds, those within the social sciences, economics and psychology, particularly, are beginning to claim that this most essential of human characteristics – the ability to choose – is being made palpable to experimental dissection and, thus, scientific comprehension. A 'science of choice' is appearing (though this particular nomenclature goes some way back, well before the kinds of arguments we are thinking of came to the fore). This is creating considerable excitement in some parts of the academic world and, indeed, in the press.

This shift has its roots in old debates, as well as in the emergence of new thinking and techniques in the area. The long-standing dissatisfaction with economists' classical views of rationality, a notion that people made all their choices on the basis of what was optimum for them, has resulted in a gradual but now almost irresistible turn to new notions of reason. For one thing, the classical notion did not describe the 'real world', nor could one find actual instances of

[2] The trouble with these arguments, though they articulate strongly held views about the competence of a sequence of political leaders, as well as a critique of the mystique of technology (Žižek, 1989), is the difficulty with which one would know whether this approach to decision-making and choice is widespread. How a president reasons in his or her White House office may be a long way from reasoning on the street, in the world of ordinary affairs. It doesn't help that Andrejevic uses *Wired* magazine for his evidence; Žižek, Andrejevic's inspiration, doesn't seem to use evidence at all.

persons making choices in economics books. It was, as economists themselves readily admitted, an idealised notion of choice. Over the years, and in an effort to allay this over-idealised view, economists have explored, for instance, the different 'conditions' that influence choice, where conditions label the form and constraints on information available to a chooser. Some of these conditions sound very like sociological phenomena, such as how the cargo of skills and social connection that people build up comes to frame their decision-making and hence their capacity to choose at any moment in time. Indeed, the work of Gary Becker, who was the first economist to develop fully the notion of 'social capital', is illustrative of this attempt to link the basic idea of rational action to stocks of knowledge, to the things people know when they act.

At the same time, and within the social sciences more generally, in sociology and anthropology particularly, there has been an equally long-standing and continually vigorous debate about what matters beyond the economic; rationality cannot be, in this view, only about money matters but about all things. Here, the answers offered emphasise both moral uniformity and systems of exchange and obligation that are not economically motivated but socially driven. Experimental techniques are not valued when exploring these concerns. What might be the 'right' way to proceed is rather less clear, and many of the arguments, as we shall see, turn out to be about methodological appropriateness.

Even so, the pull of the basic economic model of rationality has remained central to nearly all these debates, and it has done so by being the measure against which all new ideas are placed. Daniel Kahneman's Nobel Prize for economics in 2002, and the subsequent publication of his book *Thinking, Fast and Slow* in 2011, has led to an interest in the possibility that the picture of human rationality in economics is substantially wrong for reasons that are psychological. People's reasoning is, in some sense, irrational, he claims. In his view, it is not an economic model that lies within the mind (i.e., a capacity to identify maximum utility) but psychological mechanisms that govern choice. Along with his colleagues, Kahneman claims to have shown that there are *systematic, mentally derived* deviations from the traditional standard of rational decision-making in real instances of action. People not only misjudge their options, they misjudge them repeatedly and in specifiable ways. While Kahneman's view starts with the economic one (the view that action is governed by some notion of rationality), his claim is constructed on the basis of something that economists (and not sociologists or anthropologists) hadn't always entertained: the traditional laboratory experiment. He argues that the business of decision-making, or

choice, can be subjected to an empirical description of a scientific kind, and in his view this means experimentally. This is, of course, a very limited notion of what is science, even if it is commonly held.

These are not by any means the only views on reasoning and choice being articulated at the moment, even if they are currently the most cited – Kahneman especially. There are plenty of other approaches which see themselves as investigating how the mind works and comes to make decisions or choices, and some of these seek to expand the case of economic choice (irrational constraints notwithstanding) into a wider set of topics. Here the question of method is only partially material. In recent decades a return to the notion that human action can be explained *causally* has been revised in philosophy, for example. For many years this idea was largely dismissed, but it has gradually come to prominence again, though, as with economists and their notion of rational action, philosophers have various notions of what cause might be (for an introduction, see Sandis, 2012). Many within philosophy want to treat cause as merely a logical fact; in this view, something must have led someone to undertake such and such and the relationship between one and the other must be causal, even if it is not clear in any instance just how. After all, accounts of reasons and causes do not necessarily lead one to a true understanding of cause, so Davidson (1963) argued long ago. But some have advanced causal explanations of a particular kind. Daniel Dennett in his *Darwin's Dangerous Idea* (1995), as a case in point, attempts to explain *why* people make their choices through reference to evolution. In his view, even if one's choices are typically made through a process of maximising utility, as economists suppose, there is still a need to explain why people's motives for making certain kinds of choice are fairly consistent through time – indeed, in Dennett's view, over the ages. Understanding what disposes people to value and desire the things they do is to be provided through Darwin's ideas, unlikely though it may seem on the face of it.

There are, also, other notions founded in cognitive and evolutionary psychology which suppose that the mind operates through logically structured computational procedures; these are causal too, but in a subtle sense. John Duncan claims, in *How Intelligence Happens* (2010: 116), that many psychologists are coming to believe they are 'demystify[ing] thought' by combining insights from observation of brain processes with those derived from mental acuity tests of various kinds. This combination of evidence implies that certain sorts of computational powers operate in the brain. We choose algorithmically, this perspective holds. According to Duncan, human reasoning is made up of logical processing elements, analogous to a

computer program. Not only is intelligence to be thus explained, but so too are character and personality, as well as the more mundane facts of choice, of everyday reason, he would have us believe. Some philosophers of science have offered similar arguments, though each with a different nuance. If Duncan emphasises pattern-matching then Skyrms, in *Signals* (2010), following Dennett, models the way systems capable of performing logical operations can evolve from very simple signalling behaviour. In this view, choice is merely (though complicatedly) a function of entropy versus strength, the evolutionary development from strictly biological signals to linguistic ones. The work of Norbert Weiner in his seminal book *Cybernetics* (1948) comes to mind.

The topic

This is only to highlight some of the reasons why choice is of such interest at the moment. From the view of cultural theory to the more arcane views of experimental psychology, from economics to philosophy, how people choose, why they choose and how it is to be explained is now treated as open territory for investigation. What was once the ineffability of the human condition is now being tamed, rendered explicable through new tools and techniques, new concepts and starting places. At least this is the hope.

In this book, we cover as many of the perspectives on this topic as we reasonably can, and our goal, also, is to offer reasonable assessments of these claims. As with all new sciences and territories for investigation, there is much excitement, but along with the excitement comes hyperbole and exaggeration. We want to sort these out from the facts.

Five elements will be central to our musings. The first is conceptual. A simple way of viewing our topic is to ask the question 'What are we talking about when we talk about [motive, reason, decisions, the individual]?' We will show that there are conceptual difficulties to do with definitions about these matters that are much more profound than sometimes thought. A second theme has to do with a topic beloved of the social and human sciences – the question of methods. This pertains not so much to what evidence can be marshalled to support the various explanations on offer as to how that evidence is *produced*. We will not say that some methods produce false data but that, rather, different methods cast evidence in different sorts of ways. This can make comparison between the output of one set of methods difficult to compare with the output of another, or at least can make it a very hard thing to do. Besides, and as we

shall see, some of the methods that are deployed when addressing the topic of choice are simply not handled very well. It is not always clear why these errors are made, but made they are. Kahneman's experiments are a notorious and high-profile example of this.

A third concern is obviously related to both methods and definitions, and this has to do with boundaries. For, when one examines choice, it is not just a question of defining what one means or coming up with a method to capture evidence about it; we also have to come to a view about what to include and what to exclude from our deliberations. In this regard, human choice is radically different from other types of phenomena subject to empirical inquiry, for it really is unclear where choice ends and something else begins. As we shall see, it is not wise to assume that human reasoning is made up of chains of thought, each determinate, logical and easily specifiable; reasoning is more a set of interconnected concerns that makes separation of one line of thought from the larger context of which they are a part quite difficult. Indeed, and given this, one can sometimes come to doubt whether there is a class of 'decision-making', such as, say, related to 'economic life', which can be separated from other forms of decision-making behaviour – indeed from behaviour in the general. Without this kind of distinction, claims about the right tools for the analysis of choice behaviour can become contentious – are experiments good for everyday decision-making, for example? If not, what are? Ethnographic techniques? Modelling or other abstractions?

The fourth element relates to what is right and what is wrong, or, rather, what is the right kind of behaviour presupposed in our perspective. This is typically called the question of *normativity*. Many of those concerned with choice, most obviously sociologists but of course economists too, have never feared to step into debates about how the world ought to be. Describing choice is only the preface to that concern, in their view. A whole range of correctives are implied in their various methods and topics. Experiments such as the 'Prisoner's Dilemma', as we shall see, purport to tell us something about the conditions under which we might be selfish or, alternatively, cooperate with others. They suggest how the world ought to be when cooperativeness is clearly better than the selfish view. The notion of what is better and what is worse, even though it is often unstated, allows contrasts and critique of the world as it is. Models about choice in economics don't just invoke rationality but also imply a more 'economic' future, where rationality can be more effectively undertaken, and so on.

The fifth element concerns changes in the modern world which might entail changes in human nature, thus shifting the foundations

of choice-making. As we noted, some cultural theorists claim we are being driven from choice towards our gut feelings by the weight of information. We are overloaded and so can't choose. Others, meanwhile, have developed pragmatic techniques that seek to encourage decisions of one kind over another. These 'nudge' people to choose, as it has been put (see Thaler and Sunstein, 2008). Others have suggested that essential or motivational aspects of choice behaviour are altering because of the Web. Yochai Benkler's celebrated work *The Penguin and the Leviathan: How Cooperation Triumphs over Self-Interest* (2011) comes to mind. This proposes that online behaviour is creating a new social psychology, where cooperation begins to displace self-interest. This is clearly different from Andrejevic's view, though echoes can be found in the starting place of each. Information production is affecting choice, either making it more freely available, as in the case of Benkler, or in overloading us, as in the case of the author of *Infoglut*.

Our goal: a view across disciplines

Claims about the science of choice, then, and despite some indication of inter-disciplinary approaches emerging, need to be seen as of distinct and possibly incommensurate kinds. There is considerable difference between, say, Taddeo's (2009) logical model of trust, which might help explain choice in game theoretic behaviours, and the use of trust by people to make choices in everyday action as described by Watson (2009), for example. One is not a reduction of the other. They offer different accounts of the basis of decision-making. The differences cannot be summarised by triangulation or some other view of integration in scientific reasoning, for they are predicated on different assumptions about the phenomenon in view. The empirical adequacies of these and many similar arguments has to do with their pragmatic goals, what they were trying to answer and why. Put simply, disciplinary purposes largely underpin questions of concept, method and theory when it comes to the question of choice (as indeed they will with any topic). These 'logics', as Winch (1958) pointed out long ago, define how one ought to judge each.

Beyond this, there is the question of the relationship between the explanation offered and individual instances of choice. Accounts such as those of Duncan and of Kahneman offer *models* of reasoning and not accounts of particular choices. This raises important issues in respect of the relationship between the (often abstract) models produced in classical or rational action (and hence choice)

and revised accounts of rational choice and actual cases of decision-making. The connection between gross notions of choice and inherently particularised individual choice is still obscure. Is the model an abstraction, a distillation of these particulars, or a heuristic that seeks to characterise them at the expense, to some degree, of accuracy, of verisimilitude?

Developing these themes, we will begin with a brief history of the idea of 'rational choice' and the different things it might mean. An important part of this has to do with the fault lines dividing the way social and human scientists consider why and how people choose and what implications this has for understanding the nature of economic behaviour and social behaviour more generally. Arguments about free will and determinism will not be central to our interests, though consideration of the ways in which people make choices might be seen as begging the question of whether there are any choices for people to make. After all, the idea that anyone has personal control over what they do next presupposes that they have, in some sense, free will. Unfortunately, there is no settled answer to the question of whether they do (indeed, one of the reasons we do not wish to sail upon this particular boat is that there are few settled answers to any philosophical questions at all, this one included!). To the extent that we engage with problems of this kind, we do so strictly and only insofar as they arise *after* the assumption that people do in fact make choices has been accepted and treated as allowing evidence of various kinds to be gathered. It is important to bear in mind that the notion of choice we will focus on is strongly connected to the idea of 'decision', because the idea of choice, as we will see, is most often understood from the perspectives we deal with as a matter of electing to do one thing rather than another – as an empirical matter. The problem of 'free will' is not.

As we shall explain, most of the disciplines identify an activity as choice-making if people face a situation composed of discrete alternatives, a situation affording the possibility of doing lots of different things but in which, at a given point in time, they could choose only one. Of course, one of the questions we can pose for the science of choice is whether and how we can delimit the number of choices the decision-maker can be said to face, since, in the real world, there are normally lots of choices to be made. In experimental conditions, in contrast, choices will be artificially limited, to A, B or C. And, moreover, choice has to be made in the experiment, making it all the more easy for the researcher. Subjects can hardly say, 'I'm fed up with this, I'm going to the pub' – even though they might wish to do so.

Though the real-world character of decision-making is elided in

the experimental context, nevertheless the tidiness with which the experiment sets up choice has its echoes outside of the perspective of experiments. The relative simplicity of experimental conditions is, broadly speaking, matched by how economists think about making choices, for example. In their picture, they create situations of choice that have that kind of organisation – where choice is between this and that and is not bound up with a multitude of concerns (the question of marginal utility, judgements between choices of similar and dissimilar goods notwithstanding at the moment). Along with this, they emphasise how decision-making in the real world is confounded by limitations in understanding, in what those who make choice know about the relative merits of the alternatives in front of them.

This way of treating choice glosses much that is of importance. Take as an illustration the following somewhat playful (and certainly English) scenario. There are fish and chips and a sponge cake on the table. An individual sits beside the table and is confronted with a choice. They can eat the fish and chips or the cake but not the fish and chips and the cake together (at least, not within the conventions of seemly dining). Thus the diner's eating the cake is a matter of eating the cake first *rather* than the fish and chips *or* vice versa. The fact that there are, theoretically, alternatives that entail choosing both, the question really being one of order, can therefore be considered unimportant in explaining how the diner comes to choose what they do and what should be subject of inquiries into that choice. Choice here is not, then, a logical choice between independent acts A and B. The two acts are interdependent and defined in part by conventions (i.e., don't eat cake with fish and chips; eat them as separate entities, first one, then the other). One might add that conventions such as this are sometimes so taken for granted that they can lead one to forget, or at least fail to see clearly, how they frame choice situations. Choices subject to any inquiry need to be understood carefully before any attempt to explain them is made – their conventional features recognised, the particular logical relationship between acts deriving from choices determined.

There are other issues. Not only are these choices bound to each other but the selection of one or the other is also, obviously, a matter of *what* to choose. The preferences of the persons in question are self-evidently pertinent. To inquire into the nature of choice presupposes, then, that the diner be assumed to be a reasoning creature where that reasoning needs some explanation – all the more so if those reasons might be said to be constrained, inhibited or even irrational to some degree. *Explaining* choice consequently turns out to be quite an encompassing task, whether one is taken

with the experimental method or is focused on real-world sites of action. Choice is rarely if ever simply between things, but has to do both with the character of that choice (that it might require serial ordering, say) and with who makes the choice. What starts out as something that looks like a question of logic and information processing turns into a question about the nature of the creature that makes the choices – a creature with preferences, habits, a capacity to process information, perhaps, but also a creature that might be wilful, deceitful or simply lazy.

It is in these ways that 'choice' quite often ends up pointing towards the ineffable – and thereby something that needs explaining, something that needs inquiry, that deserves a 'science'. To say that people reason and that they choose is not, in itself, enough. The trouble is that, when the word 'explaining' is brought into play, a raft of other considerations result. The fish, chips and cake example is conceived of in very simple terms indeed, but the point of studying choices isn't to go around finding out what *specific* reasons people have for choosing one thing over another – at least it most often isn't. More commonly, studies of choice try to identify *general* principles on the basis of which people make any and all choices. This is not an easy undertaking. And if this is the goal of understanding (to generalise, say), then there is a requirement that the resulting level of generalisation satisfy the conditions that those making the study set out as acceptable, proper explanations, at the right level, with the right methodological proofs of evidence and justification.

Generalisation has various forms, of course, but if it is a label for an effort to systematise knowledge there is still a distinction of considerable importance between this and what one might call scientific knowledge. Philosophers seek to generalise, and this is not the same as what scientists do; their generalisations are of another order. The key difference – and of course this is simplifying but sufficient for the point we are making – is the relationship between evidence and explanation. This is, to say the least, a tricky and delicate affair and can distinguish many of the disciplines from each other and not just those that cast themselves as either scientific or philosophical.

Consider: a scientific approach seeks (or claims) to discover the truth about why people choose one thing or another, but, if it does this, are these reasons, the ones that science uncovers, different from the ones that people themselves avow? What does it mean to say that the reasons for an action are *not* the ones that the parties in question think they have? It seems very reasonable to say that some kinds of explanation of human conduct don't entail looking at the reasons people themselves have, but not in all cases. The contrast between when one would want science and when one would want

another order of explanation is not then so simply made. It becomes even more complex if it is the case that the way people organise their affairs is through conscious recognition of the role their own and others' choices make on the situation in question: *where it is reasons that both oneself and others have* that determine what gets done in a particular situation. Whether these reasons are good or bad, right or wrong, is moot; what needs to be recognised is that it is this – reasons as understood and acted upon – that is to some degree constitutive of the behaviour in question. What then of scientific inquiry? Is it offering something that is to compete with this role of reasons in action? How would it compete? Could one have a revised notion of scientific inquiry which made reasons as so conceived the topic? Wouldn't this be best described as more like an empirical philosophy anyway? Why the need for the label 'science'? And thus we end up having to reflect on disciplinary views about science and other evidence-based social sciences and humanities, about the relationship between evidence and explanation, the role of method and generalisation, and much else besides.

As we end our introductory sketch of the topic, we can see then that, when one asks 'What is a decision?' and 'What does it mean to "make" one?', these questions are less trivial than they appear. As should be clear, the first question is to do with what a decision is and has a number of different and competing answers depending upon where one approaches the topic and, as part of that, what one assumes and how one wants to measure 'success' – what a good answer looks like. The second question, to do with what it means to make a choice, is equally complex. When we ask what a decision might be, are we referring to an outcome, to a particular kind of process which applies in limited circumstances, or to a categorisation of human activity which can be universally applied?

As is obvious from what has already been said, the answers to these questions can lie in the disciplines and the purposes they lay out for themselves. But however hard one tries there will be dispute between disciplines, each claiming to be the best, and this will turn out to be a dispute about what the purposes of different disciplines might be and the appropriateness of the concepts, methods and theories deployed by each in pursuit of these goals. If one is bold enough to seek an approach that is not constrained by disciplinarity, one needs to ask who might be interested – not the trades that have built a business by having a view, a stance on choice already. Choices about choice, about what it is, how it might be examined, what one seeks thereby, are far from easy. One needs to take a view from 'here', this discipline, or 'there', that discipline, and, if not from these places, from an alternative that needs to justify its start-

ing point. One cannot view choice from anywhere at all. It really isn't like choosing between fish and chips and cake.

Who is this book for?

The nature of what is implied with the word 'choice' is, we are saying, quite wide and is subject to already well-defined disciplinary framings. Consequently, we think that the appeal of this book will be wide too. But we have to be careful as we say this – for, while this very breadth might excite some, it puts others off. The book is certainly for people schooled in the various disciplines constitutive of the social sciences and the humanities, sociology, economics, philosophy, psychology, and so on, and it will be especially appealing to those who wonder whether there are things they might learn from outside the landscape with which they are familiar. It is for those, in other words, who feel themselves sensitive to the kind of conceptual assumptions made in such inquiries, the reasons for those assumptions and how that frames answers to what choice 'is'.

To be absolutely clear, however, we are not wanting to demolish the arguments one finds in this space through seeking a view that looks at them dispassionately, and from afar. Though disciplines can treat the topic of choice so differently that it can at times seem as if the disciplines in question view the reality of choice quite differently too, this doesn't meant that some views must therefore be wrong. As should be clear by now, we have to accept, and will indeed show, that there are good reasons for the variety of perspectives one can have on choice. But this doesn't preclude observing that sometimes the reasons offered for some view are not sufficient to justify it. One has to separate legitimate differences in perspective from what might turn out to be quite grandiose empirical claims, for example, which neither credit the discipline in question nor fairly represent other views – views which might be criticised in the campaign to justify the aggrandising discipline. We should be plain, consequently, that our audience is not for those who are interested only in the disciplinary views. We are writing for those who seek to look at the disciplines for the ways they offer and, through considering this, hope to benefit by seeing all these views as legitimate alternatives about how to look at choice. With that perspective – a view of the wood for the trees, if you like – we think the reader of the book will find themselves better able to navigate their way around the subject of choice.

Something about us, the authors, might help explain the conviction we have that this view has merits. Though we were all trained primarily as sociologists, our careers have developed in *interdiscipli-*

nary inquiry. Variously, we have been interested in social philosophy and, more specifically, the philosophy of Ludwig Wittgenstein, in methodological issues surrounding the way in which human beings make use of technology, in how the mind works and whether this has anything to do with computation, in the design of computational artefacts of one kind or another, and so on. As such, our research has ranged over a vast territory. Included in this have been studies of the way classic economic thought is based on a notion of 'revealed preference' and what kind of work is done with this; of the way some sociologists have tried to use conceptions of rationality to explain what kinds of choices people make in society; and of the way biology has intervened in philosophical debates to suggest means of understanding human motivations. Our inquiries have been widespread as a consequence.[3] What we have learned, if anything at all, is a kind of modest scepticism about the idea that any *individual discipline* can provide anything that looks like a universal explanation of human behaviour. For one thing, the evidence seems to us to make that enterprise – singularity in explanation – look unwise. As should be clear from our sketch above, choice is not anything except an exemplar of a topic that can be looked at in a variety ways. To impose one view is simply narrowing the topic, not exploring it.

Besides, allowing any one discipline some imperial-like status runs the risks of pastiche. Back in the 1970s, for instance, Leijonhufvud observed,

> They [the Econ] are not without some genuine and sometimes even fierce attachment to their ancestral grounds, and their young are brought up to feel contempt for the softer living in the warmer lands of their neighbours, such as the Polscis and the Sociogs. Despite a common genetical heritage, relations with these tribes are strained – the distrust and contempt that the average Econ feels for these neighbours being heartily reciprocated by the latter – and social intercourse between them is inhibited by numerous taboos. (1973: 327)

This satiric comment on the attitudes of economists would, of course, apply equally well to those working in any discipline (and

[3] Books that we have published variously together and with other colleagues that are representative of this range include *The Myth of the Paperless Office* (A. Sellen and R. Harper; Cambridge, MA: MIT Press, 2002); *Brain, Mind, and Human Behaviour in Contemporary Cognitive Science* (J. Coulter and W. Sharrock; Lewiston, NY: Edwin Mellen Press, 2007); *Fieldwork for Design* (D. Randall, R. Harper and M. Rouncefield; New York: Springer, 2007).

reflects the fact that many cross-disciplinary exchanges are dialogues of the not-listening-very-carefully). As Crowley and Zentall observe, however, these developments take place 'to date with surprisingly limited trading of ideas across disciplinary boundaries' (2013: 1). Of course, answering why this is could make for a book in itself. One would need to ask what limits the disciplines set for themselves such that this trade is so difficult to establish and maintain; one would have to ask too why it is that, where such attempts are made at interdisciplinary exchange, they are routinely challenged or, worse, ignored by those entrenched within particular frameworks.

Though this is not the book we present here, nevertheless the history of the concepts that the disciplines hold so dear and the reasons for their persistence is very much at the heart of what we are about. This is because these questions (and others) inform the topic of choice itself. For the evidently human capacity to reason and decide is at once a crucible for muddles about data and disputes about method; it is also rife with opportunities for researchers to make claims that treat choice and its nature very differently. As a result of this, researchers in this area, we have found, too often choose to talk past each other – and frequently don't realise that they are doing it.

Our plan with this book is to help explain, at least in some substantive cases, why this happens and why those who study choice sometimes choose to ignore other approaches to the topic. As we explore this, we want to show that, despite these troubles, there is evidence about how people choose, why they choose and what they choose that can be subject to rigorous, insightful or at least perspicacious inquiry. This book is not for those academicians who are happy to run with their professional starting points, then, but for those who wonder what might be learned if they look at those starting points themselves and consider, as they do so, where else they might get even before the standard disciplinary enterprises begin. It turns out, as we shall see, that we can make choices about choice even before we start to say what choice is or how we might look at it, or, better still, how we might learn to make our choices better given where we start from.

2

THE ORIGINS: CHOICE IN ECONOMICS

In this, the first substantive chapter, we will explore some of the starting assumptions that are found in perhaps the most dominant of the social sciences, and certainly the one evoked as the source of ideas about reason and choice being a logical, rational matter. This is the discipline of economics, which has often been thought of as the most 'scientific' of the social science trades, doubtless because of its insistence on rigorous mathematical modelling. Perhaps more importantly for us, this modelling is based on what looks like simple assumptions – that people are motivated by self-interest, and specifically by money. Something that is less often stated is that the simplifying assumptions are precisely what allow models to be built in the first place. When these assumptions are described in detail (something we shall do shortly), many people would (rightly) observe that real people aren't like that, and that they are more complex than the picture the economists paint, but they would be wrong to conclude that economists aren't aware of this. The very fact that economists term their assumptions 'simplifying' indicates their awareness that actual situations in the lives of individuals – even when confined to the economic sphere – are much more complex than can be captured by the economic perspective. But part of the reason why this doesn't worry economists is that their problem is not to understand how individual *minds* work; it is to understand how *economies* work. It is not what the model starts with (or consists in) that matters – the individual, the actor, the subject; it is what this ends with – the imagined economy. The basic model of *homo economicus* is provided not so as to draw non-economists into accepting a thoroughly misleading idea of what people are like – though this almost certainly is a consequence it can have – but in order to provide initial traction in working out how economies considered as an ensemble of innumerable economic choices organise themselves.

Having said that, the starting place of economics, though simple and regarded as such by economists themselves, as we say, needs some examination. If we recall the fish, chips and cake example from the first chapter, what we see is that economists make decisions about what choice looks like that preclude other apparently just as simple and reasonable starting places. They do this under the umbrella terms 'rationality' and 'rational action' in such a fashion that it is all too easy to forget quite how consequential their choice about choice can turn out to be.

To be economically rational

One can begin to explore this by recalling that the term 'rational' is often used in everyday language to describe the quality of people's reasoning, typically in reference to some situation. 'They think about it logically', one might say. But this usage doesn't imply that that person so described is therefore making the right decision; they may or they may not. What the phrase labels is merely the character of the reasoning process: it was or is logical. In this view, rational action originates in rational thought. Whether that is 'good' thought or appropriate action is another question.

For economists, the use of the term means something much more particular – something that relates to the ordering of preferences. At the most basic level, it implies that people choose on the basis of preferences which are hierarchical. When economists use the term 'rational' they also take for granted that this ordering is consistent through time – otherwise it would not be possible to predict people's actions on the basis of their preferences. Basically, how people act today will be how they act tomorrow. In addition, though this is not necessarily implied when they say 'rational' (it being more a question of hope), economists treat people's preferences as being mostly organised in pairs: if one prefers A to B, and one prefers B to C, then C to D, and D to E, then one prefers A to E. If, in other words, one's preferences are paired in this way, then one would – one *does* – choose the first of the pair over the other, and that order of preference extends throughout the sequence so that it covers also the various other paired alternatives featuring those same items. One's preferences are assumed to be consistently ordered and thus *transitive*. Finally, when economists use the term 'rational', they also imply its opposite. That is to say, given their definition, it would be by definition irrational, when offered a choice between A and E, to pick E. This is consequential, because it turns out that the definition of one, of rationality, by default creates a set of actions that is a con-

trast pair with the first: the rational goes with the irrational. It is no wonder then that, when economists look for rationality, they often find irrationality. And these categories are not necessarily related to how the persons in question – the rational actors, so to speak – think of their own actions; this contrast pair is a construct of economics.

Some economists question whether people's rationality has all these features – its logical shape, its opposite, and so forth. (Those from other disciplines do so as well – something we shall come to much later.) Queries are made about whether there are cases of *reverse* preference, for example, when people at one time choose A over B but at another time choose B (this leads to stochastic models, among other things). Doubts are also raised as to whether behaviour that does not fit the starting model needs be described as 'irrational' or whether it should be labelled a different kind of rationality (and, if this is so, how one might label it). Since we are here exploring these things only at a fairly basic level, there is no need to go into these matters when our point is only that this basic notion of rationality, this view from economics, doesn't really apply to the *quality* of reasoning at all but simply to the way in which (at least supposedly) people's *preferences* operate. And, furthermore, this notion is somewhat generalising about human nature, insofar as it assumes that all people act this way – there are no odd bods choosing their preferences randomly, for example.

All these assumptions sound reasonable, and indeed they certainly afford a place to start about which few would dispute. But before we go further to examine what consequences follow on from this, consider by way of contrast an alternative starting description of rationality. Karl Popper, the great philosopher of science, argued that 'situational rationality' should be the basis of what is perceived as reasoned behaviour for the social sciences, and in this he wanted to include economics.[1] This is not a rationality in terms of preference ordering but one which applies the standard of effectiveness to the choice of means for a particular end. It's not choice between objects that matters, in other words, but how to get to one of those objects when they are treated as goals. Others too have suggested this contrast between types of rationality; the sociologist Max Weber explored this issue well before Popper.[2] The point is that both views do seem reasonable starting places – simple, to be sure, and probably a good way to capture a lot of human action. But

[1] This is not something for which Popper is most famous – his notions about the character of science being better known. But, for a good introduction to this aspect of his various works, see Notturno (1988).

[2] See in particular Weber ([1949] 2011).

already one can see some of the consequences that follow on. Let us focus on Popper's view to continue this.

There are, according to Popper, at least two ways of considering means–ends rationality in the social sciences. One adopts current scientific knowledge as the standard of assessment of people's actions towards some end. Science is used to judge whether some actions are rational in effectively achieving the actor's end. Typically, this view is illustrated by comparing those who consult an oracle or a witch doctor to cure their illness against those who use something like standard Western medical treatments to cure themselves. The latter are viewed as being more rational – much more rational – in this matter than the former. Both have a goal in mind, but, with regard to means – witchcraft or science – one is logically more likely to deliver that goal than the other.

The second view focuses on understanding the choices from the chooser's point of view. As it happens, this is a concern that Popper had, though whether he quite understood what all this implies is moot. But, from that starting point, a rational choice is one which entails picking an end which is appropriate, given the chooser's goals, where 'appropriate' may feature means which are conventionally considered appropriate in the situation. The point is not, in this view, to determine whether the chooser got the choice objectively right – i.e., by reference to, say, a scientific measure of what is right – but to understand, in the terms of the chooser's own reasoning, whether they selected the means they did because they supposed that these were the best for *their* ends. That is where the question of rightness fits. If one figures the measure of that rightness out, one has a better understanding of why the individual used one means rather than possible alternatives, Popper argued. As it happens, he placed great emphasis on the importance of 'unintended consequences' and so didn't build into his ideas the supposition that the choices that people make would always yield the best result for the chooser or for society as a whole. His view is intended to draw attention to how means might be chosen; choice is relative to a situation is his starting premise.

From starting points to persons

There are, then, a range of notions of rationality available even when we start at the most elemental, extremely simple, level. As we see already, some treatments are much more likely to produce judgements of irrationality than others; to assume there is an objective measure of 'rational' implies what is not rational. By the same

token, irrespective of which starting premise one has, one should begin to see, also, that these starting points imply other matters that one can grossly describe as to do with 'perfection'.

Key to the salience of this issue – perfection – is the relationship between this notion and reality itself or, more particularly, various emphasised aspects of reality. If we confine ourselves to economics, the assumption of 'perfection' is most often connected to considerations about markets and not to how some individual is confronted with information and choice, perfect or otherwise. In the market emphasising view, it is assumed that markets in which there are many buyers and sellers can be not unrealistically considered as pretty much all in the same position. None of them can, through their individual action, affect the price level – they are too small a part of the whole to have an effect on it. Thus, for a large market with many buyers and sellers, it can be assumed that everyone in the market knows more or less the same as everyone else and, for the purposes of optimising preferences, each and every actor knows all they need to know. Here lies perfection, as economists understand it.

Considered this way, the idea is less a way of endowing market participants with seemingly superhuman powers than it is a way of rendering the distribution of information in the market *irrelevant* to the economists' deliberations. This simplifies the calculation of market behaviour. But this is not done by falsifying what individuals know; assumptions about what they know and will do seem quite acceptable – realistic, one might say. This can stand as the reasoned and empirical justification for the 'perfect' assumption.

The perfection assumption is not always good enough to work with, however, even for economists. Some ways in which features of economies work require more care as regards what is meant. The situation in question demands it, one might say, though, as we shall see in a moment, the cases in question turn out to be economic ones. This is important to bear in mind, since the revisions the economists seek are still intended to enable them to inquire into imagined things – economies – and not to offer empirical insight into individual acts whose specific properties are not required to imagine (or test) those economies, even though these individuals are, in a loose sense, the assumed elements within these constructs. It is the behaviours of these individuals which have to be recast to fit the adjusted notion of perfection in such instances.

When economists assert that businesses have a 'logical' tendency to maximise profit, for example, it implies that a company is persistently and exclusively directed towards the pursuit of the greatest level of profit. But, so conceived, rationality, the selection of the