

[Review] Gerd Gigerenzer (2015) Simply rational: decision making in the real world

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Gigerenzer, G. (2015). *Simply rational: Decision making in the real world*. Oxford and New York: Oxford University Press. Pp. x+312. ISBN 978-0-19-939007-6. £51 Hardback.

In an era when we, in the UK at least, are forced to present ever more convoluted accounts of how our research might have impact in the real world, it is refreshing to be reminded of high-quality research, related to important theoretical questions about reasoning and decision making, that wears its impact on its face. Gerd Gigerenzer's work on health statistics, which occupies 100 pages or so of this volume, reminds us how easy it is to misinterpret information about risk, to be unnecessarily perturbed by the results of screening tests (or, worse, to be subjected to unwarranted and potentially dangerous treatments by medics who also misunderstand that information), and to be confused by survival rate data and their relation to overall mortality rates. Fortunately for us, Gigerenzer has taken to schooling health professionals, and others who need a proper understanding of risk in their professional lives. We, too, can benefit from his schooling –by reading this book. Coincidentally, I was recently interested in the question of the benefits of otherwise of statins and was led, by another author, to consider overall mortality rates, reflecting one of Gigerenzer's key points.

Simply rational starts with some short pieces on health statistics, aimed at health professionals, and follows them with two more substantial pieces, one broad, and a second focusing more specifically on screening and its problems. There follow sections on heuristics, and in particular Gigerenzer's recognition heuristic, and on intuition. Of the two chapters in the final part of the book, the first berates behavioural economics and neuroeconomics for retaining the "as if" approach of utility theory, rather than trying to model properly the psychological processes that underlie effects such as framing and endowment. The second asks why there is no overarching theory in psychology.

There is much to recommend about this book, though its pieces are readily available elsewhere. Indeed, *Simply rational* is Gigerenzer's third book of collected papers, following *Adaptive thinking* (2000) and *Rationality for mortals* (2008). Gigerenzer's work on the use of frequencies rather than probabilities in understanding health statistics is probably both the best known part of his research and the most important for everyday decision-making. However, because it is well known, many psychologists will already be familiar with it. Questions about survival rates versus overall mortality have also become increasingly prominent, as my own experience illustrates. Gigerenzer's presentation of this issue, as always, is lucid and easy to follow. We can understand health statistics, if only someone will show us how. And Gigerenzer is more than happy to do so.

The type of research presented in *Simply rational* has received increasing prominence in the last decade, following the award of the Nobel Prize in Economics to Danny Kahneman, and the publication *Thinking, fast and slow* (Kahneman, 2011). There has always been an uneasy relationship between Gigerenzer and Kahneman and Tversky, and that tension is never far from the surface in the current volume. It can be traced back to, among other things, the

fact that some of Kahneman and Tversky's demonstration experiments misled their participants (in Gigerenzer's way of thinking) by using proportions or probabilities instead of frequencies. But that is not the only realm in which the tension emerges. In this volume, for example, there is a paper on the "hot hand" effect, dismissed by Gilovich, Vallone, and Tversky (1985) in their analysis of basketball statistics, but re-emerging, in Gigerenzer's estimation, in the domain of volleyball.

Another more broadly contentious issue, revisited by Gigerenzer, took me back to my undergraduate days. I was taught that there is a crucial distinction between judgement or decision making under risk and judgement or decision making under uncertainty. In the intervening years, there has been an unfortunately tendency in some parts of the judgement and decision making literature to model uncertainty as a probabilistic distribution of risks. For the most important decisions we make in our everyday lives, this kind of modelling does not make sense. As Gigerenzer reminds us, we use "heuristics" in making these decisions, not because it is too hard to do the utility calculations, but because they cannot be done.

Simply rational is full of interesting findings and good advice. If you haven't read the papers before, I strongly recommend the book.

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