

In summary, Adler's book is state-of-the-art, and all the objections that I raised above (and many others!) are anticipated and addressed in depth. Because many of the issues are technical and complex, the book is not an easy read, but the book does a superb job at presenting issues in highly intuitive terms. Anyone with serious interests in consequentialist moral theory should read this book.

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## *Probability in the Philosophy of Religion*

D. H. MELLOR

### *1. Introduction*

The essays in this volume<sup>1</sup> discuss probabilistic arguments, many of them familiar to decision theorists, epistemologists and philosophers of causation, that are now often invoked by philosophers of religion. Its 12 chapters are grouped into five parts, preceded by an editorial introduction giving a concise history of the burgeoning literature exemplified by the essays it summarizes and relates.

This collection is well worth having, despite its chapters varying almost as widely in quality as in topic. The best half-dozen tackle important issues clearly, concisely and with little or no needless technicality. Others are less well written, with several of them 'working out to seven places of decimals a result only valid to two' (Ramsey 1926: 76). But the volume's most widespread and serious defect is the uncritical use by too many contributors of relevantly contentious Bayesian assumptions, despite the well-founded criticisms by C.S. Peirce discussed in Chapter 2.

### *2. Part I. Testimony and miracles*

The three essays in Part I take off, one way and another, from David Hume's essay 'On Miracles'. Each looks at how well probabilistic theories of the evidence of testimony apply to that special case. Benjamin Jantzen's Chapter 2, 'Peirce on Miracles:

1 *Probability in the Philosophy of Religion*. Edited by Jake Chandler and Victoria S. Harrison. Oxford: Oxford University Press, 2012. viii + 253 pp. £37.50.

The Failure of Bayesian Analysis', assesses Peirce's too-little-known attacks on a Bayesian reading of Hume. This is a reading that credits Hume with balancing the prior probability of a miracle  $M$  against the probabilities that independent witnesses, testifying to  $M$ 's occurrence or non-occurrence, do so truly.

Jantzen follows Peirce and others in stopping ' $M$ ' begging the question by entailing the supernatural thesis ' $G$ ' for whose truth  $M$  is supposed to be independent evidence. He does so by taking ' $M$ ' to report an 'unprecedented or extremely rare event' (30) that may or may not have a supernatural cause. This makes  $G$ 's epistemic probability, on the evidence  $E$  of the testimony for and against  $M$ , a function of two other probabilities: (a) of  $M$  given  $E$  and (b) of  $G$  given  $M$ . Considering (a), Jantzen looks first at Peirce's claim that a one-off event like  $M$  cannot have an objective probability. While that is true on Peirce's own limiting-frequency theory of probability, it is not true on all theories of probability. In particular, as Jantzen notes, propensity and Bayesian theories can each credit  $M$ , and hence the truth of ' $M$ ', with a more or less precise probability.

What Jantzen does not say is that while the probability that propensity theorists can credit  $M$  with is indeed objective, being independent both of what we believe and of what non-question-begging evidence we have, Bayesian probability is not. The only probabilities Bayesians can credit  $M$  with are credences, that is probability measures of degrees of belief, in this case of how strongly people believe that  $M$  occurred and hence that ' $M$ ' is true.

Peirce raises other problems too. It is no news that even if Bayesians can tell us what we should *expect* to perceive, they cannot tell us what we *do* perceive: our perceptions are inputs, not outputs, to Bayesian conditionalization. And these inputs are constrained as much by the limitations of our concepts as by those of our senses: I can no more see what I cannot conceive than I can see in the dark. Our conceptual limitations, moreover, limit the outputs as well as the inputs of conditionalization: without a concept of money, for example, we could neither see nor infer anything about the prices of goods. So however we get *new* concepts, such as new concepts of God induced by seeing an apparently miraculous event, it cannot be by conditionalization.

Nor is this conditionalization's only limitation, since perceptions are not its only inputs: so are our existing ('prior') credences, on which their 'posterior' values also depend. Deriving these from earlier priors by conditionalization is no help, since *any* posterior credence between 0 and 1 can be so derived from *some* prior, from which it follows that sensory evidence can only constrain the former if something else constrains the latter. And as for past priors, so for present ones: Bayesianism cannot rule out *any* coherent set of credences that our existing ones, however daft, make our perceptions give us.

Take Othello, whom Iago makes so jealously suspicious of Desdemona that conditionalizing on whatever she then says only strengthens his suspicion: reactions whose Bayesian rationality makes no less mad. If this does not make Bayesianism false, it does at least make it seriously incomplete as an epistemology, as the very concept of perception shows. For what stops jealousy being a perceptual sense, as sight and hearing are, is that it lacks a reliable perceptual mechanism, that is one that gives the content of the high credences it causes a high enough chance of being true to justify conditionalizing on them.

Which brings us back to testimony, and yet another Peircean objection to Bayesian readings of Hume. People who (think they) witness a strikingly ‘unprecedented or extremely rare event’ *M* are far more likely to testify that they did than equally well-placed witnesses who saw nothing striking are to testify to that. This biases the evidence towards *M* and makes the testimonies of witnesses unlikely to be probabilistically independent: for, as Peirce says, ‘the same circumstances which lead one witness into error are likely to . . . deceive another’ (Jantzen 36).

Hence Chapter 3, Timothy and Linda McGrew’s ‘The Reliability of Witnesses and Testimony to the Miraculous’. The McGrews are critical of models like Condorcet’s, ‘in which the two variables are the reliability or truthfulness of witnesses . . . and the antecedent probability of the event’ (46). Instead, they say, ‘the Bayes factor should represent not a *feature* of the witness alone (reliability) but rather a *function* of our evidence about the epistemically relevant features of the witness, the situation in which he testifies, and their interaction’ (57, their italics). Maybe so, but as we’re not told what this function is, or how to apply it to our evidence, that’s more a pious platitude than a testable explanatory theory.

In Chapter 4, ‘Does it Matter whether a Miracle-Like Event Happens to Oneself rather than to Someone Else?’, Luc Bovens argues that it does, meaning that seeing a miracle-like event is better evidence for it than being told about it. That may be true by default of uninteresting events, where relying on the testimony of others merely adds their unreliability to that of our own senses. But not always: I am often rightly surer of what sharper-eyed or better-placed – and hence more reliable – witnesses tell me they saw than of what (I think) I saw myself. Often, then, we do and should let the testimony of others outweigh the direct evidence of our own senses. And Bovens’s essay does not persuade me that we should never, or more rarely, do this when the events are ‘miracle-like’.

### 3. Part II. Design

The two essays in Part II are also infected by the limitations of Bayesian epistemology; though not, I’m glad to say, by taking creationist denials of evolution seriously. In Chapter 5, ‘Can Evidence for Design be Explained Away’, David Glass takes evolution’s compatibility with supernatural design for granted. His question is whether its natural explanation of the existence of complex organisms stops these organisms giving us some evidence for design and he uses a Bayesian analysis to argue that it does not. He then applies his analysis to the impact on ‘fine-tuning’ arguments for design of the ‘multiverse’ theory, that our universe is but one of many, which makes it trivially true that a universe with biological complexity will be fine-tuned for it. Here, he concludes that the fine-tuning argument for design would be completely explained away if we knew we lived in a multiverse, but that, as we don’t, it isn’t.

The error in Glass’s argument is his confounding physical probabilities, or chances, which can explain things, with epistemic probabilities, which can’t. What makes a tossed coin’s landing on edge surprise me is my taking that event to have a low chance. My surprise would be less, and the event better explained, only if I thought, and rightly, that the coin had a higher chance of landing on edge, for example because it was deliberately dropped to do so. But a multiverse doesn’t explain our universe’s fine tuning by giving it a high chance, since that would have to be an extra contingent

feature of our universe, as a coin's chance of landing on edge is of how it's tossed. All multiverse theories do is misread – as an explanatorily high chance – the high epistemic probability of our universe's containing biological complexity given that we can see it does. But however high this probability is, it no more explains fine tuning than the high epistemic probability of a coin's landing on edge, given that I saw it do so, explains that event.

Similarly, if less obviously, with design arguments. Evolution explains biological complexity by giving it a sporting chance of occurring in a universe like ours. Design would only do that if an able designer, for whose existence, intentions and ability we had the independent evidence we have for evolution, had intended it. But I, like Elliott Sober (2005), whom Glass cites but disagrees with (91), deny that we have any such evidence. And without it, the biological complexity of our world cannot be explained by the high epistemic probability it would have were we given an omnipotent designer who intended it, if only as a means to an end, since we are given no such thing.

The same goes for Part II's other essay, Richard Swinburne's Chapter 6: 'Bayes, God and the Multiverse'. Its key premise is that the simpler an explanatory hypothesis of given scope is, the greater its intrinsic probability, that is its epistemic probability given only tautologies (106). Swinburne then thinks it 'fairly evident that any ordinary non-theistic one-universe hypothesis... which predicts the fine-tuning... that theism also purports to explain will not be nearly as simple as theism, so the disjunction of all such hypotheses [i.e. an atheist multiverse hypothesis] will not be as simple as theism' (110). Maybe so, but that will not help if, as I have just argued, neither a multiverse nor a theism tailored to entail fine tuning can explain it. Fine tuning for any X (e.g. us) is explicable only by the laws and initial or boundary conditions of our universe – or of whatever parent universe spawned it – giving X a fair chance and then, obviously, nothing can explain them. For even if, *pace* King Lear, something did come of nothing in an original Big Bang, nothing can be known, a priori or otherwise, that could explain why what came of *nothing* was fine tuned for anything.

#### 4. Part III. Evil

Neither of the essays in Part III takes the world's suffering to be incompatible with traditional theism. Instead, each considers whether it reduces the probability that a 'deity of immense power, knowledge and goodness' (Introduction, 10–11) exists. Both concentrate on a 'sceptical theism' that credits its deity with a good reason to permit evil, but one we cannot understand (130). The first, Richard Otte's Chapter 7, 'Comparative Confirmation', argues that such 'theists may reasonably hold that our ignorance of a good reason actually supports their religious beliefs over naturalism' (141–2). He supports this conclusion with both Bayesian and likelihood principles, the latter making the evidence (that evil exists) support whichever hypothesis (theism or naturalism) makes that evidence more probable. The objection to this, that likelihood ignores, and Bayesians fail to justify, a theist's prior credence in theism, Otte evades by only showing how theists who apply these principles to their own credences can thereby convince themselves, if no one else, of their epistemic propriety.

The modesty of Otte's achievement is made clear in Part III's second essay, Michael Tooley's Chapter 8: 'Inductive Logic and the Probability that God Exists: Farewell to Sceptical Theism'. Tooley uses a Carnapian inductive logic (Carnap 1962, Appendix) to argue that the vast number  $n$  of events (e.g. past and present lives) known to have 'wrongmaking' properties (e.g. suffering) stops any amount of unknown 'rightmaking' properties raising the posterior probability of a theist's deity above a very low upper bound  $p$ : for example if  $n$  is a billion,  $p$  is less than 1 billionth (160). His argument is controversial, not least in deriving the prior probabilities it needs from an a priori inductive logic. I think they can and should be derived a posteriori from the myriad known instances of unmitigated evil, and the ample evidence that 'rightmaking' properties are as knowable as 'wrongmaking' ones. Sceptical theists who deny this seem to me on an epistemic par with 'sceptical Satanists' who say we cannot understand the good (i.e. sufficient) reason they think their omniscient, omnipotent and malevolent creator has for permitting goodness. For on the one hand, both parties face a reliabilist version of Tooley's argument showing that a world with as many morally diverse events as ours makes their supernatural beliefs almost certainly false; whereas on the other, if they prize Bayesian rationality above probable truth, both can use Otte's argument to bootstrap their improbable convictions into being evidence for themselves.

### 5. Part IV. Pascal's wager

The two essays in Part IV use decision theory to assess Pascal's 'pragmatic' arguments for 'wagering on God', that is for acting in a way intended to make us believe in God because (we believe) he saves believers and damns others. In Chapter 9, 'Blaise and Bayes', Alan Hájek shows that most versions of Pascal's arguments for doing this are invalid. In particular, the 'argument from dominating expectation', as usually stated, gives a 'mixed strategy' (e.g. 'wagering for God' if a coin toss lands heads, and wagering against if it lands tails) the same infinite expected utility as simply wagering for God. He then argues that the most Pascalian way to fix this fault is to give damnation infinite negative utility, thereby making the mixed strategy's expected utility indeterminate and so less choice-worthy than the determinately infinite expected utility of wagering for God.

Part IV's second essay, Paul Bartha's Chapter 10, 'Many Gods, Many Wagers: Pascal's Wager Meets the Replicator Dynamics', tackles the objection that if there is more than one god that I think may exist, that is in whom I have a finite credence, then wagering on any one of them has, for me, the same infinite expected utility. Bartha meets this objection by invoking what he calls 'Schlesinger's principle' (190): wager on the god in whom one's credence is highest. His problem then is how to make decision theory justify this. Bartha's solution exploits the fact that wagering on a god changes the very credences used to motivate the wager, increasing that in the god wagered on and reducing the others. So for Pascal's wager to work, these new credences must not change Pascal's recommended wager. In other words, the credences Pascal's wager induces must converge on what Bartha calls a 'stable equilibrium' (201). He then shows that, given three initially credible gods A, B and C, where A is 'jealous' (only rewards believers in A), B is 'grouchy' (rewards only disbelievers

in A and B) and C is 'very nice' (rewards everyone), his version of Pascal's wager makes any initially positive credences in A, B and C converge on credence 1 in A and 0 in B and C. In short, as he puts it, 'belief in jealous gods is tenacious' (203), a conclusion that the prevalence of belief in jealous gods makes as credible as it is depressing.

### 6. Part V. Faith and disagreement

The first of the two essays in Part V is Joshua Thurow's Chapter 11: 'Does Religious Disagreement Actually Aid the Case for Theism?' In it, Thurow asks whether, when the credences of 'epistemic peers' (equally qualified experts) in a proposition  $p$  differ, those credences should converge and, if they do, whether they can ever converge on 1 or 0, that is fail to produce epistemic 'spinelessness' (210). He says they can, since epistemic peers will always agree on much background evidence  $e$  and differ only on some extra evidence  $f$ . This fact, as he uses a forensic example to show, permits the merging of high and low credences in  $f$  – and in how far, given  $e$ ,  $f$  supports  $p$  – to make initially high and low credences in  $p$  converge on 1 (or 0). He then applies this to two religious examples of contested evidence  $f$ : of miracles for  $p$  (theism), and of 'horrendous evils' (219) against  $p$ . In both cases, he argues, averaging the contrasting credences in  $f$  of theists and non-theists can make their credences in  $p$  converge on 1 or 0. Both, in other words, 'may well be able to use disagreement to their epistemic advantage' (222).

The topic of this volume's final essay, Lana Buchak's Chapter 12, 'Can it be Rational to Have Faith?', is not just religious faith but faith in general, which she takes, I think rightly, to be confined to what matters to us. After asking how faith in general goes beyond evidence, she concludes, after convincingly rejecting three other answers, that it does so by 'terminating the search for further evidence' (225). She then argues that faith that X, so understood, can be practically rational, that is conform to Bayesian decision theory, but only if an agent A's (rational) credence in X is so high that no further available evidence would (A believes) count sufficiently against X to make that decision theory tell A to act differently.

Buchak doesn't say whether her well-argued criterion can make religious faith rational, but I doubt it. I still have faith in the generalized Humean conclusion that 'whoever is moved by *faith* to assent to [theism], is conscious of a continued miracle in his own person, which subverts all the principles of his understanding, and gives him a determination to believe what is most contrary to custom and experience' (Hume 1748: 131, his italics).

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## *What We May Demand of Each Other*

SIMON CĂBULEA MAY

The subject matter of Gerald Gaus's *The Order of Public Reason* is the justification of morality considered as a social practice.<sup>1</sup> It is not sufficient for a social moral practice to exist that a group of people believe themselves bound by a code of moral rules. In addition, Gaus claims, the people must make moral demands of each other and hold each other accountable for not acting as the rules require. He believes that social moral practices require justification because they are potentially authoritarian, much as John Stuart Mill (1859) argues that social customs can be oppressive independently of legal coercion. Gaus's central thesis is that the justification of a social moral practice must be public, where this means that each person must have sufficient reason to endorse the rules of the practice. Social moral rules that are not publicly justified are at best the dictates of a dominant group; moral demands that invoke such rules constitute mere browbeating. Gaus believes that the public justification requirement can be met – a social order of public reason is possible – but only if an indeterminacy problem created by the great diversity in individuals' evaluative perspectives is properly appreciated and confronted. The solution to this problem requires social moral rules that capture certain abstract individual rights. These rights in turn constrain permissible forms of legal coercion. The implication, Gaus argues, is a classical liberal orientation in politics: 'The public justification of the state under conditions of extensive evaluative pluralism tilts toward classical positions' (2011: 526).

My focus in this critical notice is on two arguments that Gaus advances for his central thesis, both of which appeal to presumed features of moral demands. I claim that neither argument is successful. In Section 1, I identify two aspects of Gaus's public justification requirement that together entail a kind of individual veto over social moral rules. In Section 2, I discuss Gaus's first argument. It states that since moral demands incorporate claims to deference, only (what I term) the public justification veto can reconcile social moral authority with each person's freedom and equality. I argue that moral demands must consist in something other than claims to deference. In Section 3, I contend that a moral demand is better understood as an ultimatum: a social moral practice exists only once an individual's violation of a moral

1 *The Order of Public Reason: A Theory of Freedom and Morality in a Diverse and Bounded World*. By G. F. Gaus. New York: Cambridge University Press, 2011. xx + 622 pp. £55.00.