Bradley on Chance, Admissibility & the Mind of God

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Abstract: Darren Bradley's recent reply (Bradley forthcoming) does not succeed in undermining my critique (Wilson 2013) of his 'Confirmation in a Branching World' (Bradley 2011). Bradley's Imperfect Crystal Ball case challenges Adam Elga's Principal Principle argument (which my paper endorsed) for the 'thirder' solution to the puzzle of Sleeping Beauty. But this challenge fails, because Imperfect Crystal Ball is relevantly disanalogous from Sleeping Beauty. Bradley's other line of response, which is based around his Indecisive God case, ultimately tells against his own position. This can be shown by adapting Elga's long-run frequency argument to divine creation scenarios.

1. *Introduction*

2. *Imperfect Crystal Ball*

3. *Indecisive God*

4. *Non-chancy Sleeping Beauty*

5. *Conclusion*

1.   Introduction

Darren Bradley (Bradley forthcoming) has responded to my critique (Wilson 2013) of his 'Confirmation in a Branching World' (Bradley 2011). In his reply, Bradley appeals to two thought-experiments, which he calls 'Imperfect Crystal Ball' and 'Indecisive God'. I will argue firstly that Imperfect Crystal Ball is disanalogous to Sleeping Beauty in a respect which undermines Bradley's response, and secondly that the Indecisive God case not only fails to establish the conclusion Bradley desires but in fact forms the basis of a strong argument against his position.

2.   Imperfect Crystal Ball

Bradley rejects the 'Principal Principle argument' for the 'thirder' position, which is due to Elga (2000) and which I endorsed in (Wilson 2013). That argument relies on the premise that Beauty's learning that it is Monday is information which is *admissible*[1] for her with respect to a Monday night coin toss. This premise is motivated by the thought that inadmissible evidence requires backwards causation, or some other kind of mysterious pre-cognition. Bradley disagrees, and adduces the following case to support his position.

> *Imperfect Crystal Ball*: Suppose you have an imperfect crystal ball. You can ask it about the result of any particular coin toss. Whenever the coin will land Heads, it shows you a picture of the coin showing Heads. But whenever the coin will land Tails, it shows you nothing. Suppose you ask the crystal ball about some particular toss, look into the crystal ball and it shows you nothing.
>
> Bradley (forthcoming)

Bradley claims that in Imperfect Crystal Ball you have inadmissible information about the future, even though no process of backwards causation in fact occurred. He concludes that having inadmissible information about future chance events need not require backwards causation, and that there is accordingly no bar to maintaining the 'halfer' opinion that Sleeping Beauty can have inadmissible information about a future coin toss when she awakens and is told that it is Monday.

Although Bradley doesn't mention it, in (Wilson 2013) I endorsed an additional argument for the thirder position: the long-run frequency argument also due to Elga (2000). So even if it worked, Bradley's response would only partially address my critique. But in fact, the response fails. It is true that in Imperfect Crystal Ball we have inadmissible information about the future. But the thirder position that I have defended can account for the inadmissibility of this information in a way that doesn't generalize to Beauty's information that it is Monday.

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[1] Admissible information is information which is relevant to the outcome of a chance process only by being relevant to the value of the chance. See Lewis (1980) and Hoefer (2007) for further discussion.

In Imperfect Crystal Ball, not seeing an image in the ball does amount to inadmissible evidence, because it reveals something about the following day in a way which relies on *backwards counterfactual dependence.* (Whether backwards counterfactual dependence constitutes backwards causation in such cases is a moot point.) Even though the crystal ball does not in fact show an image, without the truth of the counterfactual 'had the coin landed Heads, the ball would have shown an image of it' the relevant evidence would be unavailable. Bradley accordingly hasn't shown that we can have inadmissible evidence without backwards counterfactual dependence.

There is no analogous inadmissible evidence when Sleeping Beauty is informed that it is Monday, since there is no backwards counterfactual dependence of the centred proposition *that it is Monday* on the outcome of the future coin toss. In the terminology of (Wilson 2013), the relevant portion of the evidence that Beauty acquires on learning that it is Monday is the centred proposition *that the coin toss is effectively chancy*[2]. Accordingly, learning that it is Monday screens off Beauty's being awake from being relevant to the outcome of the coin toss. There is nothing in any of this that need worry thirders.[3]

3.   Indecisive God

Bradley's second line of response to (Wilson 2013) is to attack an interesting consequence of my thirder position: that in cases like Sleeping Beauty it matters whether or not the number of waking is determined by a chancy process. Bradley regards this consequence, defended in §10 of (Wilson 2013), as highly unintuitive; and he uses the following case as an intuition pump against it.

> *Indecisive God*: God cannot decide between creating a world with ST or one with EQM. So he creates a fair coin and flips it: ST if Heads; EQM if Tails.

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[2] A proposition P is *effectively chancy* for an agent A if P is or was chancy, and if A possesses no evidence that is or was inadmissible with respect to P.

[3] Note that all sides agree that finding out that it is Monday confirms Heads over Tails; the disagreement is over whether rational credence goes from 1/3 to 1/2 or from 1/2 to 2/3.)

'Indecisive God' certainly provides a vivid test case, but one which ultimately tells against Bradley's position. When we adapt Elga's long-run-frequency argument to apply to this sort of case, I think it becomes clear that intuitions favour the thirder. Consider the following variant:

> ***Persistently Indecisive God***: God continually creates worlds. But for each creation he is unable to decide whether it will be governed by ST or EQM. So for each world he creates a fair coin and flips it: ST if Heads; EQM if Tails.

On this hypothesis, God goes through the chancy creation process several times[4], and is likely to create many single-history universes as well as many multiverses. Suppose we come to be sure that the hypothesis is correct. Then we can reason as follows, along the lines of Elga's long-run-frequency argument: *God is likely to create approximately as many single worlds as multiverses; each multiverse contains many more people than each single world; of all the people that God creates, a vastly higher number of them are in multiverses than are in single-history worlds; so I am very likely to be in a multiverse myself; so the coin is very likely to have landed Tails on the toss corresponding to the creation of my own world.*

Long-run-frequency-based reasoning, applied to Persistently Indecisive God, motivates a thirder-style shift in credence with respect to the outcome of the coin toss. Add in Elga's plausible premise that one-off chancy cases should be given the same treatment as repeated chancy cases, and it follows that there is a thirder shift in Indecisive God too. However, the long-run-frequency argument (like the Principal Principle argument) lapses in the context of a more decisive God who simply creates a single world governed either by EQM or ST as suits his (non-contingent) whim. This is the usual creation scenario assumed by Christian theists, and I strongly suspect that many non-theists who are actualists in the philosophy of modality implicitly adopt a corresponding attitude.

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[4] And why not? Any god worth their salt would presumably prefer a multiplicity of marvellous creations over a single marvellous creation. See e.g. Kraay (2010).

If God's decision procedure for world creation is known not to be chancy, neither the chance-based thirder reasoning nor the long-run-frequency-based thirder reasoning can get off the ground. If it is chancy, both arguments go through. Thus we obtain my conclusion, which Bradley finds so counter-intuitive: decisive and indecisive divine creation scenarios do indeed give rise to different patterns of confirmation.

4.   Non-chancy Sleeping Beauty

A quick note on the difference between my Mathematical Sleeping Beauty case and Bradley's (so-called) Non-chancy Sleeping Beauty case. In Mathematical Sleeping Beauty, the number of awakenings depends on whether Fermat's last theorem is true. In Non-chancy Sleeping Beauty, the number of wakings depends on whether the number of visible stars on Monday night is odd or even. Bradley says that thinking about the latter rather than the former "avoids... complications" and "doesn't change anything".

I disagree: these two cases shouldn't be considered equivalent. As it happens, I deny that Non-chancy Sleeping Beauty is genuinely non-chancy. The number of visible stars is the result of numerous chancy processes, even though those processes may lie far in the past[5]. Accordingly, the thirder arguments that I endorse still apply to Bradley's Non-chancy Sleeping Beauty.

Indeed, I'm inclined to think that *all* contingent propositions were – if only at the moment of creation – a chancy matter. If so, then any contingent proposition on which a Sleeping-Beauty-style scenario might be based was at some time chancy, and the thirder position is correct for the corresponding scenario. This is the reason why I introduced Mathematical Sleeping Beauty in spite of the additional complications it involves.

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[5] If we imagine that the number of stars visible is genuinely non-chancy – perhaps because it corresponds to the non-contingent favourite number of a non-contingent God – then the case patterns with the mathematical case after all, and the thirder arguments cease to apply to it.

5. Conclusion

Bradley's reply has not identified any problems with the thirder-friendly and Everettian-friendly epistemological position that I defended in (Wilson 2013). Indeed, careful consideration of Bradley's Indecisive God case provides additional support for this position.

References

Bradley, D. Forthcoming. "Everettian Confirmation and Sleeping Beauty: Reply to Wilson". *The British Journal for the Philosophy of Science.* Available online at https://sites.google.com/site/darrenbradleyphilosophy/home/research

Elga, A. 2000. "Self-locating belief and the Sleeping Beauty problem". *Analysis* 60:143-7.

Hoefer, C. 2007. "The Third Way on Objective Probability: A Skeptic's Guide to Objective Chance'. *Mind* 116:549-596.

Lewis, D. 1980. "A Subjectivist's Guide to Objective Chance', in ed. Jeffrey, *Studies in Inductive Logic and Probability.* Berkeley: University of California Press.

Kraay, K. J. 2010. "Theism, Possible Worlds, and the Multiverse". *Philosophical Studies* 147: 355-68.

Wilson, A. 2013 "Everettian Confirmation and Sleeping Beauty". *The British Journal for the Philosophy of Science*, doi: 10.1093/bjps/axt018 .