Elliot Sober, THE DESIGN ARGUMENT

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old-fashioned) Swinburnian apologetics for the coherence of Christian beliefs and Plantingian responses to fideism or the more newfangled developments regularly appearing in issues of this journal. Attending to the literature might have staved off the many confusions and confusions in the book about the rational entitlements of Christians in their religious beliefs that forms the proper background against which to judge whether some putative theological justification can be judged to be a good or bad one.

Given these serious defects, I cannot commend McClendon’s book as a worthwhile philosophical analysis or evaluation of black Christology. For those SCP readers who wish to become more familiar with that literature Black Christology and the Quest for Authenticity is an unreliable guide. For those readers of Faith and Philosophy who wish to constructively engage with the theological project of black Christology, we must await a more fruitful treatment to fill the gap identified by this book. That is not to say, however, that McClendon’s book is wholly without merits. While underdeveloped, the four criticisms I’ve distilled above represent potentially pressing problems that merit careful reflection from advocates of black Christology. Teasing out the particular shape that such problems might take remains important work, but it is work that remains to be done.


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Elliott Sober’s _The Design Argument_ is, in many ways, a fine little book. I certainly enjoyed and benefited from reading it and thinking about the issues raised within. It’s important to note, however, that the book is an _extremely opinionated_ introduction to the biological and cosmic design arguments. The restrictive word limit for the Cambridge Elements series surely played a role here: when there’s not space to cover everything, one’s particular judgements about what is most worth covering make a bigger difference. Still, there are places where I think the perspective represented in the book is at odds with the state of the literature.

The brief introductory chapter was quite nice. Sober gives a quick but interesting history of design arguments and lays the terminological and conceptual groundwork for what follows. Two of Sober’s choices here are
important later: he defines “God” as the intentional creator of the universe, and claims that design arguments are intended to be part of natural theology, not revealed theology . . . They do not appeal to the authority of sacred texts or traditions. Design arguments are intended to obey the same rules that govern scientific arguments (2).

This way of setting things up rules out design arguments’ appealing to (purported) facts about God—e.g., that God is good—that follow from scripture and tradition (or from the idea that God is a perfect being) but not from the mere claim that God intentionally created the universe.

The primer on probability theory in Chapter 2 was clear, concise, and engagingly written, but a few more diagrams would have been helpful, especially for the uninitiated. I had some questions about the intended audience for the book in general—I had initially assumed that it was undergraduate students—but those questions were particularly acute here. While the primer is only sixteen pages long, it is quite dense: too dense, I think, to be used easily and effectively in the classroom. It would take at least three weeks to teach the material in the primer to undergraduates unfamiliar with probability theory, and instructors would need to provide supplementary explanations, readings, and practice exercises. By my lights, the chapter is also too compressed to serve as an effective introduction to probability theory for anyone. It would be most useful for readers who have some familiarity with probability theory but who could use a refresher. This, to be fair, describes a fair number of philosophers of religion.

In Chapter 3, Sober considers six ways of formulating design arguments: (i) as significance tests, (ii) as inductive inferences, (iii) as analogical arguments, (iv) in Bayesian terms, (v) in likelihoodist terms, and (vi) as inferences to the best explanation.

According to Sober, likelihoodism is the best of these frameworks. I largely agreed with Sober’s criticisms of argument forms (i)-(iii) and (vi), but I was a bit surprised that Sober chose likelihoodism as the framework for the book, given that Bayesianism is more familiar to more people. (Bayesianism is derided for its reliance on ur-priors: a priori probability assignments not based on experience.) Anyone familiar with Bayesianism should be able to easily understand likelihoodist arguments, however: likelihoodism is essentially a restricted form of Bayesianism that eschews ur-priors and “catchall hypotheses” (disunited negations of real or unified hypotheses). As Sober says, “there are two reasons why likelihoodists aren’t Bayesians: they often don’t want to talk about the prior and posterior probabilities of theories and they often don’t want to talk about the likelihoods of catchalls” (22).

Chapter 4 is dedicated to the biological design argument. Sober uses “Pr(X)” to express the probability that X is true, and “Pr(X | Y)” to express the probability of X given Y. In those terms, what Sober calls the “Law of Likelihood” says that evidence E favors hypothesis H₁ over hypothesis H₂ iff \( Pr(E \mid H₁) > Pr(E \mid H₂) \).
Sober gives the following objection to likelihoodist arguments from biological design:

Suppose a design argument asserted that

\[ \text{Pr}(\text{vertebrates have eyes that have features } F_1 | \text{God gave organisms their features}) > \text{Pr}(\text{vertebrates have eyes that have features } F_1 | \text{mindless natural selection caused organisms to have their features}) \]

The problem I have with this claim is that there is no saying whether the first of these probabilities is big, middling, or small . . . This point about the God hypothesis, if correct, is fatal to likelihood versions of the biological design argument, regardless of whether evolutionary theory is able to say how probable it is that vertebrates have eyes that have features \( F_1 \) (42).

This problem—the problem of determining God’s goals and the concomitant likelihoods of God doing various things (like ensuring that vertebrates have eyes with features \( F_1 \), or fine-tuning the constants)—comes up again later. I argue below that the problem of God’s goals isn’t as “fatal” as Sober suggests, and hence that the cogency of the objection here does depend on the probability of evolution producing features \( F_1 \). Nonetheless, I agree with Sober that in fact this probability is high enough to undermine likelihoodist arguments from biological design.

I was, however, taken aback by Sober’s suggestion that deleterious traits are not evidence against intelligent design. He says,

This Darwinian argument against intelligent design is flawed. If a trait’s being neutral or deleterious favors evolutionary theory over the God hypothesis [biological-design hypothesis], then a trait’s being advantageous must have the opposite evidential significance . . . However, few evolutionists would want to concede that a trait’s being advantageous favors the God hypothesis over the hypothesis of mindless evolution, and they are right to resist that conclusion (49).

This can easily be read in a way that is dangerously misleading. Some people are pleased to say that there’s no evidence for the existence of God. An important fact about (standard) probabilistic theories of confirmation is that this just isn’t true: there will be all sorts of evidence for all sorts of claims, including the “God hypothesis.” And advantageous traits are evidence for the God hypothesis—at least on many standard definitions of “God”—for precisely the reason Sober discusses. They’re just not significant evidence, since they don’t significantly favor the God hypothesis (neither simpliciter nor over evolution). Consider: if I received a news update saying that Trump had admitted to collusion and resigned, I’d gain significant evidence for collusion. It follows that when I don’t receive such a news update, I’ve gained evidence against collusion. That might seem radically counterintuitive or stupid, but it just falls out of standard theories of probabilistic confirmation. But while the confirmation provided by receiving such a news update would be significant, the disconfirmation from not receiving one is insignificant. Indeed, it’s miniscule—miniscule enough that it seems silly to mention it. And it is silly to
mention it, except in contexts where we’re asking, in the strict and philosophical sense, about what evidence there is. Just so, deleterious traits are (perhaps significant) evidence against the biological-design hypothesis, and hence advantageous traits are evidence for the God hypothesis. It doesn’t follow, however, that they’re significant evidence, and indeed they’re not, since both the God hypothesis and evolution entail that most traits are advantageous. But even if the discovery of advantageous traits is merely insignificant evidence for the God hypothesis, it is evidence. Of course, the relevant question is whether there are any “observations that favor the God hypothesis over the hypothesis of natural selection” (56). But the discovery of advantageous traits is evidence favoring the God hypothesis over natural selection if the probability that a trait will be advantageous is higher given the God hypothesis than it is given evolution. Since evolution works by trial and error and God is omniscient, that seems rather plausible.

None of the above entails, or even suggests, that our observations of the traits of organisms, taken as a whole, favor the God hypothesis over evolution—I agree with Sober that they don’t. But that doesn’t justify saying that there are no observations favoring the God hypothesis over evolution at all. That’s just not true, and it gives a misleading impression of how to think about evidence in probabilistic terms. We shouldn’t spend time debating whether there’s any evidence that favors one view over another. That’s silly: pretty much every (non-gerrymandered) view has some evidence that favors it over incompatible (non-gerrymandered) views. What we should care about, the only thing we should care about, is which view is best supported by the total evidence.

Sober knows all this, of course: indeed, he has a nice article on issues in the neighborhood (“Absence of Evidence and Evidence of Absence: Evidential Transitivity in Connection with Fossils, Fishing, Fine-Tuning, and Firing Squads,” Philosophical Studies 143 (2009): 63–90). It’s his restricted definition of “God” that is doing all the work here. As he says,

I provisionally defined “God” as a being who intentionally created the universe. This definition leaves open whether God is all-PKG [all powerful, knowing, and good]. In consequence, the existence of imperfect adaptations, of neutral and deleterious traits, and of evils aplenty all fail to prove that God does not exist. (51)

While proof is beside the point—what’s at issue is evidence against God’s existence—deleterious traits etc. plausibly fail to even qualify as evidence against Sober’s “God,” since that God is defined merely as the (possibly incompetent or malicious) creator of the universe. One might think that this suggests that we should use a richer conception of God for assessing our evidence. Sober, however, says that while taking God to be all-PKG is an assumption that many atheists and theists embrace . . . why should this assumption about God’s characteristics be accepted? Does the assumption have independent justification? (51)
This strikes me as an odd way of framing things. It’s not that we’re really only interested in whether a (possibly incompetent or malicious) creator of the universe exists, and are illicitly assuming the creator is all-PKG just to bolster certain theological (or atheological) arguments. Christians, Muslims, and Jews believed in an all-PKG creator before anybody knew about deleterious traits (or fine-tuning). So it’s natural—indeed commendable—to want to know the evidential significance of deleterious traits (or fine-tuning) for an all-PKG creator.

Sober’s objection to this is that while the idea of God being all-PKG is “part of some religion [sic] traditions . . . sacred texts and traditions have no place in natural theology” (51). But this is just to insist that God’s being all-PKG is an auxiliary assumption to the hypothesis under evaluation. But why can’t we evaluate the hypothesis that there’s an all-PKG creator, and do natural theology with respect to that—especially if that’s what we’re interested in anyway? Sober suggests at various places that this might be illicitly “packing” the observations we want to explain into the hypothesis with which we hope to explain them. While there certainly are illicit forms of “packing in,” given that God was defined to be all-PKG long before the discovery of deleterious traits or fine-tuning, it’s hard for me to see how this could be one.

In the final chapter of the book, Sober discusses the Fine-Tuning Argument (FTA). He presents it in terms of the following inequality:

\[
Pr(\text{the value of physical constant } x \text{ is in } W \mid \text{God set the value of } x \text{ & } W \text{ is narrow}) > Pr(\text{the value of physical constant } x \text{ is in } W \mid \text{a mindless chance process set the value of } x \text{ & } W \text{ is narrow}).
\]

Sober has two main objections to the FTA. As he puts it, “The first focuses on the FTA’s assumption that God is life-loving. I see no way to provide that assumption with independent justification. The second . . . is that the FTA is vitiated by an observation selection effect” (76).

The first objection is the problem of God’s goals again: if we don’t know that God is life-loving, we don’t know how likely it is that God would fine-tune the laws, and so (the thought goes) we don’t know whether that’s more likely than that the laws were fine-tuned by chance. That might seem plausible, at least if we don’t know the probability of the laws being fine-tuned by chance. It’s curious that Sober doesn’t actually mention what that probability is. Physicists say that the probability of the cosmological constant alone being in the life-permitting range is something like $1/10^{120}$. That is astronomically low. In fact, calling it astronomically low is an understatement. There are about $10^{21}$ stars in the known universe. That’s nowhere close to $10^{120}$. The number of atoms in the universe is about $10^{80}$. Still nowhere close. A credence that God would want to fine-tune the universe for rational life that was anywhere in the neighborhood of $1/10^{120}$ would correspond to utter certitude that God wouldn’t want to do that. I’m utterly certain that I won’t win the next five Powerball lotteries, but the probability of that is much higher than
So, as long as we’re not utterly certain about what God wouldn’t want, ordinary uncertainty about what God would want doesn’t undermine the FTA. This response is well represented in the literature, so it’s odd that Sober doesn’t mention it. If Sober thinks the response is mistaken, it would be nice to be told why. And while we’re at it, it would be nice to be told what’s wrong with asking about the evidential impact of fine-tuning on the life-loving god worshipped in the Abrahamic traditions—which would simply bypass the problem of God’s goals—other than that it wouldn’t count as “natural theology.” Natural theology or not, it seems like an interesting and important question. (Neil A. Manson pushes back against the “utter certainty” defense of the FTA in “How Not to be Generous to Fine-Tuning Sceptics” (Religious Studies, 2018). But my aim isn’t to be generous to fine-tuning sceptics: I’m not trying to grant them their premises and argue that the FTA works nonetheless. I’m just trying to figure out what premises are true.)

Sober’s second objection postulates an observation selection effect that undermines the FTA. To account for such effects, Sober claims that we should adopt the “Revised Law of Likelihood”:

\[
\text{Given that } P \text{ is true, where } P \text{ is a proposition describing the process by which the observation was obtained, observation } O \text{ favors hypothesis } H_1 \text{ over hypothesis } H_2 \text{ if and only if } \Pr(O | H_1 \& P) > \Pr(O | H_2 \& P).
\]

Given this revision, Sober maintains that the FTA hinges on the relationship between:

\[
\Pr(\text{the value of physical constant } x \text{ is in } W | \text{God set the value of } x \text{ & } W \text{ is narrow & } P) \quad \text{and} \quad \Pr(\text{the value of physical constant } x \text{ is in } W | \text{a mindless chance process set the value of } x \text{ & } W \text{ is narrow & } P).
\]

Sober claims that these probabilities are the same, since \( P \) entails that we are alive, which entails that the value of \( x \) is in \( W \). As he puts it, “Given that you are alive, the probability of your observing that the constants are right is the same, regardless of whether the God hypothesis or the chance hypothesis is true” (70).

This might be true if by “the constants are right” we mean “the constants are life-permitting” (as Sober glosses things (75)). But we’ve always known that the constants are life-permitting: if \( W \) is the life-permitting range, we’ve known that the constants are in \( W \) since we formulated the idea of a physical constant. The basis for the FTA is that the constants are in \( W \), and that \( W \) is incredibly, unfathomably, narrow. So “\( W \) is narrow” should be on the left side, with the evidence, not the right side, as part of the hypothesis. This is important because if “\( W \) is narrow” belongs on the left, the FTA hinges on the relationship between:

\[
\Pr(\text{the value of physical constant } x \text{ is in } W \& W \text{ is narrow | God set the value of } x \& P)
\]

and
Pr(\text{the value of physical constant } x \text{ is in } W \& W \text{ is narrow}) \text{ | a mindless chance process set the value of } x \& P).

And if that’s right, nothing about \( P \) (the process by which we discovered that \( x \) is in \( W \) and \( W \) is narrow) suggests that the first probability isn’t larger than the second. We might have discovered—we expected to discover—laws that didn’t need fine-tuning. (Sober himself asks why God didn’t create such laws if God likes life so much.) But, in fact, we discovered laws that don’t permit life to exist across a wide range of values for their constants. That fact is crucial to the FTA. And so there isn’t an observation selection effect generated by the fact that we’re alive. Sober seems to acknowledge this (n. 74), and notes in response that this alternative formulation of the FTA still faces the problem of God’s goals. Maybe so (or maybe not), but wouldn’t it make sense to focus on the strongest version of the FTA in the main text?

The last two pages of the book discuss the “multiverse objection,” widely taken to be the most powerful objection to the FTA. Given the significance of the objection in the literature, it’s striking that Sober’s discussion is so brief, and that some of the most important responses to the objection are not considered. I found this odd, and odd in a way emblematic of the book as a whole.

I really did enjoy reading The Design Argument. There are lucid and enlightening discussions of many aspects of the biological and cosmic design arguments. But there are also peculiar decisions about what gets covered, and how things get covered, and how much things get covered, and what objections to what get covered. Such decisions are unavoidable: the book is short and wide-ranging. But the particular decisions Sober makes paint an idiosyncratic picture of the state of the literature. Of course, it would be unreasonable to expect Sober to agree with me about the exact state of the debate. But it doesn’t seem unreasonable to expect that, having read a book on design arguments, one would (for example) be familiar with the suggestion that uncertainty about God’s goals is compatible with the FTA, and have a sense of the centrality of, and complexities surrounding, the multiverse objection. Neither topic needs to be extensively discussed, especially if Sober thinks them peripheral. But some footnotes acknowledging the controversy in the literature would have been appropriate. So while I think The Design Argument is an excellent introduction to Sober’s work on design arguments—and his work on design arguments is important indeed—it’s worth keeping in mind that it’s a partisan and non-comprehensive introduction to the overall state of the literature on design arguments themselves. (Thanks to Nevin Climenhaga, Joseph Corabi, Lorraine Juliano Keller, Neil Manson, Andrew Payne, Steve Petersen, Daniel Rubio, and especially Elliott Sober for helpful feedback.)