Arguing about God

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John Allen Paulos' latest book *Irreligion: A Mathematician Explains Why the Arguments for God Just Don't Add Up* [11] contains rather little mathematics. Yet, the title is not terribly misleading: the book's style would, in case we didn't know that the author is a mathematician, hint us strongly in that direction. Paulos' basic strategy for analysis of arguments bears clear signs of a mathematical mindset: he strips the arguments to their bare bones and divides them into small steps, so that the strength and weakness of each of the steps can be readily evaluated. The application of this strategy to a wide variety of arguments for God's existence constitutes the main content of his book.

Here is Paulos' bare-bones recounting of the ontological argument of Anselm, the well-known 11th century Archbishop of Canterbury (p 38–39):

1. God is a being than which nothing greater can even be conceived.
2. We understand the notion of God as well as the notion of God's really existing.
3. Let's also tentatively assume God doesn't exist.
4. If we understand the notion of a positive being and that being really exists, then this being is greater than it would have been if we only understood the notion of it.
5. From these assumptions, we conclude that if God did not exist, we could conceive of a being greater than God (a being just like God, but really existing). This is a contradiction since God is a being than which nothing greater can be conceived.
6. Thus Assumption 3 is refuted and God exists.

This argument is of considerable historical interest, and therefore deserves analysis. It seems unlikely, however, that many people today attach great significance to it in their choice to believe or not to believe in God. Sampling a believer at random, we are presumably much more likely to to find the following "argument from emptiness", as Paulos calls it, to be influential (p 76):

1. People wonder if this is all there is and ask, "What will any of my concerns matter in one thousand years?"
2. They find this prospect so depressing that they decide there must be something more.
3. This something more they call God.

4. Therefore God exists.

(Note how these examples illustrate a recurrent theme in the book – and in much of theological discussion more generally – namely the potential for confusion arising from flexibility and vagueness in how to define "God".) Typically, once the argument is spelled out in this manner, finding one or more fatal flaws is a relatively simple matter, which the author executes with clarity and wit; I leave the cases of the two arguments above as an exercise to the reader.

I like Paulos' method, which in most cases makes it evident not only that the stripped-down versions of the arguments fail, but also that no refinement or elaboration will save them from their central shortcomings. Not everyone agrees, however. In a negative review of *Irreligion* in *New York Times*, Jim Holt [7] dismisses Paulos as attacking straw men and failing to consider the much more sophisticated arguments embraced by contemporary theologists and philosophers of religion. H. Allen Orr, in *New York Review of Books* [9], files the same complaint against Richard Dawkins' best-selling *The God Delusion* [2]. Neither Holt nor Orr provide any specific references, however, so readers are left to search the theological literature on their own. But are the alleged so-much-better arguments anywhere to be found? Frankly, I suspect that Holt and Orr simply mistake verbosity for profundity.

In current public debate, the loudest case for God's existence is made by the intelligent design lobby, claiming that Darwinian evolution cannot account for advanced life forms such as ourselves, which must therefore be the work of an intelligent designer. Leading intelligent design proponent William Dembski (who actually has a Ph.D. in mathematics) specializes, in books like *The Design Inference* [3] and *No Free Lunch* [4], in dressing up such arguments in fancy-looking mathematics. The mathematics makes it difficult for the general public, and even for most biologists, to see through his arguments. There is therefore a useful role to be played by mathematicians in clearing up Dembski's smokescreens; see [6] and [8] for a couple of recent contributions. Paulos, however, refrains from taking up this task, and from discussing evolutionary biology in any detail whatsoever. Instead, he settles for the following ironic observation. Christian right-wing commentators, who claim that complex well-functioning biological structures cannot come about without the aid of an intelligent designer, rarely express doubt over whether a complex and well-functioning economy can come about without the aid of a central planning bureau.

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Irreligion clearly alludes to the title of the book which twenty years ago made Paulos' breakthrough as a public intellectual: *Innumeracy* [10]. The two books have a lot in common, for instance in the generally debunking character, which makes for good entertainment but also carries a risk that the tone becomes patronizing. Paulos manages this balance very well in *Innumeracy*, but not quite as well in *Irreligion*. Among readers of *Irreligion* there will presumably not be many who consider themselves believers, but those who do may well be offended by some rather unnecessary choices of examples, such as when the difficulty of proving that God does *not* exist is compared to the hopeless task of conclusively ruling out that, somewhere in the universe, there exists "a dog who speaks perfect English out of its rear end".

The main reason, however, for why *Irreligion* is a less fully satisfying book than *Innumeracy* is the following. The debunking in *Innumeracy* of poor quantitative thinking and faulty mathematics is followed by inspiring discussions about how to think correctly about numbers, probabilities, and quantitative estimates. *Irreligion* contains very little in terms of such positive counterparts. Once the arguments for God's existence are demolished, Paulos finds nothing in the ruins worth building a better paradigm on.

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One final comment on *Irreligion*: Paulos' mission is not primarily directed against the idea that there might exist a God, but rather against sloppy reasoning. It might therefore have been a good idea to dissect, among all the failed arguments for God's existence, also one or two such arguments for God's *non-existence*. Paulos offers nothing of this kind beyond paying lip service to the impossibility of proving God's non-existence.[1] A good choice would have been the widely quoted non-existence argument that Dawkins puts forth in his aforementioned book. I will end this review by briefly making up for this omission.

In the fourth chapter of *The God Delusion*, with the title "Why there almost certainly is no God", Dawkins defends an argument for God's non-existence that is hardly any better than the existence arguments that he

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[1] This is done in connection with the flatulent dog example quoted above, but the argument is not particularly convincing. While dogs tend to be located in physical space-time, God doesn't (according to many defenders of the God idea). The usual asymmetry between proving $\exists$-statements and proving $\forall$-statements applies mainly to objects with a location in space-time, while for other kinds of objects, such as integer quadruples (x, y, z, n) with $n \geq 3$ and $x^n + y^n = z^n$, $\forall$-statements are not always beyond provability. Why should God be more like dogs than like integer quadruples in this respect?

rightly dismisses in an earlier chapter. His starting point is a favorite principle among intelligent design proponents such as Dembski: A blacksmith can manufacture a horseshoe but not vice versa, and more generally complex objects cannot be the product of simpler ones but only of more complex ones; hence we must be designed by some being more complex than ourselves, whom we might as well call God.

A standard objection to this argument is that it doesn't explain much, because this God must then be the product of an even greater God, and so on *ad infinitum*. Dawkins combines this objection with another favorite argument among intelligent design proponents, namely the shaky[2] claim that greater complexity implies smaller probability. Together, these arguments imply that we are the product of a God who is less probable than we are, and who is the work of an even less probable God, and so on. Taking limits in this hierarchy of Gods, Dawkins concludes that the God hypothesis has probability 0.

Let us, for the sake of the argument, be generous to Dawkins and accept both the principle of greater complexity implying smaller probability, and the lemma that an infinite decreasing sequence of probabilities must approach 0. What, then, does Dawkins' argument achieve? It does raise serious doubts about the blacksmith-horseshoe principle (just in case we hadn't dismissed that one already in view of the multitude of counterexamples provided by evolutionary biology). But does it rule out the existence of God? Hardly.

For instance, we may reject the blacksmith-horseshoe principle, and still insist on a God who created us but who came about according to some "bottom-up" process such as Darwinian evolution in a different universe. Oddly enough, Dawkins admits this possibility ([2], p 156), but says that he doesn't "believe for a moment" in such a God. As a harsh but hardly unfair summary of Dawkins' argument, I therefore propose "I don't believe for a moment that Gods of a certain kind exist [...] so we may conclude that there almost certainly is no God".

It is worth noting in this context that a God of the kind that Dawkins' argument doesn't address has been suggested by philosopher Nick Bostrom [1], who reasons as follows. If we (humanity) don't destroy ourselves, then we will soon have access to computing resources of absolutely astounding proportions. Some of those resources will be used by historians carrying out stupendously detailed simulations of (variations of) those critical decades or

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[2]I say "shaky" rather than "false", because to say that a statement is false requires that it makes sense, which in turn requires that all the notions in the statement have been defined; the latter requirement is not fulfilled in Dawkins' treatment.

centuries leading up to the great technological leap. Thus, for every human living in 2008 there are millions who believe themselves to live in 2008 but who actually live inside a computer simulation run in 2250 or so. (Those who have seen *The Matrix* will recognize this scenario.) Hence, we probably live in such a simulation, and the historian running it qualifies for most of the usual requirements for the title "God": he created us, and he can at any time interrupt the simulation and make suitable changes (miracles) to it. And if we accept that he came about via evolution by natural selection, then he falls squarely in the category of Gods about whom Dawkins' argument has nothing to offer.

Bostrom's argument rests on several unproven hypotheses, including the so-called computational theory of mind (see, e.g., [5]), so we are in no way forced to accept it. But I must admit to finding it more interesting than most of the more conventional arguments for God's existence treated by Paulos.

References

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[5] Dennett, D.C. (2005) *Sweet Dreams: Philosophical Obstacles to a Science of Consciousness*, MIT Press, Cambridge, MA.

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[11] Paulos, J.A. (2008) *Irreligion: A Mathematician Explains Why the Arguments for God Just Don't Add Up*, Hill and Wang, New York.