The design argument

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January 15, 2006

Anselm's ontological argument was an attempt to establish the existence of God purely on the basis of facts about thought: namely, our ability to clearly conceive of the existence of a being than which no greater can be thought. Other arguments for the existence of God base themselves not on facts about thought, but on observable facts about the world around us. Paley's version of the 'design argument' is a particularly famous example of this sort of argument.

1 Paley's version of the design argument

The selection from Paley begins with the posing of a problem:

> "In crossing a heath, suppose I pitched my foot against a stone, and were asked how the stone came to be there, I might possibly answer that, for anything I knew to the contrary, it had lain there for ever; ... But suppose that I had found a watch upon the ground, and it should be inquired how the watch happened to be in that place, I should hardly think of the answer which I had before given – that, for anything I knew, the watch might have always been there. Yet why should not this answer serve for the watch as well as for the stone?"

Paley immediately offers an answer:

> "For this reason, and for no other ... when we come to inspect the watch, we perceive (what we could not discover in the stone) that its several parts are framed and put together for a purpose."

Paley then goes on to describe the ways in which the parts of the watch serve the purpose of keeping time, and illustrates the point that had even one part been slightly different, the watch would not have served this purpose. Having described this, he then goes on to conclude:

> "This mechanism being observed ... the inference, we think, is inevitable, that the watch must have had a maker: that there must have existed, at

> some time, and at some place or other, an artificer or artificers who formed it for the purpose which we find it actually to answer; who comprehended its construction, and designed its use."

Paley goes on to claim that we would make this inference even if the watch occasionally malfunctioned, if there were parts of it we could not understand, if we had never seen a watch before, etc. Paley concludes that it would be irrational to observe the watch and not infer that it had an intelligent maker. "Yet," he concludes,

> "This is atheism: for every indication of contrivance, every manifestation of design, every which existed in the watch, exists in the works of nature; with the difference, on the side of nature, of being greater and more, and that in a degree which excels all computation."

The conclusion, Paley thinks, is obvious: just as we should conclude that the watch was created by an intelligent designer, so we should conclude that the world was created by an intelligent designer. To be an atheist is to commit the same kind of mistake as is made by someone who finds a watch on the heath, and concludes that it has always been there.

2 Inference to the best explanation

The design argument employs a form of inference known as *inference to the best explanation.*

This is different than the kinds of inferences we have discussed so far. So far, we have focused on deductively valid inferences, like

1. This sweater is green.
2. If this sweater is green, then this sweater is my favorite color.

C. This sweater is my favorite color.

We have seen that to say that an argument is deductively valid (or just 'valid') is to say that the truth of the premises guarantees the truth of the conclusion: it is impossible for the premises to be true and the conclusion false.

But consider the kind of argument that Paley seems to be giving:

1. The watch is so constructed that each of its parts serves the purpose of the watch.
2. The best explanation of the fact that the watch is so constructed that each of its parts serves the purpose of the watch is that the watch had an intelligent designer.

C. The watch had an intelligent designer.

Is this argument valid? Does this show that there is something wrong with Paley's argument, or that some arguments can be good without being deductively valid?

The role of inference to the best explanation in science.

3 Probabilities of facts given hypotheses

Let's look a bit more closely at premise (2) in the above argument for the conclusion that the watch had an intelligent designer. What makes it the case that *this* is a better explanation of the existence of the watch than an explanation which attributes the existence of the watch to a series of more or less random natural events? After all, it is surely *possible* that the watch could have come to be as a result of such a process.

The natural thought here is something like this: the existence of a watch designer somehow *makes sense of* the existence of the watch, in the sense that, if there is a watch designer, the existence of the watch is very unsurprising. On the other hand, if there were no watch designer, then the existence of the watch would be extremely surprising; if there were no watch designer, we certainly would not expect watches to appear in the middle of heaths for no reason.

This idea can be made a bit more precise using the notion of the probability of an observed fact given a hypothesis. Given some hypothesis h and some observed fact f, we can ask: how likely would it be that f would occur, given than h is true? The following example might make things clearer. Suppose that I flip a coin 10 times, and it comes up heads all 10 times. Let this series of coin flips be the observed fact. Now consider two candidate hypotheses:

> h_1: I am flipping a fair coin.
>
> h_2: I am flipping a coin which is weighted so as to come up heads every time.

It seems pretty clear that the observed coin flips favor h_2. Here's one plausible (rough) explanation why:

> If h_1 were true, then the chances of that series of coin flips happening would be $\frac{1}{1024}$, or 0.097%.
>
> If h_2 were true, then the chances of that series of coin flips happening would be $\frac{1}{1}$, or 100%.

Another way to put this is as follows:

> The probability of that series of coin flips given h_1 is .00097.
>
> The probability of that series of coin flips given h_2 is 1.

If this explains, as it seems to, why the coin flips favor the hypothesis of the weighted coin, then it seems like we have a reason to adopt the following general principle:

> If we have two hypotheses and there is some fact such that the probability of that fact given the first hypothesis is larger than the probability of that fact given the second hypothesis, then, all things being equal, the first hypothesis is a better explanation of that fact than the second hypothesis.

Why the 'all things being equal' qualifier is needed.

To see why this might seem to support the design argument, compare:

> The probability of the existence of the watch on the heath given that there was a watchmaker.
>
> The probability of the existence of the watch on the heath given that there was no watchmaker.

and, more importantly:

> The probability of the existence of the 'works of nature' given that there was an intelligent designer of them.
>
> The probability of the existence of the 'works of nature' given that there was no intelligent designer of them.

4 An evolutionary objection

A natural response to this argument at this point is to grant the point about the connection between probabilities and best explanations, but to question whether it really applies to the case we are interested in, that of the works of nature and their explanation in terms of an intelligent designer. This is because it is natural to think that, in the case of the existence of the works of nature, modern science provides us with better explanations than does religion. For example, in a discussion which goes beyond the selection assigned for class, Paley discusses the design of the eye, and how it is more finely tuned and well suited for its function than even a watch. But can't we explain the design of the eye in terms of the theory of natural selection, without ever mentioning an intelligent designer of the eye? And isn't this explanation better, in the sense that it is better supported by evidence?

Paley says some things which are relevant to assessing this objection, in his discussion of the discovery of a watch with the power of replicating itself:

> "The question is not simply, How came the first watch into existence? which question, it may be pretended, may be done away with by supposing the series of watches thus produced from one another to be infinite ... This perhaps would have been the state of the question, if nothing had been before us but an unorganized, unmechanized, substance, without mark or indication of contrivance. ... But that is not the question now. ... the question which irresistibly presses upon our thoughts is, Whence this contrivance and design?"

In terms of the evolutionary objection, Paley's response might have been: perhaps you can explain the human eye in terms of evolution; but how can the evolutionary process itself be explained? Why this is not a very convincing response.

5 Modern versions of the design argument

Contemporary versions of the argument from design are constructed to be immune from this kind of objection. It is easy to see what the strategy for developing those arguments should be. The objection considered above does not question the sort of reasoning which is at work in the design argument; it only questions whether the natural phenomena on which Paley focused are better explained by the hypothesis of an intelligent designer than by the theory of evolution. What is needed is to find some kind of natural phenomenon which can be explained by positing an intelligent designer, and cannot be explained by the theory of evolution or any other scientific theory.

Some have focused in this connection on the example of the "fine-tuning of the universe." Here is a sample list of the sorts of facts which some think might be best explained in terms of an intelligent designer:

> "If the strong nuclear force were to have been as little as 2 percent stronger (relative to the other forces), all hydrogen would have been converted into helium. If it were 5 percent weaker, no helium at all would have formed and there would be nothing but hydrogen. If the weak nuclear force were a little stronger, supernovas could not occcur, and heavy elements could not have formed. ... And so on." (from McMullin, 'Indifference principle and anthropic principle in cosmology', quoted in Sober, 'The design argument')

Using the way of developing the design argument above, we can ask: what is the probability that these physical constants should have obtained given that there is no intelligent designer? What is the probability given that there is an intelligent designer?

Why, to turn this into an argument that we ought to believe in God, we need an extra assumption about our prior beliefs about God.

6 A controversial application of the above principles about probability: the doomsday argument

The design argument, as laid out above, makes two crucial assumptions. The first is the principle connecting conditional probabilities with best explanations which we above. The second is that, given this principle, there are some facts about the natural world which are best explained in terms of the hypothesis that the world has an intelligent designer.

Objections to the argument based on the theory of evolution are attempts to call into question the second assumption.

But there is also some reason doubt the first assumption. We can do this in a way which is not entirely dissimilar to the way in which Gaunilo criticized Anselm: by constructing a parallel argument using this principle which seems to go wrong somewhere. The 'doomsday argument' as an example of this.