

Arguments for design

A common human response to the world around us is amazement. Two things in particular are sources of fascination – the stars in the sky and life. The grandeur of a star-filled night, the vastness of the universe, inspires a sense of awe. The complexity and intricacy of living creatures fills us with wonder. As philosophers, we should first of all be amazed that we can understand the world at all. It could have been a complete shambles, nothing constant, no laws of nature, no means by which our reason could try to explain it. But what we find is order, constancy, predictability throughout, and in living creatures, different parts working together and the creature as a whole fitting neatly into its environment.

LIFE

When we talk about parts of a living creature, we often refer to their purpose. The heart is for pumping blood; the eye is for seeing; and so on. In fact, this is central to understanding the organ in question. You don't really know what an eye is unless you know that it is the organ of sight. And we want parts of the eye in terms of their contribution to the purpose of the eye. So the lens focuses light onto the retina, the muscles attached to the lens change its thickness so that it can focus light onto the retina, and so on. Without this bit (the lens) or that bit (the retina), the eye wouldn't work properly.

The way in which living things work, which requires a huge coordination of lots of tiny bits, each doing their specific job, is amazingly complex. [Margin: Similarly, the way living creatures interact in an ecosystem, each filling an ecological 'niche', is highly complex. Remove one creature and the ecosystem can become unstable and start to break down.] This coordination, the detail and intricacy of interrelations between parts, suggests planning – a plan that follows a purpose (of making a living creature, making an organ that enables the creature to see, etc.). Acting on a plan guided by a purpose is design. It's as if someone had it in mind that the eye should see, and put the bits together to ensure that it could. The way living creatures are suggests that they are designed – designed to be alive, with organs designed to keep them alive.

If living creatures are designed, then as a matter of definition, there must be a designer. You can't have design without a designer. This is the next step in an argument for the existence of God, which we look at in the separate handout on 'Arguments from design'. (The Greek word for this idea of 'purpose' or 'end' or 'what is aimed at' is telos. Arguments for the existence of God that invoke purpose or design are therefore also called teleological arguments.)

Evolution by natural selection

Is the fact that we are amazingly complex, and our organs and many parts serve the purpose of keeping us alive enough for us to say that living creatures are designed?

matter-energy, the laws of nature, were all designed to allow life to evolve. If they were designed, then instead of it being a massive coincidence that life could evolve, it becomes inevitable.

PALEY AND DESIGN-LIKE PROPERTIES

A famous argument for design was given by William Paley in his *Natural Theology*, Ch. 1-3. He argues that if I found a stone lying in a field, and wondered how it came to be there, I might rightly think that, for all I knew, it had always been there. However, if I found a watch lying on the ground, I wouldn't feel the same answer was satisfactory. Examining it closely, I would infer it had a designer.

Now we know that watches have designers. But what is it about a watch itself that leads us to think it must have a designer? Paley spends a considerable time exploring this inference, and whether it is valid in the case of the watch. For example, would it undermine the inference if the watch sometimes went wrong, or if I'd never seen a watch being made? He is trying to identify exactly what it is about a watch that allows us to infer a designer. After all, in the case of a watch, this does seem a good inference. Watches don't just 'happen'. What properties of a watch are direct evidence of design?

Paley identifies the property of having an organization of parts put together for a purpose as crucial. It is from this that we infer the watch has a designer – even if we know nothing about watchmakers. He then argues that we can make exactly the same argument in the case of natural things that exhibit that property. [Margin: It is often thought that Paley argues from analogy; but he is not arguing that natural things are like watches. He is arguing that watches have a property which supports the inference of a designer, and then arguing that natural things have exactly that property as well.] Natural things have the same property, so they too have a designer.

An objection

Throughout the argument, Paley is relying on the idea that the sorts of properties he takes as evidence of design – in the case of the watch and of nature – cannot be produced by natural means, and so must be the result of a mind. In the case of the watch, this seems right – a watch isn't the kind of thing nature produces. So if we found a watch in a field, we would rightly wonder about its origin. However, natural things are precisely the sort of thing that nature does produce. We can't, then, argue that natural things cannot be produced by natural means, so must have been designed by a mind.

So what is the difference between natural things and watches? There is no question that natural things have design-like properties. Paley has established this. The difficulty is that unlike watches, natural things don't show evidence of being manufactured artefacts. In this different context, their design-like properties aren't clearly good evidence for actually having been designed. Although we are making the same inference from design-like properties to a designer, the argument doesn't have the same force in the case of natural things. And as in our earlier discussion, we can appeal to Darwinism to show that nature can produce design-like properties (though not manufactured artefacts).

'INTELLIGENT DESIGN'

In the last twenty years, some thinkers have become dissatisfied with explanations of the complexity of living creatures in terms of evolution by natural selection. They have been struck by the 'irreducible complexity' of the systems and organs of living creatures. Michael Behe, a biochemist, defines irreducible complexity as

a single system which is composed of several interacting parts that contribute to the basic function, and where the removal of any one of these parts causes the system to effectively cease functioning'. ('Molecular machines')

This property is precisely the one that Paley has argued is the basis for inferring a designer.

As an example of such a situation, Behe describes the many parts (over 40) that work together to move the 'tail' that propels a certain bacterium. Behe argues that evolution couldn't produce such an organization of parts. The reason is that, as we saw, evolution works by making small changes, accidentally, and one at a time. But until all the pieces are in place together, the tail wouldn't work. It's all or nothing. But evolution is bit by bit.

Like Paley, Behe argues that irreducible complexity is direct evidence of design. If a system won't work at all until all its parts are in place, then this suggests someone planned and organized the parts.

Objections

However, many evolutionary biologists reject this conclusion. First, Behe's argument assumes that each part in a system has always been that part in that system. But this isn't true in evolution. It often happens that a system, or its parts, having evolved to do one thing are 'co-opted' into doing something else. Some of the parts that move the bacterium's tail, work as a kind of pump if taken alone. They may have had nothing at all to do with movement when they first evolved. They could have evolved as a pump, and then later on, some further accidental change meant they joined with some new part to move a tail.

Second, features that are initially minor improvements can become essential. Take lungs – very complex and without which we wouldn't survive. But they started out as relatively unimportant air bladders in fish (they help fish not sink to the sea floor, but not all fish have them, e.g. sharks do not). They acquired a new function when fish made brief forays onto land, now operating to supply the fish with oxygen as well. Over time, developments in the air bladder served this new purpose, allowing for longer and longer trips out of water. Eventually they became lungs, and the fish ceased to be fish. Lungs didn't have to evolve all at once. So we can argue that evolution by natural selection can account for irreducible complexity.