

LECTURES #13 and #14: Swinburne's Design Argument: Teleological Explanation and Simplicity

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Overview

Swinburne's Design Argument

Teleological Explanation

The Simplicity of Theism

Swinburne's Design Argument

Richard Swinburne's design argument begins with a number of observable features of the universe, including the anthropic coincidences we have examined in the last two lectures. Swinburne also emphasizes the uniformity of the universe, both its uniformity over time, and the fact that the fundamental particles of the universe belong to a relatively few kinds (electrons, protons, neutrons, photon, etc.), each of which is perfectly uniform with respect to physical character. Moreover, Swinburne points out that the fundamental laws of nature are simpler and more elegant than we would otherwise have a right to expect.

In Chapter 2, "How We Explain Things", Swinburne lays out a model for scientific inference. Swinburne argues that we should adopt a scientific hypothesis whenever it meets three conditions: (i) it is relatively simple (simpler than any competing hypothesis), (ii) it explains (makes unsurprising) a large number of varied phenomena, and (iii) it fits well with our background knowledge.

Swinburne argues, persuasively, I think, that a well-supported hypothesis need not make successful predictions. A hypothesis can be solidly supported by old evidence, so long as it eliminates the need to accept unexplained coincidences, and so long as it is quite simple, and not merely *ad hoc*. When a very complicated hypothesis is constructed in order to explain already-known facts, the hypothesis is called "ad hoc". It is always possible to fashion a hypothesis to fit the known data, so long as there is no simplicity requirement. However, it is not usually possible to fashion a *simple* hypothesis that explains a given set of data. When this is possible, the simple hypothesis is supported by the data it explains.

Swinburne urges that theism is a simple hypothesis that explains the anthropic coincidences, the uniformity of nature, the elegance of natural laws, and a number of other facts (including the existence of human consciousness and moral experience). According to Swinburne, there are two forms of explanation: inanimate explanation and personal or intentional explanation. Inanimate explanation is explanation in terms of the powers and liabilities of things. (*Liability* refers to the receptivity of things to being influenced

by other things. For example, water has the power to dissolve salt, and salt has the liability of being dissolved by water.) Since things fall into uniform natural kinds, and since the powers and liabilities associated with these natural kinds can be codified into natural laws, inanimate explanation can also be thought of as explanation in terms of natural laws plus initial conditions.

In contrast, personal explanation is explanation in terms of the beliefs, purposes, and powers of agents. Unlike inanimate things, agents make choices, in light of their beliefs and purposes, carrying out these choices if they have the appropriate powers and opportunities. Swinburne argues that personal explanation is an indispensable part of our intellectual and practical life.

Swinburne insists on a sharp distinction between inanimate explanation (explanation in terms of laws) and personal explanation (explanation in terms of the purposes of agents) because he argues that only a personal explanation is possible when what we are trying to explain is the existence of natural law itself. Natural laws cannot be explained in terms of natural law, since this would be circular. However, it is not so clear that one could not explain some natural laws in terms of others. For example, it seems plausible to think that one might explain the natural laws that govern the behavior of finite, contingent things in terms of natural laws that govern the operation of the necessary first cause. The uniformity of natural law over stretches of time and space could be explained in terms of the generation of time and space themselves by some transcendent cause. Thus, it is not clear that Swinburne has a sound reason for drawing so sharp a distinction between inanimate and personal explanation. Perhaps personal explanation is also explanation in terms of the powers and liabilities of certain kinds of things, namely, intelligent agents.

In any event, the nature of personal explanation is obviously of crucial importance to Swinburne's argument. If Swinburne's argument is to be a successful defense of God's existence, two things must be true. First, theism must indeed be a *simple* explanation of the anthropic coincidences and the uniformity and theoretical elegance of the world. Second, theism must be the only simple explanation of these facts. I think that both of these claims can be sustained, and I will take them up in the remaining two sections, in reverse order.

Teleological Explanation

Swinburne's personal explanation (explanation in terms of the purposes, beliefs and powers of an agent) is a special case of *teleological explanation*, explanation in terms of the purposes for which things exist. If an agent acts purposefully, then his actions and their intended results are purposive, occur for a purpose.

What is it for something to occur for a purpose? In the last thirty years considerable work has been done on this problem by analytic philosophers, beginning with the work of Charles Taylor and Larry Wright in the 60's and 70's. The Taylor/Wright account of teleological explanation is known as the aetiological or causal account of teleology. I will give my own version of this account, one that takes seriously the distinction between tokens and types that I have insisted on before.

First, at the level of types, I will say that *type A occurs in context C for purpose B* if and only if, whenever a token of type (A & C) occurs, it is most probably caused, in part, by the fact that A-tokens tend to cause B-tokens. This definition brings a causal relation in twice: first, by specifying that tokens of type (A & C) tend to be caused in a certain way, and second, by including the fact that A-tokens tend to cause B-tokens within the first causal connection.

A few examples may help to make the sense of the definition clearer. The purpose of saying 'please pass the sugar' is the actual passing of the sugar to the speaker. In the context of polite, English-speaking company, uttering these words does tend to cause a sugar-passing event. The fact that this is so is part of the cause of most utterances of these words. If uttering these words did not tend to cause the sugar to be passed, we would not utter them nearly so often. Similarly, the purpose of working in a coal mine, in the context of 19th century capitalist Britain, was to earn enough money to live. Working in the mine did tend to cause this result, and it is because it tended to do so that so many workers went into the mine on a daily

basis. Finally, the wings of a sparrow have as their purpose the sustaining of flight. The wings tend to have this result, and the fact that they do so is part of the explanation of why sparrows have wings. Natural selection has stabilized the gene pool of the sparrows to a wing-producing state because these wings contribute causally to flight.

At the level of tokens, we need the following definition. *A token **t** of type **A**-in-the-context-of-**C** has the non-accidental purpose of **B*** if and only if (i) **A** in the context of **C** has the purpose **B**, and (ii) **t** was caused in part, and in the usual way, by the fact that **A**-events tend to cause **B**-events. A token of type **A**-in-**C** is very probably, but not always, a token with **B** as its non-accidental purpose. For instance, (assuming Darwinism is true) the wings of the very first flying bird did not have flight as their non-accidental purpose. In that case, the wings were the product of an accidental mutation, and their contribution to the power to flight did not have any causal role in explaining their existence in this case. Similarly, if a molecule-for-molecule duplicate of myself were to form by chance in a swamp, the resulting creature would have purposive organs, but none of the tokens involved would have non-accidental purpose.

However, although accidental purpose is possible, it is very much the exception rather than the rule. Whenever we find examples of purpose, it is reasonable to assume that the purpose is non-accidental, unless we can find good evidence to the contrary.

Is there a connection between non-accidental purpose and intelligent agency? I would like to argue that there is a very tight connection: every case of non-accidental purpose is a case of intelligent agency. If some state **t** exists (non-accidentally) for the purpose **B**, then there is some intelligent agent that has **B** as its purpose and has produced **t** to this end.

The most obvious apparent counter-example to this claim is one that I have already alluded to: the products of Darwinian natural selection. The instances of purposiveness in nature produced by natural selection pass the Taylor/Wright definition of non-accidental purposiveness, and yet, according to Darwinism, there is no intelligent agent behind the adaptations. Richard Dawkins, for example, talks of Nature as the "Blind Watchmaker", producing well-adapted creatures without any intelligence whatsoever. According to Dawkins, the Watchmaker is "blind" in the sense of being unconscious, thoughtless, witless and purposeless.

However, what reason do we have to deny intelligent agency, of a kind, to Nature as Darwinism conceives of her? I don't mean to challenge the adequacy of the Darwinian story here but merely to challenge the characterization of natural selection as unintelligent and purposeless. According to Darwinism, nature does seem to act for purposes, crafting a world full of a wide variety of self-sustaining eco-systems. Darwin himself, as well as modern-day Darwinists like Dawkins and Dennett, could wax very poetic about the wonders of the designs produced by Nature, which compare very favorably to the best feats of human engineering. Why deny that Nature is a kind of intelligent agent?

There seem to be several reasons at work here. First, many point out that Nature consists of nothing but blind, purposeless forces. This is true, but to conclude that Nature as a whole is purposeless is to commit the fallacy of composition. Presumably, each of my atoms is unconscious, but this does not mean that my body as a whole cannot be the seat of consciousness. Second, there is the fact that Nature does not have anything like a central nervous system, and so is not able to coordinate her actions or calculate consequences in advance. This certainly has implications for the kind of intelligence that Nature has, but it does not seem to demonstrate that Nature has no intelligence whatsoever. Finally, it is a central tenet of Darwinism that Nature has no foresight. She muddles through from one generation to another, progressing only by trial and error. Again, this would mean that Nature lacks certain mental powers that we possess, but no effort has been made to show that these particular mental powers are essential to intelligent agency.

Thus, the dispute between Darwinists and special creationists should not be thought of as a debate about whether living things are the products of intelligent agency, but only about what kind of intelligence and power the designer possesses. According to the Darwinists, the designer lacks the capacity for foresight, is

quite limited in its ability to coordinate its actions, and suffers periodic setbacks due to interference by outside factors (such as asteroid impacts or changes in solar radiation). The Darwinist believes, not in a blind watchmaker, but only in an extremely myopic one. In contrast, the creationist believes that the designer is infinite in intelligence and power. (Obviously, a wide range of intermediate positions are possible.)

If we adopt the sort of minimalist conception of intelligent agency that I am advocating, then it can be shown that hypothesizing an intelligent creator is **the only possible explanation** for the anthropic coincidences and the other teleological features mentioned by Swinburne. Here's a sketch of the argument:

1. The physical constants of the cosmos take anthropic values.
2. This coincidence must have a causal explanation (we set aside for the moment the possibility of a chance explanation through the many-worlds hypothesis).
3. Therefore, the constants take the values that they do **because** these values are anthropic (i.e., because they cause the conditions needed for life).
4. Therefore, the **purpose** of the values of these constants is to permit the development of life (using the aetiological definition of purpose).
5. Therefore, the values of these constants are the purposive effects of an **intelligent agent** (using the minimalist conception of agency).
6. Therefore, the cosmos has been **created**.

The crucial step in the argument is the third one. Once we reach the conclusion that the values of the fundamental constants exist **because** they are anthropic, some form of theism quickly follows. Why think that any form of explanation for the anthropic coincidences must suppose that these coincidental values exist **because** they are anthropic? The reason is this: any other hypothesis will fail to explain why the values are **anthropic**. If, for example, we were able to deduce all of the anthropic values of the fundamental constants from some very simple, all-encompassing Grand Theory of Everything, we would still be faced with a new form of anthropic coincidence: explaining why the actual laws of nature force all of the constants to take anthropic values.

Here's an analogy to illustrate the point. Suppose that we discovered that, hidden within the background radiation pervading the universe, is an encoded version of the proof of a famous theorem, like G-del's incompleteness theorem. This encoded signal would constitute a remarkable coincidence, requiring some explanation. Suppose further that we were able to prove that the signal exists in the radiation because it was first encoded into the form of the laws of physics. This would not solve the puzzle -- it would only relocate it. Now we would want to know how this information came to be encoded in the laws of physics. Similarly, if the values of the constants are constrained to take anthropic values by the fundamental laws of physics, then these laws themselves are fine-tuned to produce this result. In fact, the coincidence is now greater, in more need of theistic explanation, since it is even more unlikely that the laws of physics would by chance form an elegant system that happens to determine all of the values correctly than that the individual constants should each take the correct value by chance. In fact, discovering an elegant theory that generates all the anthropic values would provide conclusive evidence for theism, since this is a result that the many-worlds hypothesis could not explain. The combination of elegance and anthropicity would be a coincidence demanding explanation in terms of purpose.

Notice that at no point does this argument appeal to any supposed similarity between the setting of the values of the constants and any work of human craftsmanship or design. The argument is not based on extending our experience of the origins of human artefacts to the origins of the universe. In fact, I would go so far as to claim that **it would be possible for someone to recognize the existence of intelligent agency for the first time by studying the anthropic coincidences, without ever having recognized the phenomenon of human agency**. I would like to propose that we could invert Paley's famous analogy of the man who encounters a watch in the desert and infers that it was designed. Let us imagine a person, The Stranger, who lives in Robinson-Crusoe-like isolation, and who is very un-self-conscious. The very ideas of purpose or intelligence or agency have never occurred to the Stranger, who has instead spent all of his time studying the physics and cosmology of the world. One day, the Stranger discovers the anthropic

coincidences, and assuming that they must have a causal explanation, finds that he is forced to introduce a new kind of explanation into his science, one in which a state can be caused, in part, by the tendency of that state to cause some further effect. The Stranger calls this new kind of causal explanation "teleological explanation". The Stranger also adopts a term for the underlying cause of a purposive state: "intelligent agency".

Years later, the Stranger discovers the existence other humans and wanders into a watchmaker's shop. Looking over the shoulder of the watchmaker at his craft, the Stranger cries "Eureka!" "What I am seeing is strangely reminiscent of the intelligent agency I discovered as the cause of the anthropic coincidences. Apparently, this hairy, bipedal creature is some sort of intelligent agent, and the metallic object he is producing must serve some purpose!"

The Simplicity of Theism

The design argument for theism is successful only if theism is a simple hypothesis. Swinburne argues that classical theism is a very simple hypothesis, since it uses only simple quantities, namely, zero and infinity. A hypothesis positing the existence of a being with infinite power and intelligence, that is, a being with zero limitations to his power and knowledge, is simpler than any hypothesis involving a finite deity. Critics of the design argument, including Hume and Mackie, have argued that theism is covertly complex, since the realization of intelligent agency requires a great deal of complexity. This objection can be divided into two arguments: the big giant brain objection, and the duplication objection, both of which can be found in Hume's *Dialogues Concerning Natural Religion*.

The Big Giant Brain objection goes something like this. Every intelligent agent we know of (humans, maybe chimps and whales) have highly complex central nervous systems, with billions of neurons and quadrillions of connections. A god who is highly intelligent, therefore, most probably has a brain that is much larger and more complex than a human brain. An infinitely intelligent god would seem to require an infinitely large brain. This means that theism involves introducing more complexity, more amazing coincidences and purposively organized structures, than was present in the data it is designed to explain. Consequently, the prior probability of theism is even lower than the probability that the cosmos became organized anthropically by chance, and so the anthropic coincidences do not make theism more likely true than false.

As I have argued above, it is not clear that all intelligent agents have central nervous systems. If Darwinism is true, then the earth's biosphere is an intelligent agent, designing the earth's living creatures through a process of trial-and-error learning. In any case, the teleological version of the design argument does not lead to the conclusion that God, the intelligent agent behind the anthropic coincidences, is in any way similar to human beings. In fact, we have good reason to believe that He is radically different from us. This means that we have little grounds for extending a generalization based on finite agents to an infinite agent. For this Humean argument to work, the objector must spell out some reasons for believing that any intelligent agent must have a brain.

In exploring this question, it might be helpful to reflect on what we know about our own case: why do we humans need a brain? For the sake of argument, I will assume that we accept a fairly strong principle of the dependency of the mind on the brain. There would seem to be five roles that the brain plays in making possible intelligent agency in humans:

1. As the site of internal representations of our desires, drives and valuings.
2. As the site of internal representations of our sensory perceptions and memories (our knowledge of the actual world).
3. As the site of internal representations of alternative possibilities.
4. As the site of internal representations of our plans, intentions and volitions.
5. As the basis for processes of ratiocination, inference, and other forms of information processing.

Let us consider how many of these considerations would apply to an infinite agent. First, the traditional view of God's intelligence has been that God's thought is "non-discursive". This means that God does not think in anything like English sentences. Consequently, God does not need to indulge in deductive reasoning, such as syllogistic reasoning. Instead, God's knowledge encompasses both possible and actual situations in their complete specificity, without any linguistic or conceptual intermediary. God never has to reason as we do, "All men are mortal, Socrates is a man, therefore Socrates is mortal." God sees both the humanity and the mortality of Socrates (and of each individual man) immediately. Similarly, God never needs to indulge in inductive or probabilistic reasoning, since there are no gaps in His knowledge to be filled by such inferences. Thus, an infinite agent would not need a brain for the purpose of #5 above.

Reasons #1 through #4 bring us to the second objection to the simplicity of theism: the duplication objection. Whether or not God needs a brain, the size, number and complexity of God's internal representations would be great, far greater than the complexity of the cosmos His existence is supposed to explain. All the complexity of the universe is duplicated in the form of a representation or plan for the universe in God's mind. The plan in God's mind could explain the anthropic coincidences in the universe, but what can explain the anthropic coincidences realized by the plan itself, qua representation in God's mind?

This is a serious objection. I think that the best theistic response is to challenge the idea that an infinite mind needs representations at all. I call the resulting model of the divine mind the "non-discursive, non-representational model". Instead of **re-presentations**, God can make use of **presentations**, the immediate presence of the objects of God's thought to God's mind. Let us suppose, for the moment, that we all accept the existence of three kinds of things: (i) the actual, spatio-temporal world and all of its constituents. (ii) a space of possibilities, ways the world could have been, some partial and some total in their scope, and (iii) objective, intrinsic values that attach to each possibility, consisting of the degree of goodness or badness that would be realized if that possibility were made actual. Let us suppose further that each of these kinds of things is immediately present to God's mind, as immediately present to God as our own internal representations are to us.

If these three kinds of things exist, then there is no need for internal representations in God's mind corresponding to #1 through #4 above. God consults the various possibilities directly, without needing to make a copy of them within His own mind. To some of these possibilities are attached a high degree of intrinsic value, and this fact is immediately available to God, without any need for an internal representation of His own desires or values. The actual states of affairs, whether the result of God's own direct willing or the result of the agency of created things, are also directly apparent to God, without need for anything like sense organs and attendant nervous systems. The only thing that theism adds to the existence of these three kinds of realities is a power of determination, corresponding to our own power of will or choice. This power of determination selects one of the possibilities with a high enough level of intrinsic value and actualizes this possibility. If this possibility involves the existence of created agents with their own powers of determination, then subsequent acts of divine determination may be necessary, in response to the evolution of the created order.

If we doubt the existence of unrealized possibilities or objective values, then theism would involve the addition of complexity to our picture of the world. However, there are strong grounds for accepting both of these kinds of reality, grounds that are independent of the case for or against theism. In the final analysis, one's assessment of the simplicity of theism is going to depend to some extent on one's background metaphysical theory. People who accept, on independent grounds, the reality of possibilities and values (modal and ethical realists) will find theism much simpler than do those who reject the reality of these things.

Is the divine agent who emerges from the design argument, when combined with the non-discursive, non-representational model of the divine mind, a divine person? Certainly, if God is a person, He is a person of a radically different kind than we are. Moreover, there are many features of personhood for which we have not found compelling arguments. We have said little about the presence of consciousness in God, beyond that form of consciousness that is essential to awareness or knowledge. We have said nothing about

feelings or emotions in God. We have not gained much insight into the nature and scope of God's purposes. We do not yet know whether they have the complexity and internal coherency that we would expect to find in a personal agent. In conclusion, we should say that, although nothing we have found excludes the possibility of a personal God, the design argument, in and of itself, provides us with no grounds for attributing a rich personality to God.

At the same time, the anthropic coincidences clearly indicate that God is highly intelligence, with a great deal of foresight (the feature conspicuously absent from the Darwinian watchmaker). Moreover, we can plausibly assume that God's purposes include the creation of things of a high degree of intrinsic value, with which we can include the creation of life.

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