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Module tutor: Tristan Nash										
Assignment title: The Teleological argument identifies a design and purpose in the material universe and further, that the cause of this is God. Is it justified in making either of these claims?										
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**The Teleological argument identifies a design and purpose in the material universe and further, that the cause of this is God.
Is it justified in making either of these claims?**

Many investigators feel uneasy about stating in public that the origin of life is a mystery, even though behind closed doors they freely admit that they are baffled.¹

Paul Davies

The exquisite intricacy exhibited by nature often leads to the idea that an intelligent mind must be responsible for such marvel. When compared with human technical productions, nature's complexity may seem to result from the activity of an agent whose capacities transcend those of anything known to humanity. This designing mind is generally considered to be God.

The design argument typically starts with the observation of certain natural features such as beauty, interconnectedness and intelligibility, which in turn are associated with ideas of both design and purpose. This concept of purpose or end (*τέλος*), constitutes the central notion of the argument which is therefore often referred to as the teleological argument.

Unlike its ontological counterpart, which infers the existence of God from a priori reasoning, the design argument is empirical and therefore depends on a posteriori inferences. As a consequence, its logical form is inductive and often involves, at least in its contemporary forms, considerations about likelihood and probability. Furthermore, by focusing on facts identified as expressions of design, the argument also distinguishes itself from the more general approach displayed by the cosmological argument which derives the necessary existence of God from the implications of the principle of causality.

¹ Paul Davies, *The Fifth Miracle: The Search for the Origin and Meaning of Life* (New York: Simon & Schuster, 2000), p. 17.

Even though the teleological argument's original purpose was to demonstrate the existence of God, most of its contemporary versions set aside the task of identifying the designer with God and defend the more modest claim that nature displays clear signs of design.

In this essay, I shall first consider the classical forms of the argument and the related criticism. The second part will then address its major contemporary versions. Finally, the third part of the essay will present my conclusion.

Although early examples of the argument can be traced back to ancient Greece, the design argument really started to be a major subject of interest during the seventeenth and eighteenth centuries. In particular, the new mechanistic view of nature that followed from the discovery of Newtonian physics and the progress made in anatomy and biology constituted an ever-expanding source of awe and reflection. Signs of intelligent design were recognised in natural phenomena as diverse as the vision of birds (Derham) or the law of gravitation (Bentley) and the natural order was compared with the unity of personal identity (Shaftesbury) and human speech (Berkeley).²

It is precisely in reaction against this form of reasoning, including George Cheyne's popular machine analogy,³ that David Hume, inspired by Cicero's *The Nature of the Gods*, elaborated his exposition and critique of the teleological argument.

In his *Dialogues Concerning Natural Religion*, Hume has *Cleanthes*, who advocates an empirical form of theism, argue that both the resemblance between the natural order and machines and the principle according to which like effects typically result from like causes, force us to admit that the grandeur exhibited in nature results from the work of a mind much more powerful than

² Dorothy Coleman, 'Introduction', in David Hume, *Dialogues Concerning Natural Religion*, ed. by Dorothy Coleman (Cambridge: Cambridge University Press, 2007), p. XX.

³ George Cheyne, *Philosophical Principles of Religion* (London: George Strahan, 1715).

a human one. And having acknowledged the existence of such an intelligence, we must recognise God as the supreme creator of nature.

The first ground on which Hume criticizes the argument is that the analogy between nature and human artefacts is unsound. As he puts it:

wherever you depart in the least, from the similarity of the cases, you diminish proportionably the evidence; and may at last bring it to a very weak analogy, which is confessedly liable to error and uncertainty.⁴

Furthermore, as *Philo* suggests, it would not seem less reasonable to compare the world to a vegetable than to a manufactured object.

Hume's second objection points to the fact that even if the analogy were granted, there would be no reason to privilege the theistic explanation over any other one. Indeed, one could consider the possibility of multiple designers or, as Epicurus did, regard chance rather than divine intervention as a more plausible explanation.

Finally, Hume contends that even if one admits the reality of an intelligence at work behind the natural order, nothing in the argument allows one to identify it with a traditional conception of God. Additionally, the demand of an explanation for the existence of a designer would itself lead to a regress.

It has been opposed to Hume's criticism of the analogical nature of the argument that there is no such thing as an analogy that does not break at some point, otherwise it would not be an analogy.⁵

⁴ Hume, *op. cit.*, Part 2, p. 20.

⁵ Richard Swinburne, 'The Argument from Design', in *The Philosophy of Religion: A Guide and Anthology*, ed. by B. Davies (Oxford: Oxford University Press, 2000), p. 283.

Accordingly, as noticed by R.H. Popkin,⁶ one only needs to specify the relevant elements of an analogy to grant its soundness.

But, as exemplified by Thomas Aquinas's reasoning⁷ and Kant's *physico-theological* argument,⁸ a defence of the design thesis must not rely on an analogy. And it has been argued that William Paley's teleological argument⁹ was elaborated in such a way as to avoid both the difficulties of the analogical argument and Hume's criticism.

According to Paley's watchmaker argument, the identification of two characteristics allows one to reliably distinguish between objects that result from intelligent design and objects that do not. While the first indicator is that the object performs a function that can be regarded as valuable, the second mark of design consists in the fact that this function could no longer be performed if the object's parts were differently arranged or its proportions altered.

Against Paley's and other historical arguments, it has been argued that their persuasiveness came essentially from the absence of any plausible alternative explanation. Appeal to a supernatural power was legitimised by nature's alleged inability to produce certain structures or functions, a claim that is often described as the '*God-of-the-gaps*' argument.

Unfortunately for Paley and his fellow proponents of design, Darwin's evolutionary theory brought a robust, if not definitive refutation to their teleological speculations. By explaining the biological complexity and the adaptation of organisms to their environment in terms of random mutations and natural selection, *The Origin of the Species* made the theistic explanation seem

⁶ David Hume, *Dialogues Concerning Natural Religion*, ed. by R.H. Popkin ((Indianapolis & Cambridge: Hackett Publ. Co., 1980), p. 15.

⁷ Thomas Aquinas, *Summa Theologica*, Part I, Q. 2, Art. 3.

⁸ Immanuel Kant, *Critique of Pure Reason*, trans. and ed. by Paul Guyer and Allen W. Wood (Cambridge: Cambridge University Press, 1998), B653, p. 580.

⁹ William Paley, *Natural Theology* (Indianapolis: Bobbs-Merrill, 1963).

superfluous. Appeal to a supernatural agency could confidently be discarded and nature could entirely be explained within the boundaries of naturalism.

Yet, the teleological debate progressively re-emerged. Most likely fuelled by the astonishing scientific findings made during the twentieth century, in particular the discovery of DNA and the paradigmatic shift that radically transformed our vision of physics and cosmology.

In contrast with the pre-Darwinian versions of the argument, contemporary approaches generally rely on probability and endorse some form of *guided evolution*. Most of the present-day teleological arguments can be classified either as intelligent design in biology or fine-tuning in cosmology.

Design advocates admit different criteria for identifying occurrences of design. While Dembski,¹⁰ for instance, recognises specific complex information as a reliable sign of design, Behe's position, which will be examined here, rely on the criterion of irreducible complexity.

According to Behe, an irreducible complex structure can be defined as:

a single system composed of several well-matched, interacting parts that contribute to the basic function, wherein the removal of any one of the parts causes the system to effectively cease functioning.¹¹

Behe regards the bacterial flagellum or cilium as a perfect example of irreducible complexity. Given the extraordinarily low probability of producing such complexity through mere evolution,

¹⁰ William A. Dembski, *The Design Inference: Eliminating Chance through Small Probabilities* (Cambridge: Cambridge University Press, 1998).

¹¹ Michael J. Behe, *Darwin's Black Box* (New York: The Free Press, 1996), p.39.

its structure, Behe declares, cannot result from a Darwinian process consisting only in a sequence of simple evolutionary steps.

Against Behe's conclusion, Kenneth Miller has argued¹² that there is in fact strong evidence in favour of a Darwinian explanation. What Miller shows is that nature exhibits numerous instances of fully functional cilia that are missing one or more parts. Additionally, some essential components of the cilium have been identified elsewhere in the cell where they perform different functions.¹³

Consequently, the flagellum picked up by Behe as a paradigmatic case of design appears to fail the test of irreducible complexity by Behe's own standards.

Regarding cosmological fine-tuning, the defenders of design argue that a small initial variation of one of the many physical parameters or laws of our universe would have made the emergence of life impossible. Their argument generally amounts to the claim that in comparison with all the possible values that could have presented the physical parameters of our universe, the range of life-permitting values appears to be extremely narrow.

Numerous examples have been presented in support of this argument. It has often been observed for instance that the relation that exists between the strong nuclear force and electromagnetism appears to be fine-tuned.^{14, 15}

¹² Kenneth R. Miller, *Finding Darwin's God: A Scientist's Search for Common Ground between God and Evolution* (New York: Cliff Street Books, 1999).

¹³ Kenneth R. Miller, 'Answering the biochemical argument from design', in *God and Design, The Teleological Argument and Modern Science*, ed. by Neil A. Manson (London: Routledge, 2003), pp. 291-306, p. 299.

¹⁴ Martin Rees, *Just Six Numbers: The Deep Forces that Shape the Universe* (New York: Basic Books, 2000).

¹⁵ Geraint J. Lewis and Luke A. Barnes, *A Fortunate Universe: Life in a Finely Tuned Cosmos* (Cambridge: Cambridge University Press, 2016).

Yet, the probabilistic nature of these claims has often been perceived as problematic. According to some critiques, any measure of probability that compares real values to hypothetical ones would be unwarranted.¹⁶

It has been responded to this criticism that, instead of using the physical or logical notion of probability, the problem could be addressed in terms epistemic probability. But this approach, which considers the life-friendly conditions of our universe as improbable, faces the fact that the actual conditions of our universe are only unexpected to the extent that we abstract ourselves from the very point of view we ordinarily have. Furthermore, the lack of information regarding the genesis of any other universe leaves us with no background information against which we could compare the early conditions of our own universe.

But defenders of fine-tuning sometimes try to avoid these issues by invoking *violations of naturalness*. Examples of these violations have been seen in the values of the Higgs mass and of the cosmological constant, which are both much smaller than we would expect given the Standard Model's framework.¹⁷

Theoretical alternatives to the Standard Model have been proposed in response to the problem of naturalness, but, from an epistemological point of view, it is often opposed that such an approach results essentially from an *observation selection effect* that operates along the lines defined by Brandon Carter's *anthropic principle*. In short, this principle holds that demands such as those made by the proponents of design are simply misplaced. The reason for this is that the observations we make must necessarily be compatible with the life-permitting conditions of our

¹⁶ *Ibid.*

¹⁷ Simon Friederich, 'Fine-Tuning', *The Stanford Encyclopedia of Philosophy*, ed. by Edward N. Zalta (2018), URL = <<https://plato.stanford.edu/archives/win2018/entries/fine-tuning/>>.

universe. Accordingly, no further explanation should be required. This is the line of reasoning endorsed by Elliott Sober.^{18, 19}

On the other hand, many commentators maintain that appearances of fine-tuning or, of violation of naturalness do require an answer.

Various physicists and philosophers such as Susskind and Greene for the former ones, and Parfit and Bradley for the latter ones, consider that the multiverse hypothesis could bring a solution to these problems. The underlying idea is that the more universes there are, the less surprising it is to live in a universe that has life-permitting characteristics.

The following arguments have been raised against this hypothesis. Firstly, it is often claimed that given the inaccessibility of these universes, the hypothesis is simply untestable and therefore unscientific. But this objection remains a debated matter for there is no consensus regarding the alleged inaccessibility of these universes. Secondly, it is often contended that the multiverse hypothesis is an ad-hoc response that violates Occam's razor by multiplying arbitrarily the explanatory elements. In contrast, Swinburne argues that the simplicity of the design hypothesis makes it more rational and scientific.²⁰

Even though Craig may have a point when he warns us against the unwarranted multiplication of probabilistic resources,²¹ it has nevertheless been opposed to such views that the simplicity of a hypothesis cannot be reduced to the number of entities it posits. Furthermore, the hypothesis of

¹⁸ Elliott Sober, 'The design argument', in Manson (2003), pp. 27-54.

¹⁹ —, 'Absence of evidence and evidence of absence: Evidential transitivity in connection with fossils, fishing, fine-tuning and firing squads', *Philosophical Studies*, 143(1), pp. 63-90.

²⁰ Richard Swinburne, *The Existence of God*, 2nd edn (Oxford: Clarendon, 2004).

²¹ William Lane Craig, 'Design and the anthropic fine-tuning of the universe', in Manson (2003), pp. 155-177.

a supernatural being with infinite power and knowledge can hardly be regarded as a model of simplicity.

Most of the contemporary versions of the design argument rely on *inferences to the best explanation*, a method akin to Peirce's notion of *abduction*. Richard Swinburne's cumulative strategy²² illustrates this type of approach.

Swinburne's argument consists in a Bayesian inference based on considerations of simplicity and order. In a sense, Swinburne reframes the ontological argument from which he establishes the high prior probability of God's existence. Given the improbability of the observed natural order under the naturalistic model and the reasons such a God would have to create the sort of universe we live in (he evokes here aesthetic and value criteria), Swinburne concludes that the probability of the theistic hypothesis supersedes that of naturalism.

Raising a Humean critique, J. L. Mackie has argued²³ against Swinburne that positing the existence of such a being, let alone speculating about divine motivations, damages the plausibility of the hypothesis for these claims too would require a robust explanation. A similar position is adopted by Narveson.²⁴

But one could also have recourse to the *chance-of-the-gap* argument and object to this point that accounting for the apparent design by invoking chance simply leaves it unexplained.

Yet, by presupposing the existence of what the argument is meant to demonstrate, Swinburne seems to beg the question. Such strategy makes the teleological argument dependent on other

²² Swinburne (2004).

²³ John L. Mackie, *The Miracle of Theism* (Oxford: Clarendon Press, 1982), pp. 146-149.

²⁴ Jan Narveson, 'God by design?', in Manson (2003), pp. 88-105, p. 99.

justifications and this is precisely why most of the arguments for design avoid identifying the designer with God.

The conclusion I draw from these considerations is that in spite of their respective strengths and merits, the various forms of the argument fail to offer a compelling justification for both the reality of design and the existence of a designer, let alone for the identification of such a designer with God.

Thomas Reid may well have been right.²⁵ It appears as if our human nature makes us react to the environment we inhabit and to the circumstances we face by adopting strong beliefs about everything that surrounds us. A process he regarded as anything but inferential.

Be it as it may, for the coming years and notwithstanding the constant progress made by science and the continual *adaptation* of the design argument to this *evolution*, the debate is likely to remain in this situation of quasi *status quo*. If this should change one day, I expect the cause will not be an argument, but a discovery.

²⁵ Thomas Reid, 'Essays on the Intellectual Powers of Man', in W. Hamilton, *The Works of Thomas Reid*, vol. I, 7th edn (Edinburgh: Maclachlan & Stewart, 1947).

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