

Chapter 27

Design or Teleological Arguments That God Exists

1. Arguments to Design

You are walking on a heath and you find a small object that, you notice, can be used to tell the time. Over the months you determine that it is a very accurate timepiece, as accurate as any you have ever seen. You carefully open it and you discover a complex system of gears and springs, a system that accounts for the object's usefulness as a timepiece. You conclude from your observations that the object was designed to be a timepiece and that it was manufactured according to that design in order to fulfil that role. You conclude, that is, that the object doesn't just happen to keep time accurately (as, for instance, a rock you find might just happen to fulfil excellently the role of paperweight). From your conclusion that the object was designed and built, you further conclude that it had a designer and a builder. You conclude, moreover, that the designer, whomever he or she was or they were, knew what they were doing, and that the builder, whomever he or she was or they were, also knew what they were doing and, further, were able to realize the design in the materials they had available to them. Someone who can conceive of a timepiece and design and build an object that matches that conception is intelligent and powerful. So, you think, holding the object in your hand, the existence and properties of this thing indicate that there existed (and, perhaps, still exists) a person or group of people of intelligence and power.

Your argument to the existence of an intelligent designer and builder goes like this: this object performs a function, and performs it well, and it does so in virtue of a complex system of connected parts; thus, this object displays order; thus, this object displays design and manufacture; thus, this object was designed and manufactured; thus, this object was designed and manufactured by one or more people of intelligence and ability.

The key step in your argument is that from the object's displaying order to the object's displaying design and manufacture. You see or otherwise perceive order in it, and from what you see you conclude to what you have not seen, the designing and manufacturing of the object. But how does the fact that the object displays order entitle you to think that the object was designed and manufactured? It would seem that what entitles you to make the inference to design and manufacture is the correlation you have found in past experience between an object's possessing order and its having been designed and manufactured. You have seen a radio being assembled, perhaps, or a table, or a meal, or a house, and you knew that they were put together as they were in order to fulfil a function. You yourself have designed and built many things. Your inference, then, the inference from order in the object you found on the heath to design and manufacture, is based on an analogy. The object you found is *like* the radio, and the table, and the meal, and the house—it is like these other things in that it fulfils a function and does so in virtue of its parts and their relations; the radio, the table, the meal, the house were all designed and built (you know this because you were there); thus, most likely, the object you found on the heath also was designed and built.

That's a pretty good argument. You seem quite well justified in believing that the object you found was designed and manufactured and that the person or people who designed

and manufactured it were intelligent and powerful—intelligent and powerful enough, at any rate, to have fashioned a very good timepiece.

Here, then, is another argument from analogy that also first identifies order in something and then concludes from the fact of order to the probability of design and manufacture. The human eye, this argument begins, and the human visual system of which it is a part, serves a function and serves it well, and serves it well in virtue of its parts and their arrangement. That system enables us to see and, thereby, it promotes our ability to make our way around in the world. The eye displays a great deal of order or organization and fits in excellently with the other components of the visual system. The eye displays function and order and, for that reason, is very much like radios, tables, meals, and houses, things you know to have been designed and manufactured by intelligent and powerful agents. Since it displays function and order just as do things designed and manufactured, most probably the eye, too, was designed and manufactured by an intelligent and powerful agent. Moreover, since the human eye and visual system is much superior as a creation to anything yet produced by people, its designer and manufacturer, we can conclude, is much more intelligent and powerful than any human.

Arguments like that just given, arguments to design or teleological arguments, are the most popular arguments for the existence of God. They are, for many people, both easy to understand and persuasive. Our task will be to discover the very best design argument and, then, to determine what distance, if any, it goes toward showing that there exists a being omniscient, omnipotent, and all good.

Teleological arguments come in two types, local and global. The argument to design found two paragraphs above is called a local design argument, because it focusses on a particular thing or set of things in the universe and, finding order in it or them, concludes to the existence of a designer and fabricator. Global design arguments take a more general feature of the universe and, finding order in it, likewise conclude to the existence of a designer and fabricator having or approximating at least one of the attributes of God. Let us now look at a global design argument.

Things happen according to natural laws, begins this particular global design argument. These natural laws underlie a universe of immense complexity and diversity, a universe, moreover, in which living organisms have evolved. At least one sort of living organism, human beings, is intelligent, purposive, and creative. Had the natural laws of the universe been different even in the slightest, the universe would not be as rich as it is and life would not have evolved. (Had the force of gravity been stronger or weaker than it is, for instance, the universe would either be nothing but a sea of light or an incomprehensibly dense and homogenous ball of matter.) The universe, then, because it is law-obeying, is a phenomenon of order. Now other phenomena of order of which we are aware are phenomena that have been designed to be what they are. An efficient highway system or airport, for instance, or a computer, are highly ordered just as the universe itself is, and they were, we know, designed and built. Had the principles on which they operate been much different, they would not evince the high degree of order that they do. Thus, because the universe is like an efficient highway system or airport or computer in that it displays great order, it too, most likely, was designed and built. Of course, the universe is much more deeply and richly ordered and beautiful than any highway system or computer, and so its designer and builder is much more intelligent and capable and good than

any person. Therefore, there exists a being at least approximating to omniscience and omnipotence and perfect goodness.

The arguments presented above are examples of local and global design or teleological arguments for the existence of God. Many such arguments can be constructed. Local features of order on which an argument to design might be based include the well adaptedness of organs to their functions, the well adaptedness of animals and plants to the ecosystems in which they are found, the presence of homeostatic mechanisms in ecosystems, and the cycles or rhythms in nature and life. Global features of order on which an argument to design might be based include the fact that causal relations instantiate universal laws, that the laws of nature enabled life to evolve and to flourish on at least one planet, and that though the number of laws is finite and the laws are simple, the universe contains a rich variety of things and processes.

2. Arguments by analogy

Each of the two design arguments in the previous section were arguments by analogy. What is an argument by analogy? What makes a strong argument by analogy strong and what makes a weak argument by analogy weak?

In general, an argument is an argument by analogy if it has the following form:

1. Items A and B both have properties Q, R, S, and T.

2. Item B has property P.

Therefore: 3. (Probably) Item A has property P.

For instance:

1. John's car and Mary's car both have fuel injection, cruise control, and engines of the same size, and both have recently been tuned by a mechanic.

2. Mary's car gets great gas mileage.

Therefore: 3. (Probably) John's car gets great gas mileage.

An argument by analogy is strong to the extent that the two items mentioned in it are similar, that is, to the extent that have properties in common, and to the extent that the properties they have in common are relevant to possessing the property at issue. But, of course, whether the properties they have in common *are* relevant to possessing the property at issue might not be clear to us and might well be at issue. We *suspect* that fuel injection, cruise control, size of engine, and being well tuned are relevant to gas mileage, but we do not *know* that they are. (If we did, we wouldn't argue by analogy. We'd simply note the presence of these things in John's car, and, then, given that these things make for good gas mileage, we'd conclude that John's car probably gets good gas mileage. We wouldn't mention Mary's car, and so would employ no analogy at all in our reasonings.) Further, an argument by analogy is strong to the extent that there are no relevant dissimilarities between the two items mentioned in it. Two items are dissimilar when one has a property that the other lacks. Mary's car is yellow while John's car is blue; thus, the cars are dissimilar in respect of their colour. But since we figure that colour is irrelevant to gas mileage, the argument that John's car gets great gas mileage is not weakened by this dissimilarity between the two cars. On the other hand, if we suspect that the nature or condition of the transmission is relevant to gas mileage, our argument would be weakened were Mary's car and John's car to have different sorts of transmission.

That the two items are similar in many respects, that the respects in which they are similar are relevant to the question whether the one item is similar to the other in also having the target property, that they two items are not dissimilar in some property relevant to the target property—these features make for a strong argument by analogy. The more rare the relevant similarities are or the more numerous the relevant dissimilarities are, the weaker the argument is.

When seeking to evaluate an argument to design that God exists, we need to evaluate the points of similarity in the argument and to consider points of dissimilarity.

3. Local arguments to design

The beetle's body is well suited to the beetle's life and environment. Beetles are both good hunters in their environments and well protected against other hunters or dangers they might encounter. The beetle's body is like a hockey or football player's set of pads. The hockey or football player is well protected by his pads from the hazards with which he meets in his game even as those pads do not slow the player down or restrict his range of motion. Both the beetle's body and the player's gear show order and purpose. The player's gear, we know, has been designed and built to do what it does. Therefore, we conclude, the beetle's body also most probably was designed and built to do what it does. That it was designed and built implies the existence of an intelligent and skilful designer and builder. Thus, God exists.

This argument is obviously fallacious. The last inference, the one from the existence of an intelligent and skilful designer to the existence of God, is extremely weak. The conclusion, that God exists, goes far beyond what the premises in the argument support, for God is omniscient and omnipotent. In an argument that seeks to describe the cause of some effect, we are entitled to find no more intelligence or power in the cause than is minimally sufficient to bring about the effect. Suppose a person gives you a computer disk. You may legitimately conclude that he had available to him a computer disk to give you. You may not legitimately conclude that possesses hundreds of computer disks. Maybe he does. But all you can conclude from receiving a disk from him is that he had one. All we could possibly conclude from the material given us in the argument about beetles is that there exists someone intelligent and skilful enough to create beetles.

How intelligent and skilful is that? Within any species of beetle, there will be much variation. Some beetles are less well adapted for their way of life than other beetles of their species. Some beetles are not especially good hunters, compared to their fellows, and some get eaten by predators. Moreover, if we look closely at beetles with an engineer's eye, we'll see that the beetle is far from optimally designed for its way of life. Instead, it appears more like something cobbled together from whatever materials were on hand, materials pressed into serving ends far different than those they might previously have served in animals from which beetles evolved.

The final inference, then, the inference to the conclusion that God exists, is very weak. But what about the important earlier inference, to the conclusion that, probably, the beetle's body was designed and built? Is it strong or weak? It would seem that there are many significant disanalogies between the gear worn by hockey or football players and the body of the beetle. For one disanalogy, consider that wearing gear of a particular sort has a point given the nature and rules of the game. The beetle, though, is not playing a game. We have to suppose that the beetle's body has a point or function if we are to construct an analogy between gear and

it. But maybe the beetle's body just does what it does without its doing it having any point. Its body enables it to survive, but we've no reason to think that surviving is what the beetle is meant to do. (Is the beetle also meant to nourish birds? It seems to function well in its ecosystem as food for birds.) We're just begging the question whether it was designed if we assume that hockey gear and the beetle's body are alike in having a point or purpose conferred on it by a maker.

A couple paragraphs ago, we sketched a particular principle of good reasoning, one that, we supposed, ought not ever be violated. That principle is: when reasoning from an observed effect to an unobserved cause, one can legitimately ascribe to the cause only the bare minimum of power sufficient to bring about that effect. If the observed effect is a car's cruising along smoothly at one hundred kilometres an hour, then we can conclude to the existence of an engine capable of propelling the vehicle smoothly along at one hundred kilometres an hour. We cannot legitimately conclude that the engine can propel the vehicle any faster. We used this principle to criticize the argument to design concerning beetles. But is that principle sound?

Suppose you pass a half-built house. You conclude, rightly, to the existence of a house builder. But certainly you imagine that the builder responsible for the half built house is capable of building a complete house. Surely the inference from the half-built house to a builder capable of building a complete house is strong. According to the principle described in the above paragraph, though, that inference is weak, for it decrees that you cannot legitimately conclude past the existence of a builder capable of building half a house.

Your argument to the existence of a builder capable of finishing the house is based on a great fund of experience, though. You have often seen a thing on which you or someone else is working go from early stages to completion. You have seen one after another building go from a hole in the ground to a busy shop or apartment complex. That experience justifies you in concluding from the sight of a half-built house to the existence of a builder capable of building a finished house. (No doubt you have also seen things begun and never finished, some of which you knew to have been abandoned because their builders lacked the ability to bring them to completion.) The trouble with the inference from the beetle as it is to the existence of a designer and builder capable of doing better or completing the job is that no one has ever followed a supernatural being working from start to finish on some project. Had a person had such experience, she might legitimately appeal to it in concluding from a flawed performance to the existence of a supernatural being that can do better.

To summarize: A local design argument to the existence of God will contain an inference from the presence of order in some natural phenomenon to the conclusion that that phenomenon was designed and fabricated to be what it is. That inference is underwritten by an analogy between things one knows, through one's experience, to be ordered in virtue of having been designed and built and the order displayed in the phenomenon. The inference is weak to the extent that there are relevant dissimilarities between the two things compared. The most serious relevant dissimilarity is the lack of purpose or point in the natural phenomenon—at least, to suppose a particular purpose or point is to beg the question by assuming that the phenomenon had a designer. In any case, the argument cannot conclude to the existence of God, for the effect, the natural phenomenon in question, is not such that only a perfect being could have brought it about.

Arguments to design that take some local feature of the universe to indicate the existence of God have always been weak, for just the reasons given above. Many philosophers of the past, Hume most importantly, have clearly identified the fallacies they commit. And, yet, local design arguments were for a long time very popular (in some quarters they still are). Perhaps they were popular despite their weakness because it seemed to people that such things as eyes and hearts and beehives and homeostatic mechanisms and the ecology of the river Thames stood in need of explanation and God was the only possible explanation available. Now, of course, we understand such phenomena to be the results of natural processes, including natural selection. But what of these large scale natural phenomena, such as natural selection itself? Don't they evince order and, thereby, indicate design? These questions lead us to global design arguments.

4. Global arguments to design

Scientists tell us that there are at most merely four forces in the universe: the strong force, the weak force, electromagnetism, and gravity. (Perhaps there are fewer than four, for perhaps two of the forces now recognized are actually aspects of the same force.) Scientists also tell us that any piece of matter is an arrangement of particles each of which belongs to one of just twelve basic types: six sorts of quark and six sorts of lepton. All the richness and variety of the universe, then, if what our scientists tell us is correct, is produced by four forces acting on bits of matter that come in just twelve types. (Well, we need also to mention space-time and whatever other dimensions have been discovered.)

Scientists have the laudable habit of revising their ideas in face of recalcitrant evidence, sometimes radically, so we shouldn't take the matter of the nature and number of forces or particles to be settled. Still, our best account of the workings of things indicates that the limitless variety and richness we encounter daily is the product of simple things interacting according to simple laws.

So, we find, the universe as a whole displays a high level of organization. Indeed, we find it to be so intricately organized, so finely tuned, that had any of these forces been different, or had any of the particles been differently behaved, we would not be witness to any of the richness or variety presently around and within us. There would have been no order to witness, and there would have been no one like us in existence to do any witnessing.

The order displayed by the universe has two aspects, then. On the one hand, all natural processes, all physical processes, all processes of generation and decay, all processes of biology, all mental processes, all things beautiful or important to us, occur entirely in virtue of four forces operating lawfully on particles and collections of particles of just twelve sorts. On the other hand, none of these natural processes would occur were the forces or the particles in any way different.

Let us suppose that all this is true, that there is much order to the universe and that that order has these two aspects. Here, then, is a global argument to design. The universe displays order and the orderliness that it displays has two aspects: 1) the limitless richness and variety of things rests upon the simple base of a few types of matter and a handful of forces; 2) had matter or forces been even slightly different than they are in any way at all, the universe would not exhibit the richness and variety that it does. We are familiar with many particular things that are rich and various that rest on simple principles, simple principles that, had they been different,

would not have produced the rich and various things with which we are familiar. A good example of such a thing is a digital photograph or, better, the camera and program by which digital photos are created and displayed. Digital photography, we know, is the result of design and manufacture. (We know this either through having ourselves observed the designing and manufacturing of a system of digital photography or through having heard about it second-, or third-, or hundredth-hand from someone who has observed it.) Both the universe and this particular system of digital photography, then, display a high degree of order. The system of digital photography, we know, was designed and manufactured by intelligent and capable beings. Therefore, the universe as well was, most likely, designed and manufactured by an intelligent and capable being.

We recognize that we cannot pass directly from the conclusion of the above argument to the claim that God exists. To conclude that God exists we would need to have reason to think that only God could create a universe as ordered as this one is. That is, we would first have to rule out the possibility that a being lesser than God, or a committee of them, created the universe.

Nonetheless, if the argument is a good one, it is very impressive. If it is a good argument, it gives us reason to think that there exists a supernatural being, or a group of them, intelligent and powerful enough to have created the universe.

Is it a good argument? No, it isn't. Recall that the global design argument described above is an argument by analogy. The universe, according to this argument, is very much like a system of digital photography, both in exhibiting a high degree of orderliness, and in being such that any small change in the settings would alter the whole thing. An argument by analogy is made weak, we saw, by the existence of relevant dissimilarities. Now, one important fact about any system of digital photography is that it has a point or purpose, a point or purpose given it by its makers. It is this point or purpose that explains why the settings are as they are. One relevant dissimilarity between a system of digital photography and the universe, then, is that the universe does not have a point or purpose—or, at least, it would beg the question to suppose that it does have one, for to suppose it has a point or purpose is already to assign to it a maker. This relevant dissimilarity, I submit, undermines the entire argument. The orderliness we find at the bottom of things is no evidence at all of a designer, despite the orderliness of systems of digital photography, for we cannot legitimately take that orderliness to have a point. The analogy with digital photography would perhaps be strong if we could say that the universe, like digital photography, has a point (and could specify that point); but we cannot, and so the analogy between the universe and systems of digital photography will not support the conclusion that, likely, the universe is a product of design and creation.

A sound argument to design would go like this: We are familiar with many different universes, some of which we saw to be designed and created by a supernatural agent, some of which we know were not designed. All (or most) of the designed and created universes display a high level of orderliness; none (or few) of the undesigned universes display much orderliness. This universe, our universe, displays much orderliness. Therefore, likely, our universe was designed and created by a (one or more) supernatural being(s).

5. Inference to the best explanation

Some philosophers think it a mistake to treat arguments to design always as arguments by analogy. They hold that the best design arguments do not rest on any analogy, but rather have the form of an inference to the best explanation.

The child next door has come down with an itchy rash, consisting of red pimples some of which have tiny yellow water blisters on top. When the blisters break, the fluid dries into a crust. The child had a slight fever yesterday, when the rash first appeared. Today her fever is higher and the rash is spreading quickly. What is the matter with her? Well, you think, it could be impetigo, it could be chicken pox. In fact, you realize, the child could have any one of a large number of bacterial or viral infections. Or it could be an allergic reaction—perhaps to poison ivy. You visit the child with your favourite home medical reference book in hand and you determine that she has chicken pox. What is your argument in favour of your diagnosis? It is this: The hypothesis that she has chicken pox explains why she has the symptoms she does (and doesn't have the symptoms she doesn't have) better than any other hypothesis. Therefore, likely, she has chicken pox. Your argument is an inference to the best explanation.

“We find features A, B, and C (and we don't find feature D). That we are present to condition Y would explain why we find features A, B, and C (and don't find feature D) better than that we are present to condition W or to condition X or to condition Z. Therefore, likely, we are present to condition Y.” That is the form of an argument in the style of inference to the best explanation.

Here, then, is a design argument in the style of inference to the best explanation. Its conclusion is that most likely there does exist a supernatural agent who might be God.

The universe in which we live is rich and complex, and yet all that richness and complexity is the result of bits of matter of very few types interacting according to a small set of simple laws. Moreover, were the bits of matter or the laws even slightly different than they are, the universe would not be rich or complex. These facts stand in need of explanation. One explanatory hypothesis is that the universe just happens to be as finely tuned as it is. It just happens to have the sort of underlying orderliness necessary and sufficient to sustain its richness and complexity. Another explanatory hypothesis is that the universe is as it is because it was designed and fabricated to be as it is. It is orderly in the way that it is because it was meant to be rich and complex in the ways it is. But it is extremely unlikely that the universe just happens to be orderly in the way that it is. And so, this argument continues, that the universe is as finely tuned as it is because it was designed and fabricated to be as it is is more likely the true explanatory hypothesis. Thus, likely, the universe was designed and fabricated. Only a being of great intelligence and power could design and fabricate something like the universe. Therefore, there exists a supernatural being who might well be God.

The argument assumes that the orderliness of the universe (and the fact that that orderliness supports a rich and complex universe) has an explanation. Unless that assumption can be made good, the argument fails. Let us leave that point aside, though, to see whether or how far the argument succeeds on its own terms. The key problem in the argument is with the claim that the hypothesis of a designer is more likely than the hypothesis of no designer. How can that claim be established? It would seem that it could be established only through an argument by analogy, an analogy between those things we know to display order because they were designed and the universe, which, we grant, displays order. But that analogy, we saw above, is very weak in virtue of a strong relevant dissimilarity between the two items compared.

The object we found on the heath keeps time, and it does so in virtue of its parts and their relations. Other timepieces with which we are familiar we know to keep time because they have been designed and fabricated to keep time. Therefore, likely, the object we found on the heath was designed and fabricated to keep time. The analogy in this argument is between the workings of the object we found and the workings of timepieces we know to have been fabricated. The similarities between the two sides of the analogy are plentiful and strong, and there are no relevant dissimilarities between them. Thus, we are entitled to think the object we found was designed and fabricated just as the timepieces with which we are familiar were. The universe, though, is not like timepieces in one important respect: it is not *for* anything. Or, at least, unlike the object found on the heath, we have no good reason to think it has a function or point or purpose. There is nothing we can do with it, no end we can use it for. The claim that the hypothesis of a designer is more likely true than the hypothesis of no designer could be defended if we had reason to think that the universe is orderly in the ways it is in order that the universe be rich and complex in the way that it is. We have no reason to think this, though. The argument to design in the style of inference to the best explanation fails, for we cannot establish one of its key premises, the premise according to which the hypothesis that the universe was designed is more likely true than the hypothesis that it was not designed. We simply cannot legitimately hold true any statement regarding the likelihoods, absolute or comparative, of the two hypotheses.

The design argument we have been considering was meant to be an inference to the best explanation, and not an argument by analogy. It turns out, though, that the only hope of defending a key premise in it rests on the success of an argument by analogy. Or, at least, it seems that the only hope of defending that key premise rests on the success of an argument by analogy. That argument by analogy is weak in just the way the argument to design we considered and criticized in section 4 of this chapter is weak. None of the arguments to design we have considered goes any distance at all toward making reasonable the belief that a supernatural being who might be God exists. We shouldn't be dogmatic here, though; perhaps someone will construct an argument to design that avoids the fallacies we have identified. Still, importantly, we must conclude that the inference from the existence of order in the universe to the belief that the universe was designed and created is fraught with difficulty.