The Argument from Design

RICHARD SWINBURNE

Two Forms of Teleological Argument

[1] I begin with the distinction between spatial order and temporal order, between what I shall call regularities of co-presence and regularities of succession. An example of a regularity of co-presence would be a town with all its roads at right angles to each other, or a section of books in a library arranged in alphabetical order of authors. Regularities of succession are simple patterns of behaviour of objects, such as their behaviour in accordance with the laws of nature — for example, Newton's laws.

[2] Many of the striking examples of order in the universe evince an order which is due both to a regularity of co-presence and to a regularity of succession. A working car consists of many parts so adjusted to each other that it follows the instructions of the driver delivered by his pulling and pushing a few levers and buttons and turning a wheel, to take passengers whither he wishes. Its order arises because its parts are so arranged at some instant (regularity of co-presence) that, the laws of nature being as they are (regularity of succession) it brings about the result neatly and efficiently. The order of living animals and plants likewise results from regularities of both types.

[3] Men who marvel at the order of the universe may marvel at either or both of the regularities of co-presence and of succession. The thinkers of the eighteenth century to whom the argument from design appealed so strongly were struck almost exclusively by the regularities of co-presence. They marvelled at the order in animals and plants; but since they largely took for granted the regularities of succession, what struck them about the animals and plants, as to a lesser extent about machines made by men, was the subtle and coherent arrangement of their millions of parts. Paley's *Natural Theology* dwells mainly on details of comparative anatomy, on eyes and ears and muscles and bones arranged with minute precision so as to operate with high efficiency, and in the *Dialogues* Hume's Cleanthes produces the same kind of examples: 'Consider, anatomize the eye, survey its structure and contrivance, and tell me from your own feeling, if the idea of a contriver does not immediately flow in upon you with a force like that of sensation.'

[4] The eighteenth-century argument from spatial order seems to go as follows. Animals and plants have the power to reproduce their kind, and so, given the past existence of animals and plants, their present existence is to be expected. But what is vastly surprising is the existence of animals and plants at all. By natural processes they can only come into being through generation. But we know that the world has not been going on forever, and so the great puzzle is the existence of the first animals and plants in 4004 bc or whenever exactly it was that animals and plants began to exist. Since they could not have come about by natural scientific processes, and since they are very similar to the machines, which certain rational agents, viz. men, make, it is very probable that they were made by a rational agent — only clearly one much more powerful and knowledgeable than men.

[5] In the *Dialogues*, through the mouth of Philo, Hume made some classical objections to the argument in this form, some of which have some force against all forms of the argument; I shall deal with most of these as we come to appropriate places in this chapter. Despite Hume's objections, the argument is, I think, a very plausible one — given its premisses. But one of its premisses was shown by Darwin and his successors to be clearly false. Complex animals and plants can be produced through generation by less complex

animals and plants — species are not eternally distinct; and simple animals and plants can be produced by natural processes from inorganic matter. This discovery led to the virtual disappearance of the argument from design from popular apologetic — mistakenly, I think, since it can easily be reconstructed in a form which does not rely on the premisses shown to be false by Darwin. This can be done even for the argument from spatial order.

[6] We can reconstruct the argument from spatial order as follows. We see around us animals and plants, intricate examples of spatial order in the ways which Paley set out, similar to machines of the kind which men make. We know that these animals and plants have evolved by natural processes from inorganic matter. But clearly this evolution can only have taken place, given certain special natural laws. These are first, the chemical laws stating how under certain circumstances inorganic molecules combine to make organic ones, and organic ones combine to make organisms. And secondly, there are the biological laws of evolution stating how organisms have very many offspring, some of which vary in one or more characteristics from their parents, and how some of these characteristics are passed on to most offspring, from which it follows that, given shortage of food and other environmental needs, there will be competition for survival, in which the fittest will survive. Among organisms very well fitted for survival will be organisms of such complex and subtle construction as to allow easy adaptation to a changing environment. These organisms will evince great spatial order. So the laws of nature are such as, under certain circumstances, to give rise to striking examples of spatial order similar to the machines which men make. Nature, that is, is a machine-making machine. In the twentieth century men make not only machines, but machine-making machines. They may therefore naturally infer from nature which produces animals and plants, to a creator of nature similar to men who make machine-making machines.

[7] This reconstructed argument is now immune to having some crucial premiss shown false by some biologist of the 1880s. The facts to which its premisses appeal are too evident for that — whatever the details, natural laws are clearly such as to produce complex organisms from inorganic matter under certain circumstances. But although this is so, I do not find the argument a very strong one, and this is because of the evident paucity of organisms throughout the universe. The circumstances under which nature behaves as a machine-making machine are rare. For that reason nature does not evince very strongly the character of a machine-making machine and hence the analogies between the products of natural processes on the one hand and machines on the other are not too strong. Perhaps they give a small degree of probability to the hypothesis that a rational agent was responsible for the laws of evolution in some ways similar to the rational agents who make machines, but the probability is no more than that.

[8] I pass on to consider a form of teleological argument which seems to me a much stronger one — the teleological argument from the temporal order of the world. The temporal order of the universe is, to the man who bothers to give it a moment's thought, an overwhelmingly striking fact about it. Regularities of succession are all-pervasive. For simple laws govern almost all successions of events. In books of physics, chemistry, and biology we can learn how almost everything in the world behaves. The laws of their behaviour can be set out by relatively simple formulae which men can understand and by means of which they can successfully predict the future. The orderliness of the universe to which I draw attention here is its conformity to formula, to simple, formulable, scientific laws. The orderliness of the universe in this respect is a very striking fact about it. The universe might so naturally have been chaotic, but it is not — it is very orderly.

[9] The premiss of a good teleological argument is not that so far (within his life or within human history) things have conformed to a pattern which man can recognize and describe.

The premiss is rather that things have and will continue to conform to such a pattern however initial conditions vary, however men interfere in the world. If induction is justified, we are justified in supposing that things will continue to behave as they have behaved in the kinds of respect which scientists and ordinary people recognize and describe. I assume that we are justified in believing that the laws of gravity and chemical cohesion will continue to hold tomorrow — that stones will fall, and desks hold together tomorrow as well as today — however initial conditions vary, however men interfere in the world. It may of course be doubted whether philosophers have given a very satisfactory account of what makes such beliefs justified (hence 'the problem of induction'); but I assume the common-sense view that they are justified. So the teleologist's premiss is not just that there has been in nature so far an order which men can recognize and describe; but there has been and will continue to be in nature an order, recognizable and describable by men certainly, but one which exists independently of men. If men are correct in their belief that the order which they see in the world is an order which will hold in the future as in the past, it is clearly not an imposed or invented order. It is there in nature. Only if the order is there in nature is nature's future conformity to be *expected.*

[10] An objector may now urge that although the order of the universe is an objective matter, nevertheless, unless the universe were an orderly place, men would not be around to comment on the fact. (If there were no natural laws, there would be no regularly functioning organisms, and so no men.) Hence there is nothing surprising in the fact that men find order — they could not possibly find anything else. This conclusion is clearly a little too strong. There would need to be quite a bit of order in and around our bodies if men are to exist and think, but there could be chaos outside the earth, so long as the earth was largely unaffected by that chaos. There is a great deal more order in the world than is necessary for the existence of humans. So men could still be around to comment on the fact even if the world were a much less orderly place than it is. But quite apart from this minor consideration, the argument still fails totally for a reason which can best be brought out by an analogy. Suppose that a madman kidnaps a victim and shuts him in a room with a card-shuffling machine. The machine shuffles ten decks of cards simultaneously and then draws a card from each deck and exhibits simultaneously the ten cards. The kidnapper tells the victim that he will shortly set the machine to work and it will exhibit its first draw, but that unless the draw consists of an ace of hearts from each deck, the machine will simultaneously set off an explosion which will kill the victim, in consequence of which he will not see which cards the machine drew. The machine is then set to work, and to the amazement and relief of the victim the machine exhibits an ace of hearts drawn from each deck. The victim thinks that this extraordinary fact needs an explanation in terms of the machine having been rigged in some way. But the kidnapper, who now reappears, casts doubt on this suggestion. 'It is hardly surprising', he says, 'that the machine draws only aces of hearts. You could not possibly see *anything else.* For you would not be here to see anything at all, if any other cards had been drawn.' But of course the victim is right and the kidnapper is wrong. There is indeed something extraordinary in need of explanation in ten aces of hearts being drawn. The fact that this peculiar order is a necessary condition of the draw being perceived at all makes what is perceived no less extraordinary and in need of explanation. The teleologist's starting-point is not that we perceive order rather than disorder, but that order rather than disorder is there. Maybe only if order is there can we know what is there, but that makes what is there no less extraordinary and in need of explanation.

[11] So the universe is characterized by vast, all-pervasive temporal order, the conformity of nature to formula, recorded in the scientific laws formulated by men. On this account what the all-pervasive temporal order amounts to is the fact that throughout space and time there are physical objects of various kinds, every such object having the powers and

liabilities which are described in laws of nature — e.g. the power of attracting each other physical object in the universe with a force of gmm^1/r^2 dynes (where g is the gravitational constant) the liability always to exercise this power, and the liability to be attracted by each other body in the universe with a force of gmm^1/r^2 dynes and so on. From the fact that it has such general powers it follows that an object will have certain more specific powers, given the kind of object that it is. For example, given that it has a mass of 1 gram, it will follow that it has the power of attracting each other body in the universe with a force of gm^1/r^2 dynes.

[12] This picture allows us to draw attention to a feature of the orderliness of the universe which the other picture makes it easy to ignore. Unlike the feature to which I have drawn attention so far, it is not one of which men have always known; it is one which the atomic theory of chemistry strongly suggested, and the discovery of fundamental particles confirmed. It is this. The physical objects scattered throughout space and time are, or are composed of, particles of a few limited kinds, which we call fundamental particles. Whether the protons and electrons which we suppose to be the fundamental particles are in fact fundamental, or whether they are composed of yet more fundamental particles (e.g. quarks) which are capable of independent existence is not altogether clear — but what does seem clear is that if there are yet more fundamental particles, they too come in a few specific kinds. Nature only has building-blocks of a few kinds. Each particle of a given kind has a few defining properties which determine its behaviour and which are specific to that kind. Thus all electrons have a mass of 1/2 MeV/c^2, a charge of -1, a spin of 1/2 etc. All positrons have other properties the same as electrons, but a charge of +1. All protons have a mass of 938 MeV/c^2, a charge of +1, and a spin of 1/2. And so on. There are innumerably many particles which belong to each of a few kinds, and no particles with characteristics intermediate between those of two kinds. The properties of fundamental kinds, that is, which give specific form to the general powers which all objects have, belong to a small class; and the powers and liabilities of large-scale objects are determined by those of their fundamental components. Particles have constant characteristics over time; they only change their characteristics, or are destroyed or converted into other particles by reason of their own liabilities (e.g. to decay) or the action of other particles acting in virtue of their powers.

[13] Put in these terms then, the orderliness of nature is a matter of the vast uniformity in the powers and liabilities of bodies throughout endless time and space, and also in the paucity of kinds of components of bodies. Over centuries long, long ago and over distances distant in millions of light years from ourselves the same universal orderliness reigns.

[14] So I shall take as the alternatives the first, that the temporal order of the world is where explanation stops, and the second, that the temporal order of the world is due to the agency of God; and I shall ignore the less probable possibilities that the order is to be explained as due to the agency of an agent or agents of finite power. The proponent of the teleological argument claims that the order of nature shows an orderer — God.