

3 Could the universe have an explanation?

...we believe that no fact can be real or existing and no statement true or false unless it has a sufficient reason why it should be thus and not otherwise. Most frequently, however, these reasons cannot be known by us.

Gottfried Wilhelm von Leibniz, *Monadology*

A TRIVIAL EXPLANATION

We began the first chapter with the observation that theism appears to explain why the universe exists, and that there appears, moreover, to be no rival explanation. The implicit assumption is that the existence of the universe is something to be explained. But is it to be explained? Is theism, rather, making a mistake in attempting an explanation? In this chapter we shall discuss two arguments: one that the existence of the universe can be explained in quite trivial terms, which make no reference to God; and the other that there cannot be a causal explanation, or anything even analogous to a causal explanation, of the existence of the universe.

First, the trivial explanation. By this point we have become quite familiar with talk of possible worlds. I now want to show that such talk allows us to construct a very simple, indeed disappointingly simple, answer to our fundamental question, 'Why does the universe exist?' However, to see how the explanation works, we have to rephrase our question as follows: 'Why is the actual world one which contains a universe?' The 'explanation' now goes as follows. The set of all possible worlds represents the full range of logical possibility. Anything that is logically possible will be true in some possible world or worlds. The existence of a universe is clearly possible, since it is actual. Consequently, some possible worlds contain a universe, even though many do not. Whenever the phrase 'The actual world' is used by us, it denotes the world we happen to be in, just as whenever we use the word 'here' it

denotes the place we happen to be in. So the question ‘Why is this world one which contains a universe?’ just means ‘Why is the world in which I am located one which contains a universe?’, and that question hardly seems to deserve an answer. For, of course, the world in which I am located is bound to be a world which contains a universe. The very posing of the question presupposes the answer.

A simple analogy may help to make this argument intelligible. Imagine that you are sitting in one of a hundred rooms in some office building. Some of these rooms are occupied, some not. Reflecting on this, you ask yourself, ‘Why is *this* room an occupied room?’ The answer is not hard to find. Consider the meaning of ‘this room’. Which room is referred to by ‘this room’ obviously depends on the location of the speaker. As we might put it, ‘this room’ just means ‘The room where I am located’. So the question ‘Why is this room occupied?’ just means ‘Why is the room in which I am located an occupied room?’ and the absurdity of the question is at once apparent. Any room in which I am located is *ipso facto* an occupied room, so in that sense the fact that this room is occupied needs no explanation beyond a brief summary of what is meant by the phrase ‘this room’. Similarly, the fact that the actual world contains a universe is answered quite trivially, by a summary of what is meant by ‘the actual world’.

If this is the correct explanation, then any further explanation is redundant. Theism, as far as the mystery of existence is concerned, is simply *de trop*. But the ‘explanation’, of course, is too good to be true. What is wrong with it? We might note that the explanation in terms of the meaning of ‘this room’ does not rule out an informative explanation of why this room is an occupied one. I can explain why this room is occupied by pointing to the fact that I have just walked into it, having been asked by someone to find a file. But what is particularly suspicious about the trivial explanation is the analogy between the office building and the totality of possible worlds. There is nothing, apart from their contents, to distinguish one room from any other of the ninety-nine rooms in the block. By this I do not mean that they are all of the same dimensions, or similarly furnished, but that each is as *real* as the other. ‘This room’ is just the room I happen to be in. But *this world* is, surely, very different from all the other possible worlds. This world, the actual world, is *the real* world; all others are just fantasies, mere abstract possibilities. We can agree that ‘this room’ and ‘here’ make implicit reference to the speaker, but ‘the actual world’ surely makes no such reference. So the question ‘Why does the actual world contain a universe?’ is not the dubious question ‘Why does the world in which I am located contain a universe?’, but ‘Why does the one world which is real contain a universe?’, a question which has nothing to do with the

individual posing the question. To answer *this* question surely requires a substantive explanation.

There is, however, a theory on which the analogy between worlds and the office building is an appropriate one, and that is the modal realist theory discussed in Chapter 2, pages 29–31. On that view, all worlds are equally real, and the actual world is merely the one we happen to be located in. So, if modal realism is correct, then there really is no mystery about the existence of the universe. Here is one of many instances where modal realism creates difficulties for theism. But the price to pay for the solution to the mystery is a very high one: a controversial and counter-intuitive conception of reality. If we keep to our intuitive conception of possibility, then the mystery cannot be got rid of so easily. The point is, then, that it is not just the useful idiom of possible worlds that defuses the fundamental questions of existence, but a controversial interpretation of that idiom. However, there is another argument, to the effect that the existence of the universe has no substantial explanation, and to this argument we now turn.

CAUSES AND CAUSAL EXPLANATIONS

Our discussion of the cosmological argument showed us that the notion of an uncaused *cause* of the universe is a dubious one. But the theist can still exploit our puzzlement over the idea of something's coming into being from nothing. The universe still needs an explanation. And, even though a 'cause' of the universe would necessarily be very different from ordinary causes, it nevertheless offers something at least analogous to a causal explanation of the universe. In so far as we think the universe needs an explanation, then, we will be tempted by theism. What I want to suggest now, however, is that, although theism can point to a cause of the universe, in an extended sense of 'cause', it cannot provide anything like a causal *explanation* of the universe. This might seem a curious assertion. After all, what is there to causal explanation other than simply pointing to a cause? A simple example will illustrate the difference.

Suppose you observe smoke emerging from your neighbour's house and you enquire of someone in the large crowd of people gathered outside what the explanation is. If you were told that smoke was emerging from your neighbour's house because some smoke-producing event had occurred inside, then you would certainly have been told a truth, though a rather uninformative one. But if the observer had said, in place of 'smoke-producing event', 'burning of furniture', then the explanation would have been a useful, informative one: it would have told you something you could not have known simply by looking at the

smoke. So we can define one feature that a good causal explanation should have: it should be genuinely informative, in the sense that it contains information not provided by the description of the effect.

Is informativeness enough? Suppose that, instead of saying either that some smoke-producing event had occurred or that there had been a burning of furniture, the observer had said that there had been a visit by relatives. This would certainly have told you something you could not have known simply by looking at the smoke, but you would have been somewhat bemused by it if you had not known that the relatives in question had in fact been disinherited and the burning of the furniture was an act of defiance on their part. There is in the world at large no general connection between visits by relatives and the production of smoke (other than tobacco smoke, that is). So the observer's reference to such a visit would not necessarily have made intelligible the appearance of smoke. Whether it would have done so would have depended on the background information of the audience. A second aspect of good causal explanation, then, is its connection with generalisations. To take another example, if we think that the fact that a flask containing a mixture of chlorine and hydrogen was exposed to sunlight explains the explosion in the laboratory, that is because we think that there is a general connection between mixtures of chlorine and hydrogen being exposed to sunlight and explosions. At its most basic, the explanation is of this kind: A explains B because A-type events are nearly always accompanied by B-type events. More complex explanations rely on a greater number of generalisations: A explains B because A-type events are generally accompanied by C-type events which in turn are generally accompanied by B-type events. For example, the exposure of the mixture to sunlight (A) explains the explosion (B) because, in the presence of sunlight, chlorine and hydrogen interact to form hydrogen chloride (C-type event), and the bonding of chlorine and hydrogen atoms releases a large amount of energy.

The point of causal explanations is to make intelligible the phenomenon in question: to make it less surprising or mysterious. When we have an explanation, we know (or at least are in a better position to know) what to expect next. But it is not enough to point to some state of affairs as the cause of some other state. The way in which the cause is described determines whether the explanation is a good one or not. Under some descriptions, the cause and effect will exemplify a general connection between events of a certain kind and events of another kind. Under other descriptions, the cause and effect will not exemplify a general connection (as it would not if, for example, we had described the cause above as 'sunlight falling on a yellow-coloured gas'). So we

can define another feature of good causal explanation as follows: we should describe the causes in a way that brings out a general connection between causes of that type and events of the type exemplified by the effect. Admittedly, some causal explanations will be so complex that they cannot be generalised. But, in these cases, the explanations will depend on component explanations which do involve general connections.

Now let us look at the idea that the universe is caused by some 'first cause'. This may be perfectly correct, but as an *explanation* it is a dead loss: it tells nothing about the first cause other than that it is a cause. It is on the same level as 'smoke is coming from that house because some smoke-producing event is going on inside'. Pointing to a cause of the universe only becomes an explanation once one adds extra information about the cause, thus making the universe—and perhaps also particular features of it—intelligible. So the mere postulation of a first cause fails to meet our first requirement of a good causal explanation.

Suppose, then, that we say rather more about the first cause: we specify certain of its properties. Can we still hope to produce something like a good causal explanation of the universe? Consider our second requirement of causal explanation, that good causal explanations generate true generalisations. A world in which there can be causal explanation is not a chaotic world; it is a world tightly constrained by the laws of nature. Causal generalisations are simply reflections of these laws: that is, they are true because of the existence of fundamental laws. Causal explanation, then, takes place against a background of laws. But when we come to the explanation of the universe as a whole, part of what we are required to explain is the existence of the laws themselves. We cannot therefore help ourselves to any laws in order to explain the existence of the universe. Consequently, the explanation of the universe cannot take place against a background of laws. But, since causal explanation requires such a background, there can be no causal explanation of the universe.

Many philosophers insist on a connection between laws and causation itself. That is, quite independently of any considerations about explanation, two things cannot be related as cause and effect unless there are laws connecting one type of event with the other. This might seem to imply, for reasons similar to those discussed in the previous paragraph, that there could not be a *cause* of the universe, never mind a causal explanation. For, it might seem, if causation requires laws, and whatever is responsible for the universe is responsible for the laws themselves, then that thing cannot be a cause in the ordinary sense. But, to get around this difficulty, the theist can distinguish between

natural and non-natural laws. The natural laws are those which govern causation within the universe, and whose existence requires explanation. The non-natural laws are those which connect God's activity with the existence of the universe. Admittedly, we cannot have an access to the non-natural laws, but that in itself does not prevent us from talking of a cause of the universe's existence. It does, however, prevent us from talking of a causal *explanation* of the universe's existence, since we can only make things intelligible by appealing to things of which we know. Causal explanation is thus tied to the natural laws.

The possibility remains, however, of a different kind of explanation of the universe, one which does not depend on natural laws. This suggestion has been made by Richard Swinburne, who argues that there is a kind of explanation which is very familiar to us, which is independent of scientific explanation in terms of natural laws, and to which the theist can appeal in explaining both the existence and characteristics of the universe. He calls it *personal explanation*.

PERSONAL EXPLANATION

In *The Existence of God*, Swinburne defines personal explanation as explanation in terms of an agent and that agent's intentions. For example, I explain the presence of the lawnmower in the kitchen by saying that I put it there the previous evening with the intention that it should remind me, when I came down to breakfast, to take it to be mended. Nothing could be more familiar than this kind of explanation. It belongs to the category of *teleological* explanation—explanation in terms of purpose—rather than that of causal explanation. In causal explanation, we point to the antecedents of something. A causal explanation of the presence of the lawnmower may involve a simple description of my actions the evening before: I took it out of the garden shed, I opened the kitchen door...etc. A more detailed causal explanation might include a description of my individual body movements, and the brain processes which gave rise to those movements. In teleological explanation, in contrast, we point, not solely to the antecedents of something, but to its goal, the end to which it is tending. The teleological explanation of the lawnmower's being in the kitchen, in terms of what I wanted to achieve, is intelligible quite independently of any detailed causal explanation. Moreover, the teleological explanation does something the causal explanation does not: it rationalises my action of bringing the lawnmower into the kitchen. As we shall see in Chapter 5, however, not all teleological explanation must involve conscious agents, so not all teleological explanation is personal.

Theism, and only theism, offers a personal explanation of the universe. The theist can say why the universe exists by saying that it was brought about by God, who intended that there should be a universe. Or perhaps the main intention was to realise some state of affairs for which the existence of a universe was a necessary condition. Surely this meets the requirements of good explanation? It is informative, and it rests on general principles concerning how rational agents behave. The question is whether we can legitimately extend this familiar form of explanation to the case of the universe.

The crucial notion in personal explanation is that of *intention*. Now, as we ordinarily encounter them, intentions are the causes of actions. This is not to say that explanation in terms of intentions is just causal explanation. As we noted above, they are different in form and play different roles in our understanding. Still, intentions are *causes*: they are had by the agent at certain times and not others, and they bring about the effect in question in conjunction with other conditions. Swinburne objects to this on the grounds that intentions are not, or at least not always, ‘occurrent’ mental events: they are not happenings which take place at particular times and of which we are fully conscious, like a sudden surge of pain. But we do not have to think of intentions as occurrent events in order to see them as causes. We could think of them as dispositions to behave in certain ways. My intention to be nice to people may not be at the forefront of my mind, it may not be something I consciously decided to adopt one day. It is simply something about me which is manifested in my behaviour towards people. It is still a cause (though not the only cause) of my behaviour: it is a condition which has not always obtained, but which does obtain antecedently to the behaviour in question.

If intentions are causes in the ordinary sense of the term, then the suggestion that a creator’s intentions could explain the existence of the universe implies that the universe had a cause. In Chapter 1 we argued that, when we consider the causes of the existence of things, it is an essential part of our notion of those causes that they bear a temporal relationship to the things they cause. They occur, or obtain, immediately before the thing in question comes into existence. Now, if the universe had no beginning, and so there was no time before it existed, then it cannot have had a cause. Equally, if it had a beginning, but this coincided with the beginning of time, then there still would have been no time before the universe began to exist, so it cannot have had a cause. In these cases, then, we cannot appeal to an antecedent intention to explain why the universe came into existence, if intentions are causes. We left the door open at the end of Chapter 1 for an extended, non-standard,

use of the term 'cause', but it is far from clear that we can conceive of an intention which is a cause only in some non-standard sense.

If the universe had a beginning, but time did not, then we could allow that the universe had a cause. So, in such a case, personal explanation would be applicable, it seems. There is, however, another problem, to which I shall now turn.

A NECESSARY CAUSE?

The first premise of the modal cosmological argument is that everything whose existence is contingent has a cause. This suggests that, if there were a first cause, it would be necessarily existent. Now we can state this in terms of explanation as follows. Every contingent fact, e.g. the fact that the universe exists, calls for causal explanation. If there is an ultimate explanation, a fact which calls for no further explanation, then it must be a necessary fact, one which obtains in all worlds. The fact in question may be that God exists, or that he has certain properties. Let us suppose, then, that the fact which causally explains the universe is a necessary one. But this will not do. Since the very problem was to explain why the *actual* world, but not all worlds, contained a universe, i.e. what it was about this particular world that made the crucial difference, appeal to a feature which all worlds share will not advance our understanding any further at all. Even if a necessary fact is an important part of the explanation, it cannot be the whole of it.

Necessary facts, then, cannot explain contingent ones, and causal explanation, of any phenomenon, must link contingent facts. That is, both cause and effect must be contingent. Why is this? Because causes make a difference to their environment: they result in something that would not have happened if the cause had not been present. To say, for example, that the presence of a catalyst in a certain set of circumstances speeded up a reaction is to say that, had the catalyst not been present in those circumstances, the reaction would have proceeded at a slower rate. In general, if A caused B, then, if A had not occurred in the circumstances, B would not have occurred either. (A variant of this principle is that, if A caused B, then if A had not occurred in the circumstances, the probability of B's occurrence would have been appreciably less than it was. It does not matter for our argument whether we accept the original principle or this variant.) To make sense of this statement, 'If A had not occurred in the circumstances, B would not have occurred', we have to countenance the possibility of A's not occurring and the possibility of B's not occurring. If these are genuine possibilities, then both A and B are contingent. So one of the reasons

why necessary facts cannot causally explain anything is that we cannot make sense of their not being the case, whereas causal explanation requires us to make sense of causally explanatory facts not being the case. Causal explanation involves the explanation of one contingent fact by appeal to another contingent fact.

This means that we cannot solve our problem by giving up the contingency of the universe. That is, we cannot say that, since no contingent fact could explain the universe, and since no necessary fact explains a contingent one, the existence of the universe is both itself a necessary fact and explained by a necessary fact. If the existence of the universe is necessary, not contingent, then it seems it does not call for explanation. Or rather, it cannot have a *causal* explanation, for the reasons just given.

These considerations also affect any attempted personal explanation of the universe, for, as we argued in the previous section, intentions are causes—and, since causes are contingent, so are intentions. Therefore, any personal explanation of the universe in terms of the intentions of a creator must also be contingently true. So, if the contingency of the universe is what makes us seek an explanation for it, the contingency of personal explanation will also invite the request for further explanation. *Why* did the creator have such intentions? If the theist insists that this is one contingent fact that we cannot explain further, then the original motivation for explaining the existence of the universe is undermined, for the atheist can insist that the existence of the universe is a contingent fact that we cannot explain further.

If something is forcing us to seek an explanation for the existence or nature of the universe, it must be something stronger than the mere fact that things could have been otherwise, for any explanation will only invoke things that could have been otherwise. However, there is another reason to seek an explanation of the universe, and that is to do with the notion of *probability*. This aspect of the mysteries of existence is one of the concerns of the next chapter.

SUMMARY

The argument of this chapter has been that, once it is made clear what counts as a satisfactory causal explanation of anything, it becomes apparent that there can be no causal explanation, worthy of the name ‘explanation’, of why the universe exists.

We began by looking at the suggestion that the explanation of the universe’s existence is a trivial one, and therefore any causal explanation would simply be redundant. The argument went as follows: the question

‘Why is the actual world one which contains a universe?’ is just equivalent to ‘Why is the world in which *I* am located one which contains a universe?’, a question which invites the obvious answer that any world which contains me must also contain a universe. We saw, however, that this argument rested on the very controversial step of treating other possible worlds as being as real as the actual world.

We then turned to the question of whether there could be a causal explanation, or something at least analogous to a causal explanation, of the universe, and distinguished between simply pointing to a cause and providing a genuine explanation. Three features of causal explanation were identified:

- 1 Good causal explanations are informative.
- 2 Good causal explanations exploit generalisations of the following form: A-type events tend to cause, in certain situations, B-type events. Under some descriptions, but not others, a cause and effect will fall under this kind of generalisation.
- 3 If some state of affairs, B, has a cause, then both B and its cause are contingent: if it is true that A caused B, then if in the circumstances A had not occurred, B would not have occurred.

The first of these entails that merely positing a first cause of the universe is not explanatory; the third entails that no necessary fact could provide a causal explanation of the universe; and the second generates the following argument: causal explanations require a background of laws, but an explanation of the existence of the universe cannot presuppose such a background since the existence of laws is part of what it is required to explain, hence there can be nothing even approaching a causal explanation of the existence of the universe.

A different possibility was explored: that the universe could be given a personal explanation in terms of the intentions of a creator. This is a different kind of explanation from causal explanation, and so does not face all the difficulties of the latter. Nevertheless, if intentions are causes, then personal explanation implies that there was a cause of the universe, and this faces the difficulties raised in Chapter 1. Further, personal explanation is contingent, and so, if it is the contingency of the universe which obliges us to seek an explanation for it, personal explanation simply invites a regress of explanation.

FURTHER READING

The modal realist solution to the fundamental questions of existence is made explicit in David Lewis’s *On the Plurality of Worlds*, Oxford: Blackwell, 1986, pp. 128–33. See also George Schlesinger,

'Possible Worlds and the Mystery of Existence', *Ratio*, vol. 26 (1984), pp. 1–17.

Theories of causation, and the connection between causation and laws, are discussed in detail in John Mackie, *The Cement of the Universe*, Oxford: Clarendon Press, 1974.

The notion of personal explanation is articulated and put to use in a defence of theism in Richard Swinburne's *The Existence of God*, Oxford: Clarendon Press, 1979.

For a detailed characterisation of explanation in its various guises see David-Hillel Ruben, *Explaining Explanation*, London: Routledge, 1990.