

# The puzzle of reality

## Why does the Universe exist?

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It might have been true that nothing ever existed: no minds, no atoms, no space, no time. When we imagine this possibility, it can seem astonishing that anything exists. Why is there a universe? And things might have been, in countless ways, different. So why is the Universe as it is?

These facts cannot be causally explained. No law of nature could explain why there are any laws of nature, or why these laws are as they are. And, if God created the world, there cannot be a causal explanation of why God exists.

Since our questions cannot have causal answers, we may wonder whether they make sense. But there may be other kinds of answer.

Consider, first, a more particular question. Many physicists believe that, for stars, planets and life to be able to exist, the initial conditions in the Big Bang had to be precisely as they were. Why were these conditions so precisely right? Some say: "If they had not been right, we couldn't even ask this question." But that is no answer. It could be baffling how we survived some crash even though, if we hadn't, we could not be baffled.

Others say: "There had to be some initial conditions, and those conditions were as likely as any others. So there is nothing to be explained." To see what is wrong with this reply, we must distinguish two kinds of case. Suppose that, of a million people facing death, only one can be rescued. If there is a lottery to pick this one survivor, and I win, I would be very lucky. But there would be nothing to be explained. Someone had to win, and why not me? Consider next a second lottery. Unless my gaoler picks the longest of a million straws, I shall be beheaded. If I win this lottery, there would be something to be explained. It would not be enough to say, "That result was as likely as any other." In the first lottery, nothing special happened: whatever the result, someone's life would be saved. In this second lottery, the result was special. Of the million possible results, only one would save a life. Why was this what happened? Though this might be a coincidence, the chance of that is only one in a million. I could be almost certain that this lottery was rigged.

The Big Bang, it seems, was like the second lottery. For life to be possible, the initial conditions had to be selected with the kind of accuracy that would be needed to hit a bull's-eye in a distant galaxy. Since it is not arrogant to think life special, this appearance of fine-tuning needs to be explained. Of the countless possible initial conditions, why were the ones that allowed for life also the ones that actually obtained?

On one view, this was a mere coincidence. That is conceivable, but most unlikely. On some estimates, the chance is below one in a billion billion. Others say: "The Big Bang was fine-tuned. It is not surprising that God chose to make life possible." We may be tempted to dismiss this answer, thinking it improbable that God exists. But should we put the chance as low as one in a billion billion? If not, this is a better explanation.

There is, however, a rival explanation. Our Universe may not be the whole of reality. Some physicists suggest that there are many other Universes – or, to avoid confusion, *worlds*. These worlds have the same laws of nature as our own world, and they emerged from similar Big Bangs, but each had slightly different initial conditions. On this *many-worlds hypothesis*, there would be no need for fine-tuning. If there were enough Big Bangs, it would be no surprise that, in a few of these, conditions were just right for life. And it would be no surprise that our Big Bang was one of these few.

On most versions of this theory, these many

worlds are not causally related, and each has its own space and time. Some object that, since our world could not be affected by such other worlds, we have no reason to believe in them. But we do have such a reason, since their existence would explain an otherwise puzzling feature of our world: the appearance of fine-tuning.

How should we choose between these explanations? The many-worlds hypothesis is more cautious, since it merely claims that there is more of the kind of reality we know. But God's existence has been claimed to be intrinsically more plausible. By "God" we mean a being who is omnipotent, omniscient and wholly good. The existence of such a being has been claimed to be both simpler, and less arbitrary, than the existence of many complicated and specific worlds.

If such a God exists, however, why is the Universe as it is? It may not be surprising that God chose to make life possible. But the laws of nature could have been different, so there are many possible worlds that would have contained life. It is hard to understand why, with all these possibilities, God chose to create *our* world. The greatest difficulty here is the problem of evil. There appears to be suffering which any good person, knowing the truth, would have prevented if he could. If there is such suffering, there cannot be a God who is omnipotent, omniscient and wholly good.

One response to this problem is to revise our view of God. Some suggest that God is not omnipotent. But, with that revision, the hypothesis that God exists becomes less plausible. How could there be a being who, though able to create our world, cannot prevent such suffering? Others believe in a god who, whatever he is called, is not good. Though that view more easily explains the character of life on Earth, it may seem in other ways less credible.

As we shall see, there may be other answers to this problem. But we have larger questions to consider. I began by asking why things are as they are. We must also ask *how* things are. There is much about our world that we have not discovered. And, just as there may be other worlds like ours, there may be worlds that are very different.

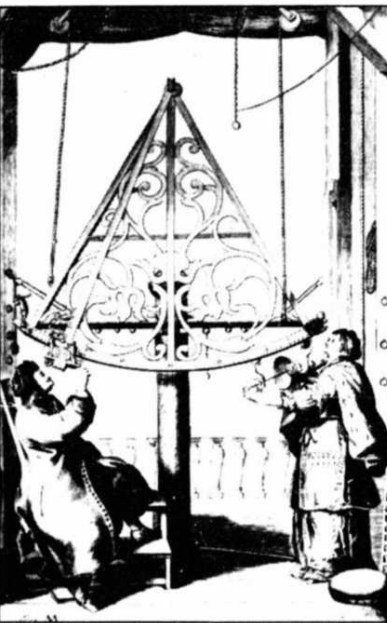
It will help to distinguish two kinds of possibility. For each particular kind of possible world, there is the *local* possibility that such a world exists. If there is such a world, that leaves it open whether there are also other worlds. *Global* possibilities, in contrast, cover the whole Universe, or everything that ever exists. One global possibility is that *every* conceivable world exists. That is claimed by the *all-worlds hypothesis*. Another possibility, which might have obtained, is that nothing ever exists. This we can call the *Null Possibility*. In each of the remaining possibilities, the number of possible worlds that exist is between none and all. There are countless of these possibilities, since there are countless combinations of particular possible worlds.

Of these different global possibilities, one must obtain, and only one can obtain. So we have two questions. Which obtains, and why? These questions are connected. If some possibility would be less puzzling, or easier to explain, we have more reason to think that it obtains. That is why, rather than believing that the Big Bang merely happened to be right for life, we should believe either in God or many worlds.

Is there some global possibility whose obtaining would be in no way puzzling? That might be claimed of the Null Possibility. It might be said that, if no one had ever existed, no one would

have been puzzled. But that misunderstands our question. Suppose that, in a mindless and finite Universe, an object looking like the *TLS* spontaneously formed. Even with no one to be puzzled, that would be, in the sense I mean, puzzling. It may next be said that, if there had never been anything, there wouldn't have been anything to be explained. But that is not so. When we imagine that nothing ever existed, what we imagine away are such things as minds and atoms, space and time. There would still have been truths. It would have been true that nothing existed, and that things might have existed. And there would have been other truths, such as the truth that 27 is divisible by 3. We can ask why these things would have been true.

These questions may have answers. We can explain why, even if nothing had ever existed, 27 would have been divisible by 3. There is no conceivable alternative. And we can explain the non-existence of such things as two-horned unicorns, or spherical cubes. Such things are logically impossible. But why would *nothing* have existed? Why would there have been no stars or



Hevelius of Danzig and his wife, observing the heavens in the 1670s

atoms, no minds or bluebell woods? How could that be explained?

We should not claim that, if nothing had existed, there would have been nothing to be explained. But we might claim something less. Perhaps, of all the global possibilities, this would have needed the least explanation. It is much the simplest. And it seems the easiest to understand. When we imagine there never being anything, that does not seem, as our own existence can, astonishing.

Here, for example, is one natural line of thought. It may seem that, for any particular thing to exist, its existence must have been caused by other things. If that is so, what could have caused them *all* to exist? If there were an infinite series of things, the existence of each might be caused by other members of that series. But that could not explain why there was this whole series, rather than some other series, or no series. In contrast, the Null Possibility raises no such problem. If nothing had ever existed, that state of affairs would not have needed to be caused.

Even if this possibility would have been the easiest to explain, it does not obtain. Reality does not take its simplest and least puzzling form.

Consider next the all-worlds hypothesis. That may seem the next least puzzling possibility. For one thing, it avoids arbitrary distinctions. If only one world exists, we have the question: "Out of all the possible worlds, why is *this* the one that exists?" On the many-worlds hypothesis, we have the question: Why are *these* the ones? But, if *all* possible worlds exist, there is no such question. Though the all-worlds hypothesis avoids that question, it is not as simple as it seems. Is there a sharp distinction between those worlds that are and are not possible? Must all worlds be governed by natural laws? Does each kind of world exist only once? And there are further complications.

Whichever global possibility obtains, we can ask why it obtains. All that I have claimed so far is that, with some possibilities, this question would be less puzzling. We should now ask: Could this question have an answer? Is there a theory that leaves nothing unexplained?

On one kind of view, it is logically necessary that God, or the whole Universe, exists. Though it may seem conceivable that there might never have been anything, that is not really logically possible. Some people even claim that there is only one coherent global possibility. If such a view were true, everything would be explained. But the standard objections to such views, which I shall not repeat, seem to me convincing.

Others claim that the Universe exists because its existence is good. This is the Platonic, or Axiarchic, View. Even if we think this view absurd, it is worth asking whether it makes sense. That may suggest other possibilities.

The Axiarchic View can take a theistic form. It can claim that God exists because His existence is good, and that the rest of the Universe exists because God caused it to exist. But in that explanation God is redundant. If God can exist because His existence is good, so can the whole Universe.

In its simplest form, the Axiarchic View makes three claims: (1) It would be best if reality were a certain way. (2) Reality is that way. (3) (1) explains (2).

(1) is an ordinary evaluative claim, like the claim that it would be better if there was no pointless suffering. The Axiarchic View assumes, in my opinion correctly, that such claims can be true. (2) is an ordinary descriptive claim, though of a sweeping kind. What is distinctive in this view is claim (3).

Can we understand (3)? To focus on this question, we should briefly ignore the world's evils. Suppose that, as Leibniz claimed, the best possible Universe exists. Could this Universe exist *because* it is the best? That question might be confused with another. If God intentionally created the best possible world, that world would exist because it is the best. But, though God would not be part of the world that He creates, He would be part of the Universe, or the totality of what exists. And God cannot have created Himself. So an appeal to God cannot explain why the best Universe exists.

Axiarchists make a different claim. On their

*This series of longer essays and essay-reviews on "The State of Philosophy" is the second of the Special Surveys we are publishing this year on a broad subject or on the state of an intellectual discipline. The third Special Survey, on Cities, will be published in September.*

view, that there is a best way for reality to be explains *directly* why reality is that way. If God exists, that is because His existing is best. Truths about value are, in John Leslie's phrase, *creatively effective*.

This cannot be an ordinary causal claim. Ordinary causes are particular events, or facts about existing things. But the axiarchic claim may have some of the meaning of an ordinary causal claim.

When we believe that X caused Y, we usually believe that, without an X, there would have been no Y. A spark caused an explosion if, without a spark, there would have been no explosion. Axiarchists might make a similar claim. They might say that, if it had not been best if reality were a certain way, reality would not have been that way. But such a claim may not help to explain the Axiarchic View, since what it asks us to imagine could not have been true. Just as pointless suffering could not have been good, the best way for reality to be could not have failed to be the best.

In defending a casual claim, we may also appeal to a generalization. Certain conditions cause an explosion if, whenever there are such conditions, there is an explosion. It may seem that, with only one Universe, Axiarchists cannot appeal to a generalization. But that is not so. They could say that, whenever it would be better if the Universe had some particular feature, it *has* that feature.

Would that explain their claim that this is *why* the Universe has these features? That use of "why" may seem utterly mysterious. But we should remember that even ordinary causation is mysterious. At the most fundamental level, we have no idea why some events cause others. And it is hard to explain what causation is.

Axiarchy can be best explained as follows. We are now assuming that, of all the countless ways that reality might be, one is both the very best, and is the way that reality is. On the Axiarchic View, *that is no coincidence*. That claim makes, I believe, some kind of sense. And, on those assumptions, it would be a reasonable conclusion.

Compared with the appeal to God, the Axiarchic View has one advantage. God cannot have settled *whether*, as part of the best Universe, He himself exists, since He can only settle anything if He does exist. But even if nothing had ever existed, it would still have been true that it would be best if the best Universe existed. So that truth might explain why this Universe exists.

The main objection to this view is the problem of evil. Our world appears to be flawed.

If we appeal to a variant of the many-worlds hypothesis, this objection can be partly met. Perhaps, in the best Universe, *all* good possible worlds exist. We would then avoid the question why things are not much better than they are. Things *are*, on the whole, much better. They are better elsewhere.

Why are they not *also* better here? One answer might be as follows. If it is best that all good worlds exist, that implies that, even in the best Universe, many worlds would not be very good. Some would be only just good enough. Perhaps our world is one of these. It would then be good that our world exists, since a good niche is thereby filled. And we might be able to explain why our world is not better than it is. The Louvre would be a worse collection if its less good paintings were turned into copies of the "Mona Lisa". In the same way, if our world were in itself better, reality as a whole might be less good. Since every other good niche is already filled, our world would then be a mere copy of some other world, and one good niche would be left unfilled.

Even on this view, however, each world must be good enough. The existence of each world must be better, even if only slightly, than its non-existence. Can this be claimed of our world? It would be easier to make that claim on a broadly Utilitarian view. Our world's evils might then be outweighed by what is good. But, on some principles of justice, that would not be enough. If innocent beings suffer, in lives that are not worth living, that could not be morally outweighed by the happiness of other beings. For our world to be good enough, there must be future lives in which

the sufferings of each being could, in the end, be made good. Even the burnt fawn in the forest fire must live again. Or perhaps these different beings are, at some level, one.

These replies may seem too weak. We may doubt that our world could be even the least good part of the best possible Universe.

If we reject the Axiarchic View, what conclusion should we draw? Is the existence of our world a mere brute fact, with no explanation? That does not follow. If we abstract from the optimism of this view, its claims are these. One global possibility has a special feature, this is the possibility that obtains, and it obtains because it has this feature. Other views can make such claims.

Suppose that our world were part of the worst possible Universe. Its bright days may only make its tragedies worse. If reality were as bad as it could be, could we not suspect that this was no coincidence?

Suppose next, more plausibly, that all possible worlds exist. That would also be grim, since the evil of the worst worlds could hardly be outweighed. But that would be incidental. If every conceivable world exists, reality has a different distinctive feature. It is *maximal*: as full and varied as it could possibly be. If this is true, is it a coincidence? Does it merely happen to be true that, of all the countless global possibilities, the one that obtains is at this extreme? As always, that is conceivable. Coincidences can occur. But it seems hard to believe. We can reasonably assume that, if all possible worlds exist, that is *because* that makes reality as full as it could be.

Similar remarks apply to the Null Possibility. If there had never been anything, would that have been a coincidence? Would it have merely happened that, of all the possibilities, what obtained was the *only* possibility in which nothing exists? That is also hard to believe. Rather, if this possibility had obtained, that would have been because it had that feature.

Here is another special feature. Perhaps reality is as it is because that makes its fundamental laws as mathematically beautiful as they could be. That is what many physicists believe.

If some possibility obtains because it has some feature, that feature selects what reality is like. Let us call it the *Selector*. A feature is a *plausible Selector* if we can reasonably believe that, were reality to have that feature, that would not merely happen to be true.

There are countless features which are not plausible Selectors. Suppose that fifty-seven worlds exist. Like all numbers, 57 has some special features. For example, it is the smallest number that is the sum of seven primes. But that could hardly be *why* that number of worlds exist.

I have mentioned certain plausible Selectors. A possibility might obtain because it is the best, or the simplest, or the least arbitrary, or because it makes reality as full as it could be, or because its fundamental laws are as elegant as they could be. There are, I assume, other such features, some of which we have yet to discover.

For each of these features, there is the *explanatory* possibility that this feature *is* the Selector. That feature then explains why reality is as it is. There is one other, special explanatory possibility: that there is *no* Selector. This is like the global possibility that nothing exists. If there is no Selector, it is random that reality is as it is. Events may be in one sense random, even though they are causally inevitable. That is how it is random whether a meteorite strikes the land or the sea. Events are random in a stronger sense if they have no cause. That is what most physicists believe about some facts at the quantum level, such as how some particles move. If it is random what reality is like, the Universe would not only have no cause. It would have no explanation of any kind. This we can call the *Brute Fact View*.

On this view, we should not expect reality to have very special features, such as being maximal, or best, or having very simple laws, or including God. In much the largest range of the global possibilities, there would exist an arbitrary set of messily complicated worlds. That is what, with a random selection, we should expect. It is unclear whether ours is one such world.

The Brute Fact View may seem hard to understand. It may seem baffling how reality could be even randomly selected. What kind of process could select whether time had no beginning, or whether anything ever exists? But this is not a real problem. It is logically necessary that one global possibility obtains. There is no conceivable alternative. Since it is necessary that one possibility obtains, it is necessary that it be settled which obtains. Even without any kind of process, logic ensures that a selection is made. There is no need for hidden machinery.

If reality were randomly selected, it would not be mysterious *how* the selection is made. It would be in one sense inexplicable why the Universe is as it is. But this would be no more puzzling than the random movement of a particle. If a particle can simply happen to move as it does, it could simply happen that reality is as it is. Randomness may even be *less* puzzling at the level of the whole Universe, since we know that facts at this level could not have been caused.

**T**here would, however, be a further question. If there is no explanation why reality is as it is, why is *that* true?

Some reply that this, too, is logically necessary. On their view, the nature of the Universe must be a mere brute fact, since it could not conceivably be explained. But, as I have argued, that is not so. Though it is logically necessary that one global possibility obtain, it is not necessary that it be random which obtains. There are other explanatory possibilities.

Since it is not necessary that there be no explanation why reality is as it is, that truth might be another brute fact. There may be no explanation why there is no explanation. Perhaps both simply happen to be true. But why would *that* be true? Would it, too, simply happen to be true? And why should we accept this view? If it was randomly selected *whether* reality was selected randomly, and there are several other possibilities, why expect random selection to have been selected? Unless we can explain *why* it is random what reality is like, we may have no reason to believe that this *is* random.

Return now to the other explanatory possibilities. Each raises the same further question. Whichever possibility obtains, we can ask why it obtains. Consider first the Axiarchic View. Suppose that the best Universe exists because it is the best. Why is that true? Even if this view is true, its falsehood is at least logically conceivable. It may seem that Axiarchy could explain itself. On this view, claims about reality are true because their being true is best. It might be best if this view were true. Could that be why it *is* true? That is not possible. Even if this view is true, its being true could not be explained by its being true. Just as God cannot have caused His own existence, the truth of the Axiarchic View cannot be what makes this view true.

Consider next the Maximalist View. Suppose that all possible worlds exist, and that this is no coincidence. Suppose these worlds all exist because that makes reality as full as it could be. If that is true, why is it true? Perhaps this truth makes reality even more maximal. But, as before, this truth could not explain itself.

A similar claim may apply to every view. As we have seen, it is not logically necessary that, of the *global* possibilities, it is random which obtains. This possibility might be selected in other ways. But it may be logically necessary that, of the *explanatory* possibilities, it is random which obtains. Perhaps nothing could select between all the possible Selectors. If that were so, it would not be mysterious that a particular explanatory claim simply happened to be true. The randomness would be fully explained, since there would be no conceivable alternative.

It may be objected that, if some claim simply happens to be true, it cannot provide an explanation. Such a claim may seem to add nothing. To illustrate this objection, return to the Maximalist View. Consider first two global possibilities: (1) Only our world exists. (2) Every conceivable world exists. These possibilities are very different. Suppose next that (2) is true. There are then two explanatory possibilities. On the Brute Fact View, (2) simply happens to be true. On the

Maximalist View, (2) is true because that makes reality as full as it could be. Here again, these seem to be different possibilities. But we are now supposing that, even if the Maximalist View is true, its truth is a brute fact, with no explanation. We may think that, if that is so, the Maximalist View could not *explain* (2). If this view simply happens to be true, it may seem not to differ from the Brute Fact View.

That reaction is a mistake. On the Brute Fact View, (2) would involve an extreme coincidence. There are countless global possibilities, and most of these, unlike (2), have no very special feature. It is hard to believe that, of this vast range of possibilities, it simply happens to be true that every conceivable world exists. That is implausible because, at this level, there is an alternative. If the Maximalist View is true, the existence of all these worlds is no coincidence. At the next level, things are different. Of the plausible explanatory possibilities, all have special features. There is no possibility whose obtaining would be a coincidence. And, as we have seen, it may be logically necessary that, of *these* possibilities, one simply happens to obtain. At this level, there may be no alternative. It would then be in no way puzzling if the Maximalist View simply happens to be true.

We should not claim that, if an explanation rests on a brute fact, it is not an explanation. Scientific explanations all take this form. But we might claim something less. Any such explanation may, in the end, be merely a better description.

If that is true, there is a different answer. Even to discover how things are, we need explanations. And we may need explanations on the grandest scale. Our world may seem to have some feature that would be unlikely to be a coincidence. We might reasonably suspect that our world exists, not as a brute fact, but because it has this feature. That hypothesis might lead us to confirm that, as it seemed, our world does have this feature. We might then reasonably conclude either that ours is the only world, or that there are many other worlds, with the same or related features. We might reach truths about the whole Universe.

Even if all explanations must end with a brute fact, we should go on trying to explain why the Universe exists, and is as it is. The brute fact may not enter at the lowest level. If the Universe exists because it has some feature, to know *what* reality is like, we must ask *why*.

Of the many recent discussions of these questions, I owe most to John Leslie's *Value and Existence* (1979) and *Universes* (1989), and to Robert Nozick's *Philosophical Explanations* (1981); then to *The Existence of God* by Richard Swinburne (1979), *The Miracle of Theism* by John Mackie (1982), Peter Unger's article in *Mid-West Studies in Philosophy*, Volume 9 (1989), and some unpublished work by Stephen Grover.

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## Inside the C

for Alison Townsend

Buried in expanded p  
bright as a child's pail  
its wooden grip smoot  
it bursts on me, silver  
and celebratory as a c

All your short childho  
there must have been  
for the winter closing  
even when you knew  
your father's hand still  
unseen in its metal ch  
to fill bowl after bowl  
then flexing as you pl  
the dark outdoors scer

SUSAN WICKS