

The principle
of sufficient
reason

Leibniz's
argument

Objections
to the
PSR

The cosmological argument for the existence of God

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Last time we considered an objection to Aquinas' assumption that if a first cause exists, then God exists: the objection was that the first cause could simply be some event, like the Big Bang, which is not a plausible candidate to be God.

Here is one source of dissatisfaction with that reply: namely, that one could still ask of such a first cause why it occurred. It seems as though questions like these should have answers — but it is hard, you might think, to see how we could answer them without appealing to God.

One can think of our topic today — the cosmological argument — as a much more precise and sophisticated version of this intuitive line of thought.

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The form of the cosmological argument we'll be discussing today is due to Gottfried Wilhelm Leibniz was a German philosopher, mathematician, theologian, and scientist, whose achievements included the invention of calculus.



His intellect and achievements were such that they led Diderot, a later French philosopher, to remark that

“When one compares the talents one has with those of a Leibniz, one is tempted to throw away one's books and go die quietly in the dark of some forgotten corner.”



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Leibniz's argument is best thought of as beginning with a question which he poses at the end of the first paragraph of our reading for today:

“Why is there any world at all, and why is it the way that it is?”

Leibniz thought that there must be **some** explanation of why there is a world at all because he endorsed a certain principle about explanation, known as the **principle of sufficient reason**.



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The basic idea behind the principle is this: Take any feature of the world. If the world could have failed to be that way, then there must be some explanation of why the world is that way.

So, for example, we might notice that although the sky is blue, it might not have been — the sky on earth could have been red, or green, instead of blue. Given only this, Leibniz concludes that there must be some reason, or explanation, why the sky is blue: some reason why it is blue rather than some other color. And this does seem quite plausible.

Some have also thought that the PSR is a presupposition of modern science. Why might someone think this?

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To state the PSR precisely, we'll need to introduce three terms which will also be important for topics we will discuss later in the course: **possible**, **necessary**, and **contingent**.

possible

necessary

contingent

Philosophers use the word 'possible' in a very broad sense: something is possible just in case it **could have happened** - no matter how absurd, or bizarre, it is. So, for example, it is possible that a pink elephant is presently running through south quad, or that a talking donkey will one day be a professor of philosophy at Notre Dame.

By contrast, it is not possible, in this sense, that there could be a three-sided plane closed Euclidean figure with four angles — it isn't just that this scenario would be silly or surprising; on reflection, we can see, on the contrary, that the scenario really **does not make sense**. In the same way, we can see that it simply could not be the case that I have an object in my office which is bright red and bright green all over. This is what we mean when we say that the scenario is **impossible**: it could not have been the case.

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Once you understand what it means for a scenario to be **impossible**, you can understand what it means for a situation to be **necessary**: a situation is necessary just in case its opposite is impossible; or, equivalently, just in case it is impossible for that state of affairs not to be the case.

What are some examples of things that are necessary, in this sense?

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Once you understand what possible and necessary mean, you can understand what it takes for a state of affairs or thing to be **contingent**.

A state of affairs is contingent just in case (i) it actually is the case, and (ii) it is not necessary (that is, it is possible that it not be the case).

Can you think of any examples of contingent facts?

Must every contingent fact be possible? Is every possible fact contingent?

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Using these terms, we can state the Principle of Sufficient Reason as follows:

The principle of sufficient reason
Every contingent fact has an
explanation.

We have already seen that a strong case can be made that this principle is true. Now recall Leibniz's central question:

“Why is there any world at all, and why is it the way that it is?”

Leibniz thinks that, once we see that the PSR is true, we can show (1) that this question must have an answer, and (2) that the only satisfactory answer to this question will imply the existence of God.

Let's see why he thought that.

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... we cannot find in any of the individual things, or even in the entire collection and series of things, a sufficient reason for why they exist.

Let us suppose that a book on the elements of geometry has always existed, one copy always made from another. It is obvious that although we can explain a present copy of the book from the previous book from which it was copied, this will never lead us to a complete explanation, no matter how many books back we go, since we can always wonder why there have been such books.

What is true of these books is also true of the different states of the world ... however far back we might go into previous states, we will never find in those states a complete explanation for why there is a world at all, and why it is the way it is.

And what goes for the geometry books, Leibniz thinks, goes for the world as a whole. Even if we can explain every state of the world in terms of the preceding state of the world, we lack an explanation of the fact that there is a world at all.

His key premise seems to be that if nothing existed besides the sorts of things we find in the world, there would be no explanation of why these things exist.

He illustrates this point by his example of the geometry books.

Leibniz thinks that, even we can explain the existence of each of the geometry books by the one from which it was copied, we can't explain why these books exist at all.

When Leibniz says that the existence of “the individual things, or .. the entire collection and series of things” needs some explanation, which things is he thinking of?

The example of the geometry books gives us a clue. Is the existence of some geometry book contingent, or necessary?

This suggests an answer to our question. When Leibniz says that “the entire collection and series of things” needs some explanation, he is talking about the entire series and collection of things whose existence is not metaphysically necessary - **i.e., the collection of things which exist only contingently.**

This gives us a plausible candidate for a premise of Leibniz's argument:

The fact that there are
contingent things has an
explanation.

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The fact that there are
contingent things has an
explanation.

Moreover, given that Leibniz endorses the principle of sufficient reason,
we can begin to see how he might argue for this premise.

The principle of sufficient reason
Every contingent fact has an
explanation.

Given the PSR, what assumption would be needed to get us to the
conclusion that the fact that there are contingent things has an
explanation?

The fact that there are
contingent things is
contingent.

Is this assumption plausible? How might one argue for it?

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Every contingent fact has an
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explanation.

Is this assumption plausible? How might one argue for it?

Here is one kind of argument. Take some contingent thing, like the chair you are sitting on. Can you imagine a world just like this one, but without that chair?

Now pick another contingent thing. Can you subtract that from the world you just imagined?

But, you might think, we can just go on subtracting contingent objects, until there are none left. And then we are imagining a scenario in which there are no contingent things. If that is possible, then the fact that there are contingent things is itself contingent.

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explanation.

Now recall again the example of the geometry books. Leibniz's idea there seemed to be that, even if the existence of each geometry book in the (infinite) series could be explained by the one which preceded it, still the existence of the series as a whole cannot be explained by any geometry books in the series.

This seems plausible. It seems that if we want to explain why there are **any** things of a certain kind, this explanation can't be given in terms of some thing of that kind.

Suppose that we wanted to explain why rabbits exist in the universe. Our explanation could not begin like this: "Well, there were these two rabbits.
And then ..."

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The principle of sufficient reason
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This line of thought seems to suggest the following:

The fact that there are
contingent things can't
be explained by any
contingent thing.

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Every contingent fact has an
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The fact that there are
contingent things has an
explanation.

The fact that there are
contingent things can't
be explained by any
contingent thing.

The fact that there are
contingent things is
explained by some thing
which is not contingent.

But this gets us very close to Leibniz's intended conclusion that the reason for the existence of the contingent things we find in the universe must lie outside of the universe.

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The fact that there are contingent things is contingent.

The principle of sufficient reason
Every contingent fact has an explanation.

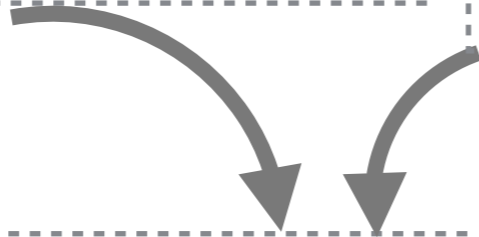
The fact that there are contingent things has an explanation.

The fact that there are contingent things can't be explained by any contingent thing.

The fact that there are contingent things is explained by some thing which is not contingent.

The fact that there are contingent things is explained by some necessary being.

There is a necessary being which explains the existence of contingent things.



1. The fact that there are contingent things is contingent.
 2. Every contingent fact has an explanation. (PSR)
 3. The fact that there are contingent things has an explanation. (1,2)
 4. The fact that there are contingent things can't be explained by any contingent thing.
 5. The fact that there are contingent things is explained by some thing which is not contingent. (3,4)
 6. The fact that there are contingent things is explained by some necessary being. (5)
-
- C. There is a necessary being which explains the existence of contingent things. (6)

Of course, like Aquinas, Leibniz is interested in arguing for the existence of God; so the representation of the argument at left is incomplete.

Let's expand it in the obvious way.

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5. The fact that there are contingent things is explained by some thing which is not contingent. (3,4)
6. The fact that there are contingent things is explained by some necessary being. (5)
7. There is a necessary being which explains the existence of contingent things. (6)
8. If there is a necessary being which explains the existence of contingent things, then God exists.

C. God exists. (7,8)

We found reason to doubt the idea that, if there is a first cause, then God exists. Do similar doubts apply to premise (8) of Leibniz's argument?

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We found reason to doubt the idea that, if there is a first cause, then God exists. Do similar doubts apply to premise (8) of Leibniz's argument?

Here we can say things similar to the things we said about quasi-theism when we were discussing the first cause hypothesis.

We can again consider the hypotheses of simple theism and simple atheism, and now consider alongside them the quasi-theistic hypothesis that the universe was created by a being with the unusual property that it is literally impossible for that being not to exist.

If this strikes you as an extremely strange and unlikely hypothesis, then premise 8 of Leibniz's argument should strike you as a plausible one.

If this strikes you as an extremely strange and unlikely hypothesis, then premise 8 of Leibniz's argument should strike you as a plausible one.

It is worth emphasizing one strength of Leibniz's argument as compared to Aquinas' argument and the kalām argument. Both of those arguments rely on the assumption that the universe began to exist at some time. But, you might think, how could we know that? Couldn't the thing we call 'the universe' simply be the result of some earlier universe, and so on for eternity?

Leibniz's argument does not rely on the assumption that the universe is finite in age:

I certainly grant that you can imagine that the world is eternal. However, since you assume only a succession of states, and since no reason for the world can be found in any of them ... it is obvious that the reason must be found elsewhere.

... even if we assume the eternity of the world, we cannot escape the ultimate and extramundane reason for things, God.

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I certainly grant that you can imagine that the world is eternal. However, since you assume only a succession of states, and since no reason for the world can be found in any of them ... it is obvious that the reason must be found elsewhere.

... even if we assume the eternity of the world, we cannot escape the ultimate and extramundane reason for things, God.

What is Leibniz saying here?

1. The fact that there are contingent things is contingent.
2. Every contingent fact has an explanation. (PSR)
3. The fact that there are contingent things has an explanation. (1,2)
4. The fact that there are contingent things can't be explained by any contingent thing.
5. The fact that there are contingent things is explained by some thing which is not contingent. (3,4)
6. The fact that there are contingent things is explained by some necessary being. (5)
7. There is a necessary being which explains the existence of contingent things. (6)
8. If there is a necessary being which explains the existence of contingent things, then God exists.

C. God exists. (7,8)

Let's consider a general objection to the argument:

Leibniz demands that everything get an explanation. But then why is the existence of God the one thing that does **not** need an explanation? Surely if the existence of contingent things needs some explanation, then so does the existence of God - but no religious believer can accept the idea that the existence of God would be explained by something else!

How should Leibniz, or any defender of the principle of sufficient reason, respond?

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Is Leibniz's argument
valid?

1. The fact that there are contingent things is contingent.
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C. God exists. (7,8)

If it is valid, then we can turn to the question of whether it is sound. And this boils down to the question of whether all of the four independent premises are true.

We've already
discussed premises (1),
(4), and (8).

If we grant that premises
(1), (4), and (8) are true,
and that the argument is
valid, then the success of
Leibniz's argument hinges
on premise (2): the
principle of sufficient
reason. Let's turn to two
objections to that premise.

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The first objection is based on certain interpretations of **quantum mechanics**, our best current theory of the physical world.

According to the standard interpretations of quantum mechanics - though not all interpretations of the theory - the physical world is indeterministic. That is, what the laws of nature tell us in many cases is not what will happen, but rather just probabilities of various outcomes.



Imagine, for example, that we have some uranium, and we are interested in whether some particular atom will decay in a certain amount of time.

Quantum mechanics will tell us something like this: there is a 12.37% chance that the atom will decay in that amount of time.

Suppose now that the atom does decay, and we ask: **why** did it decay?

On standard interpretations of quantum mechanics, there is literally no answer to this question. There was a chance that it would, and a chance that it wouldn't, and it just did — end of story. Is that a problem for the PSR?

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A final objection is quite different, and in some ways more worrying.

Let us suppose for purposes of argument that the conclusion of Leibniz's argument is true, and hence that the following is true:

God brings about
the existence of
contingent things

This must be either necessary, or contingent. But either path leads to trouble.

necessary

contingent

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God brings about the existence of contingent things

necessary

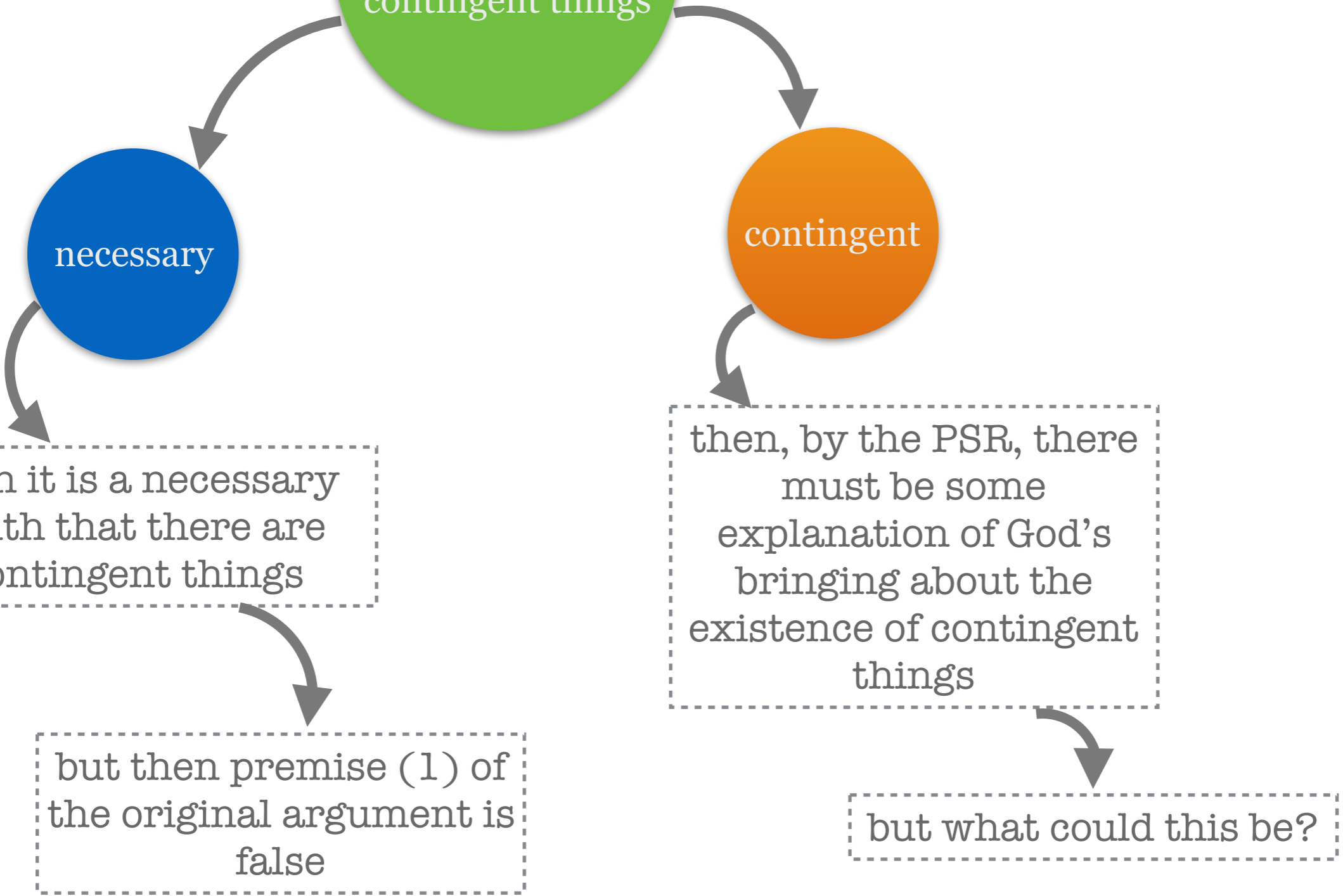
contingent

then it is a necessary truth that there are contingent things

then, by the PSR, there must be some explanation of God's bringing about the existence of contingent things

but then premise (1) of the original argument is false

but what could this be?



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God brings about
the existence of
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The right hand side of the dilemma might not look too bad at first. We might think, for example, that we can explain God's creation of contingent things in terms of God's deciding to create contingent things.


contingent

then, by the PSR, there
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but what could this be?

The right hand side of the dilemma might not look too bad at first. We might think, for example, that we can explain God's creation of contingent things in terms of God's deciding to create contingent things.

But this just gives us a new fact:



God decides to
bring about the
existence of
contingent
things

And this fact must be necessary, or contingent.

If it is necessary, then, again, premise (1) of our initial argument is false.

And if it is contingent, then by the PSR it must have some explanation. But what could this be?

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And this fact must be necessary, or contingent.

If it is necessary, then, again, premise (1) of our initial argument is false.

And if it is contingent, then by the PSR it must have some explanation. But what could this be?

The problem for Leibniz's argument is that we can keep asking this question. Either we will end up with some necessary fact about God which explains the existence of contingent things — which would seem to make the existence of contingent things necessary — or there must be an unending string of contingent facts about God, each one of which explains the next.

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And suppose we say that there is such an infinite series of contingent facts, each one of which explains the next. This series would seem to be like Leibniz's example of the geometry books, where each book in the series is explained by the preceding one. But as in the case of the geometry books, we can ask: what explains why there is such a series at all?

It is hard to see how we can answer this question without either making the existence of the series (and hence the existence of contingent things) necessary or appealing to yet another contingent fact, which then (if the PSR is true) would need explanation.