Three views universe







But even if Aquinas' defense of (4) is unsuccessful, (4) might still be true. When you encounter an argument in which one of the premises is insufficiently well defended by the author, you should always ask: can we do better?

4. There are no infinite causal chains.

One attempt to do better begins with the thought that just because certain mathematical notions make sense, it does not automatically follow that every real world scenario involving those notions makes sense. For example, the idea of negative numbers makes sense. But would it make sense for me to say that I have -16 apples in my refrigerator? One might then try to make a parallel argument about infinity. Perhaps the idea of an infinite series of numbers makes sense, but the idea of an infinite causal chain does not.

One way to argue for this is to argue that, more generally, the idea of an infinite collection of things existing in space and time does not make sense.

# Let's consider some curious features of infinite collections. Consider the collection of natural numbers

1, 2, 3, 4, 5, 6, ....

## And compare this to the collection of even natural numbers

2, 4, 6, 8, ...

## Which collection is bigger?

It is very natural to say: the collection of all of the natural numbers is bigger. After all, it contains everything in the collection of even numbers, and a bunch more things besides (namely, all of the odd numbers).

But this is incorrect: the two collections are of exactly the same size. To see this, note that we can match up the two collections, so that every member of one collection is paired with a member of the other collection. 1 is paired with 2, 2 with 4, 3 with 6, etc. We never run out of even numbers!

## Many arguments for God's existence are best thought of as

we will return.

arguments against simple atheism. Whether they also amount to

how seriously you take quasi-theism. This is something to which

## good arguments for the existence of God then depends in part on

first cause argument we find in the reading from Thomas Aquinas.

## Let's turn then to our first argument for the existence of God: the

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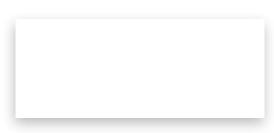
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### 3. Nothing is the cause of

#### 4. There are no infinite

### of itself, it would be prior

### 2. Nothing is prior to itself.

### 1. If something were the cause

#### (1,2)itself.

### 5. At least one thing has a

#### chains. causal

#### cause.

or (iii) have a first cause.

### 6. Every causal chain must be

(i) circular, (ii) infinite,

### 7. There is a first cause.

### 8. If there is a first cause,

itself.

\_\_\_\_\_\_

#### (7,8)C. God exists.

#### then God exists.

(3,4,5,6)





and indeed nothing in the universe can be.

beginning in time, the universe as a whole — again, including the Big

On this view, everything which begins to exist at some time must have a

cause. Because the universe — including the Big Bang — has a

Bang — must have a cause. So the Big Bang can't be the first cause —

# If one accepts this extra premise, and one accepts the assumption that

was caused to exist by something outside the universe.

the universe came to exist at some time, then it follows that the universe

must have come to exist at a certain time.

And then there are just two options — that thing must be eternal, or it

then that thing would have to be eternal, or have come to exist a certain

If we go with the second option, then it must have had a cause. And

But let's focus in on one premise:

There are a number of questions one could raise about this argument.

### universe is God?

# Aquinas' assumption that if there is a first cause, then that thing must

be God? How do we know that this eternally existing first cause of the

# Could one object to this premise in much the way that we objected to

Our first topic is the question of whether God exists.











grounds that there can't be an uncaused cause, like the explosion of

## Might one defend (8) by saying that this hypothesis is impossible, on the

particles described?



#### 8. If there is a

#### first cause, then

#### God exists.

Instead, it seems like Aquinas has to argue that nothing like the Big

Bang could genuinely be a first cause. Things like the Big Bang have to

have a cause; but things like God don't.

## he did not have the Big Bang in mind). He tried to argue that something

God has, but the Big Bang does not.

which was an uncaused cause would have to have other properties, which

## And that is, in a way, exactly what Aquinas tried to do (though of course

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grounds that there can't be an uncaused cause?

nothing like the Big Bang could genuinely be a first cause. Things like the Big

Bang have to have a cause; but things like God don't. But why?

Instead, it seems like a defender of the first cause argument has to argue that

cause, but God does not exist. And it appears to be entirely consistent with

### This would appear to be a description of a world in which there is a first

simple atheism. So it looks as though, if we are to believe (8), we must have

some reason for rejecting the above hypothesis.

#### The Big Bang

The first event in the history of the universe was an explosion of an extremely dense collection of particles, with every particle moving apart from every other particle. This event had no cause - in particular, no being set it into motion - and, further, every subsequent event has been an effect of this event.







# 4. There are no infinite causal chains.



1, 2, 3, 4, 5, 6, ....



2, 4, 6, 8, ...