The Kalam cosmological argument[1]

The question at the heart of the cosmological argument is 'why does anything exist?' The argument is that unless God exists, this question is unanswerable. There are different forms of the argument. In this handout, we look at the Kalam argument, deriving from medieval Islamic theoretical theology.

THE KALAM ARGUMENT

The Kalam argument is an argument that puts together ideas about causation, time and the world.

P1. The universe is composed of temporal phenomena – things that occur and exist in time – that are preceded by other temporal phenomena that are ordered in time.
P2. An infinite regress of temporal phenomena is impossible.
C1. Therefore, the universe must have a beginning.
P3. Everything that begins to exist has a cause of its existence.
C2. Therefore, there is a cause of the existence of the universe.

To get to the conclusion that God is the cause of the universe, we have to add further premises to the Kalam argument.

(P1) is obviously true – we live in a universe that is in time, not an atemporal world. Things that occur in time occur in an order in time – one happens before the next before the next, and so on. (P2) and (P3) are more contentious.

If we deny (P3), it seems we have to say that something can come out of nothing. There can be nothing, and then something just start to exist. This is so strange that (P3) seems likely enough for now (we will discuss it further below).

That leaves (P2). Given that the universe is temporal, (P2) claims that the universe cannot have always existed. If the universe has always existed, there is an infinite sequence of things existing in time, each caused by and following earlier things existing in time. Such an infinite series would also mean that the universe is infinitely old. If this is impossible, we can infer (C1), that the universe must have a beginning. But should we accept (P2)? Why think it is impossible for the universe to be infinite in time or for there to be an infinite series of temporal phenomena?

[1] This handout is based on material from Lacewing, M. (2017) *Philosophy for A Level: Metaphysics of God and Metaphysics of Mind* (London: Routledge), Ch. 2, pp. 95-99

INFINITY

Infinite time is not a 'very long time', and an infinite series is not a very long series. Infinity is not a very large number. It is not a number at all. If the universe is infinite in time, then, quite literally, it has no beginning, ever.

Because the universe exists, to claim that the universe has always existed is to claim that an actual infinity – something that is in fact infinite – exists. This is quite different from talking about the idea of infinity. The idea of infinity makes sense; but does it make sense to think that something infinite actually exists?

Defenders of the Kalam argument think not, because it would lead to impossible paradoxes. Here's a popular example. Suppose there is a hotel with infinite rooms. Even when the hotel is completely full, it can still take more people! You cannot add any number to infinity and get a bigger number: $\infty + 1 = \infty$. Suppose, when the hotel is full, infinitely more people show up. They can all be accommodated! $\infty + \infty = \infty$. But it is impossible for the hotel to be full and still have room for more guests. So there cannot be an 'actual' infinity.

Applying this to the universe, we can generate other paradoxes. For example, the universe gets older as time passes, we naturally think. But this couldn't happen if the universe were infinitely old. If the universe is infinitely old, it is not getting any older as time passes! Or again, to have reached the present, an infinite amount of time would need to have passed. But it is not possible for an infinite amount of time to have passed, since infinity is not an amount. So if the universe was infinitely old, it could never have reached the present.

If these paradoxes show that an infinite sequence of temporal phenomena is impossible, then that establishes (P2).

OBJECTIONS

Despite these initial arguments supporting the premises, we can question both P2 and P3.

<u>Hume on the causal principle</u>

The causal principle is the claim that everything has a cause. The Kalam argument narrows this to (P3) 'Everything that begins to exist has a cause of its existence'. But is this true? Could some things come into existence without being caused?

In *A Treatise of Human Nature*, David Hume argues that the causal principle is not analytic; we can deny it without contradicting ourselves. (That every effect has a cause is analytic. But is everything an effect?) Without contradiction, we can assert 'something can come out of nothing'. Logically, this claim may be true or false. That means that this claim is not only not analytic, it is also not certain. If it is not analytic, we can only know it through experience. Now, our experience supports this claim; it is probably true. But experience cannot establish that a claim holds universally, without exception. So we can't know (for certain) that everything that begins to exist, without exception, has a cause.

Furthermore, we may argue that we have no experience of such things as the beginnings of the universe. The beginning of the universe is not an event like events that happen within the universe. For instance, it doesn't take place in space or time, since both come into existence with the universe. We cannot apply principles we have developed for events within the universe, such as 'everything has a cause', to the universe as a whole. So perhaps the universe began but was not caused to begin.

One response to Hume's objection is to accept that it shows that the Kalam argument doesn't prove that God exists. However, even Hume accepts that we have very good reason to think that everything has a cause. So we have good reason to accept these premises. As long as the conclusions follow from the premises, we therefore still have good reason to accept the conclusion.

The possibility of an infinite series

The Kalam argument claims that there cannot be an infinite series of things that begin and exist in time. Infinite time and an infinite series of events in time are impossible. Before going further with this thought, can't we just cut it short by invoking science? We don't need to show that an infinite series of events in time is impossible to know that the universe has a beginning, because cosmology shows that it did – the Big Bang, just under 14 billion years ago.

Appealing to science, then, initially supports the claim of the Kalam argument, that universe is not infinite but had a beginning. If we allow that the beginning of the universe has a cause, we can ask what caused the Big Bang? And at this point, the possibility of an infinite series arises afresh, this time an infinite series of causes. Even if this universe has a beginning, perhaps it was caused by a previous (or another) universe, and so on, infinitely. Current speculation in physics suggests several different ways in which universes might be related to each other, including the idea that our universe is just one aspect of an infinite 'multiverse'. The Kalam argument would likely reject the idea that there could be an infinite series of universes, each causing another.

However, the Kalam argument is only concerned to reject an infinite temporal series of events. But physics also tells us that space-time exists as part of the universe. Therefore, whatever caused the universe doesn't exist in time – or rather, it doesn't exist in the time of this universe. One universe doesn't precede another 'in time' if each universe has its own time. Once physics gets into more 'dimensions' than the four dimensions of space and time, our everyday ways of talking about how things exist tend to break down.

The Kalam argument uses the paradoxes of an actual infinity to argue that there can't be an infinite temporal series of events. The paradoxes we discussed, e.g. the universe not becoming older, were related to an infinite series in time. Multiverse explanations of the beginning of the universe don't appeal to a single time line. So do the same problems arise when we are dealing with causes that aren't in the same time dimension?

We may argue that they do: the paradoxes support the idea that there can't be any kind of actual infinity. For instance, paradoxes arise for an infinite series of

causes as well as infinite series of temporal events. All actual infinities raise paradoxes. So we have good reason to think that an infinity of temporal phenomena or causes within the universe or across universes is impossible.

In response, we may appeal Hume. The claims ‘there cannot be an infinite series of temporal phenomena’ and ‘there cannot be an infinite series of causes’ is not an analytic truth, nor can we have experience of this matter. It seems conceivable, therefore, that something has always existed, and each thing has preceded (or caused) the next.

But this is too quick. An actual infinity (of temporal phenomena or causes or hotel rooms or whatever) leads to paradoxes. If these paradoxes cannot be resolved, then they are genuine self-contradictions. Anything that entails a contradiction must be false. So, if we cannot solve the paradoxes, Hume is wrong: we can deduce that there cannot be an infinite series of anything. We do not need experience to establish the claim.

But perhaps the paradoxes are the result of limitations on how we are thinking about infinity. Mathematicians (following Georg Cantor) argue that we are mistaken to apply intuitions about finite numbers to infinity, and new ways of thinking are needed (e.g. about different ‘sizes’ of infinity).