

Kalam Cosmological Argument

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Updated 11/20

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A + symbol indicates an argument that supports the claim one step above it in the hierarchy.

A - symbol indicates an argument that challenges the claim one step below it in the hierarchy.

For additional clarity, arguments in favor of the Kalam Cosmological Argument (KCA) are highlighted in blue, and arguments that challenge the KCA are highlighted in pink.

1. Everything that begins to exist has a cause.

+ Our metaphysical intuition is that "from nothing, nothing comes." [Craig & Sinclair, 2009]

- Our intuitions are disproved by science. For example, virtual particles pop into and out of existence all the time.

- But there is much debate over the actual existence of virtual particles. Also, virtual particles pop into existence 'uncaused' only given indeterministic interpretations of quantum mechanics like the Copenhagen interpretation, but that may be the wrong interpretation, and most interpretations of quantum mechanics are deterministic, and would not suppose that virtual particles come into existence uncaused. Thirdly and most importantly, even on indeterministic interpretations, virtual particles do not come into being out of nothing. They arise from fluctuations of energy contained in the subatomic vacuum. [Craig & Sinclair, 2009]

+ Nothing we know of can come into existence from nothing. [Craig & Sinclair, 2009]

- But we only know this to be true of things within the universe, not of the universe itself.

- But premise 1 doesn't state a physical law, but a metaphysical principle. Why should universes be the only exception to this metaphysical principles? [Craig & Sinclair, 2009]

- Other generalizations enjoy as much support as premise 1 but are incompatible with the Kalam Cosmological Argument, for example: (1) "Everything that begins to exist has a material cause." Or: (2) "Causes always stand in temporal relations to their effects." [Morrison, 2002 "Craig on the actual infinite"]

- But Morrison's first example can be overridden by arguments for the finitude of the past. And his second example seems to be an accidental generalization like "Human beings have always lived in this solar system" and not metaphysically true. [Craig & Sinclair, 2009]

- The argument equivocates on the meaning of "cause." [Grunbaum, 1990 "The Pseudo-Problem of Creation in Physical Cosmology"]

- No, it doesn't. In the argument, "cause" always means "something which produces its effects." [Craig & Sinclair, 2009]

2. The universe began to exist.

+ An actual infinity of past events could not exist. (1) An actual infinite cannot exist. (2) An infinite temporal regress of events is an actual infinite. (3) Therefore, an infinite temporal regress of events cannot exist. [Craig & Sinclair, 2009]

+ Those arguing for actual infinities of abstract objects must defeat anti-realist arguments [Craig & Sinclair, 2009]

+ An actual infinity can't exist, for it would lead to absurdities such as Hilbert's Hotel [Craig & Sinclair, 2009]

- But maybe we can accept such absurdities, just as we accept the absurdities of quantum mechanics [Oppy, 2009]

- But we have good evidence for the absurdities of quantum mechanics, and we lack such evidence to justify acceptance of the absurdities of actual infinities [Craig & Sinclair, 2009]

- Hilbert's Hotel shows that (1) "There are not more things in a multitude M than there are in a multitude M' if there is a one-to-one correspondence of their members" and (2) "There are more things in M than there are in M' if M' is a proper submultitude of M" are in conflict if (3) "An infinite multitude exists" is true. But why not reject (2) and retain (3)? Then we could accept an actual infinite. [Sobel, 2004]

- But is not (3) less certain than (1) and (2)? So we should be quicker to reject (3) than we should be to reject (1) and (2). [Craig & Sinclair, 2009]

- Hilbert's Hotel may show that an actual infinite is physically impossible, but not that it is logically impossible. [Sobel, 2004]

- But the original sub-argument admits the logical possibility of Hilbert's Hotel, just not its metaphysical possibility. So this objection is irrelevant. [Craig & Sinclair, 2009]

- The subtractions used in the example of Hilbert's Hotel do not yield contradictions. [Yandell, 2003]

- Yes, they do. [Craig & Sinclair, 2009]

- But we have evidence that actual infinities exist, for example the continuity of space and time. [Sinnott-Armstrong, 2003]

- But the continuity of space and time has not been proven. And even if it was potentially infinite, that does not make it actually infinite. [Craig & Sinclair, 2009]

+ An infinite temporal regress of events cannot exist. (1) A collection formed by successive addition cannot be an actual infinite. (2) The temporal series of events is a collection formed by successive addition. (3) Therefore, the temporal series of events cannot be an actual infinite. [Craig & Sinclair, 2009]

+ The available scientific evidence strongly suggests the universe has a finite past.
[Craig & Sinclair, 2009]

+ The Penrose-Hawking singularity theorems suggest a universe with a finite past.
[Craig & Sinclair, 2009]

+ The 2003 paper by Borde, Guth, and Vilenkin suggests a universe with a finite past. [Craig & Sinclair, 2009]

3. Therefore, the universe has a cause.

- The Kalam Cosmological Argument requires a tensed theory of time, but modern physics shows tensed theories of time are incorrect.

4. If the universe has a cause, then an uncaused, personal Creator of the universe exists, who sans the universe is beginningless, changeless, immaterial, timeless, spaceless, and enormously powerful.

- Asserting that God can create from nothing leaves us with a trilemma. Either, (1) "If God began to exist at a point in time, then this is as great a puzzle as the beginning of the universe", or (2) "If God existed for infinite time, then the same arguments would apply to this existence as would apply to the infinite duration of the universe", or (3) "If it be said that God is timeless, then this is a complete mystery." [Mackie, 1982]

- Timelessness may be mysterious, but it is not incoherent. [Craig & Sinclair, 2009]

+ The basic case: The cause of the universe must be uncaused, for an infinite regress of causes is impossible. Occam's razor suggests the cause is singular rather than plural. The cause must be beginningless, because the first premise entails that whatever is uncaused does not begin to exist. The first cause must be changeless because an infinite temporal regress of causes cannot exist. The immateriality of the first cause follows from its changelessness, for whatever is material involves incessant change at least at the atomic level. The first cause must be timeless and spaceless without the universe, because it created time and space. It must also, of course, be enormously powerful. [Craig & Sinclair, 2009]

+ This first cause must also be personal because there are only two accepted types of explanations, personal and scientific, and this can't be a scientific explanation. Also, the only things that might be immaterial, timeless, and spaceless are abstract objects or disembodied minds, but abstract objects cannot cause things, so it must be a disembodied mind. Finally, only personal agency can explain how a temporal effect could come from a changeless cause. [Craig & Sinclair, 2009]

- The cause of the Big Bang can be neither after the Big Bang (since backward causation is impossible) nor before the Big Bang (since time begins at or after the Big Bang). Therefore, the universe's beginning to exist cannot have a cause. [Grunbaum, 1990, "Pseudo-Creation of the Big Bang"]

- But this is a false dichotomy. God's creating the universe is simultaneous with the Big Bang. [Craig & Sinclair, 2009]

5. Therefore, an uncaused, personal Creator of the universe exists, who sans the universe is beginningless, changeless, immaterial, timeless, spaceless, and enormously powerful.

