

## Cosmological Argument

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### Abstract

The entry introduces first cause- and contingency-based cosmological arguments for the existence of an absolutely independent being on which the natural order of things depends. Tracing the roots of such arguments to Plato and Aristotle, it then summarizes major historical elaborations and criticisms in the medieval and early modern eras. It concludes by noting some contemporary developments in the articulation and analysis of these arguments.

### Keywords

theism  
contingency  
first cause  
kalam argument  
sufficient reason

“Cosmological argument” refers to a family of philosophical arguments of ancient lineage for the existence of God as the only or best causal explanation for the existence of the cosmos, considered apart from any of its distinctive features as studied in the natural sciences. They are usefully contrasted with the more familiar Teleological Arguments (see [eopr0385](#)) that contend that the particular, exquisite order we observe in the cosmos as a whole (expressible in the compact terms and equations of basic physics) or in some part thereof (the nested complexity of certain physical systems, especially living things) indicates an intelligent creator with specific creative goals. Cosmological arguments seek to explain something much more general about the cosmos: its having an ordered sequence of cause and effect, or its mere existence as such. They maintain that such a general feature, common to any possible cosmos, exhibits a dependency or incompleteness that points to an absolutely independent being as its source.

A cosmological argument starts, then, by characterizing the dependence or incompleteness that the cosmos is alleged to exhibit and proceeds to infer the existence of a being that is, by contrast, independent or perfect in its existence. The varieties of cosmological argument flow from differences at both of these steps. Proponents of such arguments have also differed in the way they bridge the gap between an independently or perfectly existing being and the omni-perfect God of classical monotheism. Some argue that *perfection of existence* and *source of imperfect existence* entail, albeit non-obviously, the other classical divine attributes (see [eopr0106](#); [eopr0295](#)), including the personal features of intelligence and purposive action. Others advocate a cumulative case approach (see [eopr0088](#)) that looks to other philosophical arguments, including Teleological and Moral Arguments (see [eopr0250](#)), to bridge the gap. Either way, these further arguments introduce quite

distinct considerations. For this reason, “cosmological argument” usually refers only to the core inference from the dependently existing cosmos to the existence of an absolutely independent source of it.

Cosmological arguments raise questions concerning foundational metaphysical issues such as the nature of time, causation, possibility and necessity, and infinity and epistemological issues concerning the requirements of causal explanation and the presuppositions of rational inquiry. The arguments in one form or another have received a great deal of attention in the history of Western philosophy ever since intimations in Plato (2016, Book X; see eopr0301) and a fuller elaboration by Plato’s student, Aristotle (1984a, Book VIII, 1984b, Book XII; see eopr0025). Medieval and early modern philosophers developed cosmological arguments in important ways before influential criticisms in the 18<sup>th</sup> century led to waning attention from subsequent philosophers. However, the revival of traditional metaphysical concerns in late 20<sup>th</sup> century philosophy has led to renewed attention to these arguments. Contemporary philosophical writing now brims with significant new responses to the older criticisms, in some cases taking the form of creative re-thinking of the original arguments themselves. These have spurred fresh critiques, and the result is a sharpened, subtler debate that is engaging a widening circle of thinkers.

### *First Cause Arguments*

Aristotle (1984a) developed a comprehensive framework for understanding the workings of the natural world. When he turns his attention to the fundamental phenomenon of motion, he argues that motion in general cannot have a beginning, since all change must be rooted in some previous activity. He theorizes that the motion of earthly bodies ultimately depend on the eternal motion of the heavenly bodies. Although these latter motions lack a beginning, analysis shows that they, too, are the realizations of a kind of potentiality. As such, they require a cause, although it will necessarily be quite different in kind, a kind of “pure actuality” that contrasts with the activated potentiality of its effects. Aristotle is thus led to posit an unmoved “first mover” which he further argues must have other extraordinary attributes.

Aristotle’s philosophy of nature was extensively engaged by medieval Islamic (see eopr0237) and (later) Christian philosopher-theologians (see eopr0236). Most rejected Aristotle’s doctrine of the eternity of the world on theological grounds, but some advanced modified versions of Aristotle’s argument for an unmoved first mover. In each case, the argument defends as a central premise either that time itself or a quite general kind of causal series in time is not eternal, further contends that whatever has a beginning of existence must have a cause, and so concludes that there is a beginningless first cause. Repudiating Aristotle’s theory of eternal motion of the heavenly spheres, Al-Kindi (1974) argues that the temporal world as a whole has such a beginning. Al-Ghazali (2002; see eopr0011) breaks more sharply with Aristotle and indeed with the whole project of natural philosophy, denying that there are genuine causes in the natural world, maintaining that every event, including those subsumed under observable regularities in the physical or biological realms, are directly produced by God. But he gives several arguments in support of Al-Kindi’s claim that the natural world must have had a beginning (see eopr0199).

Finally, the important Christian thinkers Thomas Aquinas (1981; see eopr0024) and John Duns Scotus (1966; see eopr0361) argue that every event in the natural world is the product of two distinct causal series: an *accidental* causal order stretching back in time and an *essential* causal order that is simultaneous with the effect. Neither contends that the accidental order must have a beginning, and so neither proceed from the premise that time itself has a beginning. Instead, they argue that the distinctive properties of essential causal orders demand that they have a common first cause distinct in kind from the ordered effects it produces.

### *Contingency Arguments*

The other basic kind of cosmological argument starts from the premise that our world, whether finite or infinite in duration, might not have existed – it is “contingent.” It then argues that for any contingent state of affairs, there must be an explanation of why it obtains, given that it might not have. If the explanation is in terms of the generative activity of some other contingent reality, there must be in turn an explanation for that. Either this chain of explanation terminates in a finite number of steps or it does not. If it does so terminate, there will be a first step needing some other kind of explanation. If it does not terminate, there will be no *step* lacking explanation, but the infinite chain as a whole will still be contingent, and so, considered as a whole, *it* will be in need of explanation. Either way, the original principle that everything contingent has an explanation leads to the conclusion that there is an explanation outside the sequence of all merely contingent entities and the states of affairs involving them. Such an explanation will have to involve the activity of something that could *not* have failed to exist, i.e., something whose existence is necessary (see eopr0265).

This form of argument was first clearly articulated by the medieval Islamic philosopher Ibn Sina, more commonly known in the West as Avicenna (2005; see eopr0039). Avicenna influenced Aquinas and Scotus, both of whom formulated versions of this argument. Scotus is notable for articulating an understanding of contingency that is not connected to the notion of time, as Aristotle thought. According to Aristotle, something is possible if it occurs at some time or other, necessary if it occurs at all times, and impossible if it never occurs. But there is a more fundamental sense of possibility on which something may be possible even if it never occurs, for example, the existence of a unicorn. Indeed, in this sense, it appears possible that an entirely different world from the actual one might have existed, so that we can sensibly ask why this world exists and not any of the other merely possible ones. Scotus’s preferred argument for the existence of God is quite complex, intertwining elements of both kinds of cosmological argument and the very different ontological argument. Gottfried Leibniz (1998) gave a simplified and influential statement of the cosmological argument from contingency in terms of the Principle of Sufficient Reason (PSR; see eopr0313), which holds that for every existing thing or truth, there must be a reason why it is so rather than being otherwise. As there is no contradiction in the thought that the entire world might have been otherwise, it is possible that it have been so. So its actuality must have an explanation that grounds it in what exists of absolute necessity.

### *From First Cause/Necessary Being to God*

Cosmological arguments infer the existence of something outside the natural causal order, but whose description is rather “thin”: an unmoved first mover, or a necessarily existing ground of all contingent things. This is a hint, but no more than that, of God, conceived as a personal being perfect in every way. Avicenna, Aquinas, and Scotus all argue at length that a being satisfying such a thin description must have each of the other core attributes of God (see eopr0295). Samuel Clarke (1998), a contemporary of Leibniz, does so as well in a significant elaboration of Leibniz’s contingency-based argument. More recent defenders of versions of the argument are content to assign the argument a more limited role in the overall philosophical case for monotheism. They agree with the older project that the core conclusion of the argument can plausibly be extended a little ways, but will look to other arguments for making the case for at least some other important divine attributes (see eopr0088). This middling, piecemeal stance also reflects a tendency in modern philosophy to reject putative single-line, deductive “demonstrations” of highly significant philosophical conclusions in favor of the balance-of-evidence approach that is characteristic of scientific reasoning.

### *Critiques*

The 16<sup>th</sup> and 17<sup>th</sup> centuries saw a profound transformation of natural philosophy away from Aristotle’s longstanding framework to the newer “mechanical” philosophy of Galileo Galilei (1564-1642), René Descartes (1596-1650; see eopr0097), and others, culminating in the triumph of Isaac Newton’s (1642-1727) physics. For several reasons, the “first cause” version of cosmological argument did not fare well through this transition. The distinction Aquinas and Scotus drew between accidental and essential causal series was part of the abandoned Aristotelian physics. Many doubted the claim that one could demonstrate that the temporal world had a finite beginning. Finally, the claim that anything that has a beginning in time must have a cause was thought by many to rest on a covert acceptance of the Principle of Sufficient Reason, and so the first cause argument, or whatever part of it was cogent, might as well be folded into the contingency argument. And the argument from contingency enjoyed continuing support, including that of Leibniz, whose genius was beyond dispute.

Even so, the contingency argument came to be attacked by several equally important thinkers. Baruch Spinoza (1994; see eopr0373) disputed the least controversial premise, that the world was contingent. According to Spinoza, it appears to us that things might have been otherwise (that I might have been a roofer like my father, or that the world might have contained unicorns) only because we are largely ignorant of the many factors that strictly necessitate each and every object and event being as it is (see eopr0290). More influentially, David Hume (1980; see eopr0172) contended in quite the opposite direction that everything was *radically* contingent. The observable patterns in the world that we naturally think of as reflecting the activity of recurring causes are in reality nothing more than sequences of events that happen to reflect patterns, but need not have done so. The idea that there is even a conditional, natural or causal “necessity” underlying the patterns is an illusion born of familiarity. Accordingly, we have no

good reason to deny the possibility of a first contingent event, or an infinite sequence of such events, that simply lacks any antecedent cause. (And indeed, since all that survives critical examination of our idea of “cause” is a kind of patterned regularity of proximate time and location, the very idea of a *singular* external cause of temporal phenomena appears untenable.)

Not everyone followed Hume in rejecting the basic metaphysical ideas of causal power and causal necessity, with its corresponding deflation of causal explanation of events. But Hume’s skepticism did prompt questions about the proper scope of human reason and the reliability of certain in-grained mental “tools” (ideas and methods) that we naturally draw upon in trying to address metaphysical questions. Such questions led Immanuel Kant (1998; see eopr0201) to elaborate an understanding of the relationship of mind and world that effectively precludes our intelligibly reasoning about anything that might lie beyond the realm of our experience, including God in the guise of unmoved first mover or necessary cause of contingency. Our minds unconsciously impose a host of metaphysical categories such as causality and principles such as “everything that begins to exist has a cause” on our thoughts about and experience of the world around us. Our thinking and experience conform to them not because they have objective validity (i.e., the world in itself has to be these ways), but because they are *subjectively* necessary for thought and experience to occur at all. If this is so, we cannot draw any conclusions about what reality in itself, or its ultimate “cause” if any, is like. Kant had a further criticism of the cosmological argument from contingency that did not rest on his views about the inability of the human mind to think about the ultimate foundations of reality. In his view, the cosmological argument “presupposes” the validity of the Ontological Argument (see eopr0282). That is, it is valid only if the ontological argument is valid. But, he argued, the latter is demonstrably invalid, and so the former must be, too. This criticism has become part of the standard lore about the cosmological argument, although Kant’s reasoning here is far from clear.

#### *Contemporary Discussion & Future Direction*

Hume and Kant cast long shadows, with Kant profoundly influencing much of 19<sup>th</sup> century philosophy and Hume’s legacy flowering in the 20<sup>th</sup> century. Together they account for much of the tendency in these centuries to eschew “realist” metaphysics that seeks to reason about mind-independent foundations of the natural world that go deeper than the physical structures and dynamical laws described by the natural sciences. The abandonment of realist metaphysics necessarily leads to the rejection of philosophical arguments for the existence of God, including the cosmological argument. However, realist metaphysics returned to the center of the philosophical agenda beginning in the 1960s, starting in Anglophone countries and eventually spreading elsewhere. As philosophers theorized anew about the nature of causation, possibility and necessity, time and infinity, and the relation of part and whole, and also took notice of the deep metaphysical questions raised by fundamental physics, it was only a matter of time before the ancient questions concerning the ultimate causes or grounds of reality would also be reconsidered.

William Lane Craig (1979) revived al-Ghazali’s “kalam” argument (see eopr 0199) against the eternity of the world. Craig argued that the universe’s having a

beginning both has empirical support in Big Bang cosmology (see eopr 0054) and is one of the proper conclusions to draw from paradoxes stemming from the hypothesis that there is an actually realized infinite series. Both bases have been challenged. There are theoretical physical models that posit that our universe, with its origin in the Big Bang, is itself the result of antecedent causes that stretch back without a beginning. These models are speculative at present, but they suggest that the Big Bang singularity may not be the last word on our world's physical origin. And many philosophers and scientists contend that the "paradoxes" associated with an actualized infinity only illustrate that our intuitive reasoning is unreliable when it comes to infinity, whose mathematical foundations were clarified only in the 19<sup>th</sup> century.

The contingency argument doesn't have the burden of arguing that the world has a beginning in time. Its central challenge is to show that it does not prove too much: the demand of the PSR that *all* contingent truths have an explanation why they are so and not otherwise doesn't merely require their having a basis in necessary reality, as the argument concludes; it seems to imply that there *aren't* any contingent truths at all! If the explanatory link between a necessary ground and some further body of truths is itself necessary, then so, it seems, will be those truths. If instead that link is merely contingent, something that might not have obtained, then PSR will demand an explanation of *it*, and continue to make such a demand until a basis in what is necessary is uncovered. So all explanatory chains satisfying PSR appear to lead eventually to a necessary link to a necessary source, leaving no room for real contingency in reality (van Inwagen 1983, 202-4). Leibniz struggled to resist this implication within his own theistic metaphysical system. A theistic defender of the argument might instead embrace it, but (as Leibniz well understood) doing so comes at a high cost: it implies that God is a sufficient basis for all evil, and there is a more economical, rival necessitarian metaphysics, in the form of Spinoza's pantheism (see eopr0290). However, Alexander Pruss (2006) and Timothy O'Connor (2008) have contended recently that the necessitarian implications may be avoided by reformulating the PSR. In their view, an event may be fully explained by a factor that does not necessitate it. If correct, this point extends to the creation of a contingent world by a necessary God: there may be rational considerations that motivate and thereby explain God's creative choice even though other factors might have led God to act differently.

Richard Swinburne (2004) has proposed a reorientation of the way theistic arguments in general, including cosmological arguments, are framed. He suggests that an 'inductive' approach is more defensible than deductive arguments based solely on unquestioned first principles, which latter approach has been common in the philosophical tradition. As in the sciences, philosophers should think of philosophical hypotheses as being more or less probable on the 'evidence', including the evidence of intuitively appealing general principles. Swinburne's approach relies on supposing God's existence to be logically contingent, not necessary. Consistent with this stance, Swinburne contends, one may still argue in a cosmological vein that it is more probable that a being such as God exists uncaused than a vast universe. Others influenced by Swinburne uphold the traditional view that God, if He exists, is absolutely necessary, but emphasize that we should be less than certain about the

principles deployed in controversial philosophical arguments. Such principles may be necessarily true, if true at all, but they are defeasible, and we should be confident of some of them more than so than others. Accordingly, we may think of them as more or less probable *subjectively*. An implication of this attitude for cosmological arguments is that one needs to decide not only whether the reasoning is sound but also how confident one is in that conclusion, and measure that stance against the weight of other arguments for and against the same conclusion (see eopr0088). Assessing one argument, however appealing, will not suffice for properly making a final determination on the question.

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*Further Readings*

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