

Why Is There a Universe?

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Great religions and ancient mythologies claim to have answers to the question of the existence of a universe. This essay will not discuss the details of those answers. However, it *will* consider the possibility of a supernatural origin of the universe and make comments on the theories offered by science. It will comment on scientific theories even though the title of this essay does not pose a scientific question. A scientific question would seek a scientific answer, and there is no way that an answer to this question could be tested against observation as a scientific claim could.

However, as philosophers, we will make do with answers that are logical consequences of the meanings we have assigned to words such as “universe.” We will first consider the most inclusive definition of “universe” that one could find: “The universe is all of space and time (spacetime) and its contents, which includes planets, moons, minor planets, stars, galaxies, the contents of intergalactic space, and all matter and energy.”¹ This definition could make the title read something like, “Why is there everything that exists?”

That question makes us wonder if there could be an alternative to everything that exists. Why could not something exist that is *different* from what does exist? Or, why could not *nothing* exist? Both of those alternatives imply that the universe, as it is, is either eternal or had to come into existence at some time. This is necessary since the universe, as it is, currently does, indeed, exist. Can we conclude, then, that if our universe is eternal—has always existed—then neither of the above alternatives of either nothing or something different is logically possible? If so, then our universe is the only possible *eternal* universe. Let’s write this down for later use.

Conclusion A: Our universe is the only universe that could be eternal.

Even though the question, “Why is there a universe?” is not a question that science can answer, science has not refused to offer answers to the related question, “How is there a universe?” or “How did the universe come into existence?” That is the central question to be answered by the branch of science called *cosmology*. In the last 60 or 70 years, two contrasting cosmological theories have been offered. One of them—the Steady State Theory—proposes an eternal universe without a beginning;² the other one—the Big Bang Theory—proposes a universe that is less than 14 billion years old.³ (This is the theory that is currently accepted by most, if not all, of the cosmologists.) Since, by definition, there was no space nor time before the very special event when the universe came into existence with a bang, you might think it would be nonsensical to contemplate pre-bang conditions.

However, in 2012, the physicist Lawrence M. Krauss wrote a controversial book with the title *A Universe from Nothing: Why There Is Something Rather than Nothing*, in which it is claimed that the mathematics of general relativity and quantum mechanics imply the “existence” of something that Krauss calls “bubbles” in the nothingness of pre-bang non-space.⁴ These bubbles are capable, Krauss claims, of developing into universe-creating big bangs.

Whether bubbles in nothingness exist or not, the Big Bang theory—and any other scientific theory of a non-eternal universe—must concede the “existence” of a pre-universe abstraction such as a law of nature. There must have been a law that either required or permitted the Big Bang to explode. Otherwise, the Big Bang’s occurrence would necessarily have to be classified as a supernatural event—an event due to a supernatural entity. The parallels between this law of nature devised by science and the

consciousness of a god claimed by monotheistic religions are apparent.

What evidence is claimed for a big bang? A background electromagnetic radiation peaking at about 1.063 mm is currently detectable. Its magnitude is nearly uniform, no matter which direction the detector is pointed. It is said by Big Bang advocates that this is exactly the radiation that would be produced if there had been a universe-creating explosion nearly 14 billion years ago. Perhaps we should take their word for it. But even if we did, this would be a concession that the bang would be only a *sufficient* condition for the presence of the radiation. We would not have ruled out the possibility that conditions other than the bang might have produced the radiation. These other conditions need not be as *flashy* as a big bang.

Another bit of evidence is the observation that the universe is currently expanding. Again, a big bang would produce a condition that is *sufficient* for the parts of the universe to fly out in all directions, but not a *necessary* condition. To prove that a big bang was also necessary would require more than observations. Worse yet, recent observations indicate that the expansion rate is currently increasing. Shouldn't that permit a disproof of the Big Bang theory?

But that's a problem for the scientists. We philosophers can speculate about what must necessarily be so with any theory of the conditions before the existence of the universe. For instance, let's suppose that there was an all-powerful *consciousness* who *willed* the universe into existence. Was this act of will the demand, "There shall be a universe," or was it the milder granting of permission, "Let there be a universe"?

Or, instead of supposing a consciousness, let's suppose there was a *law* that was responsible for the existence of the universe. As there are two possibilities with the *will of a god* theory, there are (at least) two ways that the law could have been framed. It could either *require* the

existence of the universe, or it could *permit* the existence of the universe. Scientists have, in the past, postulated both of these forms for their laws of nature. As instances, Newton's law of gravity *demands* that a force shall exist; the universal law of radioactive decay *permits* certain kinds of particles to disintegrate (at a certain rate).

It's evident, then, that both an all-powerful-god theory and an all-powerful-law theory can include the case where "chance" is relied upon to trigger the actual universe-creating event. This case arises when the responsible agency—be it a god or a law—does not require but merely permits the existence of the universe. Isn't this necessity of chance harder to accept with the omnipotent-god theory than with the universal-law theory?

Whether it is harder or not, both theories—when they only permit the existence of the universe—require the pre-universe existence of this chance entity, whatever that may be. Must we include this complication in our answer to the question, "Why is there a universe?"

Whether we do or not, if we accept either the omnipotent-god or the all-powerful-laws assumption—and we deny that the universe has always existed—then we should modify our definition of "universe" so as to explicitly exclude the non-material entities of gods, laws of nature, and perhaps chance. At least one, and perhaps two, of these potentially universe-creating entities must have existed before the universe came to be.

But now, even if we could answer the "Why is there a universe" question while using our revised definition of "universe," we would be faced with the question, "Why was there that entity, or why were there those entities, that *caused* the universe?" An answer to those questions in terms of some sort of super god or super law would begin an infinite regression of claims of the necessity of earlier and earlier gods or laws. If there is an element of chance in

these incidences, it may also require an infinite sequence of *pre-chances*, or whatever they should be called.

An alternative to this infinite regression would be to postulate that there was only one generation of universe-creating entities but that the one generation was eternal. This postulate implies that this entity, or entities, waited idly for an eternity before exercising its, or their, powers. The question of why there would be such a delay surely is as unanswerable as the question that is raised by the infinite regression.

If we accept the arguments given above, I think we must concede that the question—“Why is there a universe?”—is unanswerable if the universe is not eternal. Let’s suppose that it *is* eternal, that it had no beginning and, hence, no cause of a beginning. Such an assumption

is contrary to what is claimed by the Western religions, the familiar myths, and the current scientific dogma, but it *is* a logical possibility.

This assumption of an eternal universe allows us to offer an answer to the question, “Why is there a universe?” There is a universe because (if the universe is eternal) there would *have* to be one. And, according to Conclusion A above, it would have to be the existing one.

To summarize this essay’s answers to the question, “Why is there a universe?” we conclude with:

Conclusion B: If our universe is eternal, it *necessarily* exists because it is the only possible *eternal* universe, and it *does* exist. If our universe is *not* eternal, the question is *unanswerable*.

NOTES

1. Wikipedia contributors, “Universe,” Wikipedia, The Free Encyclopedia, <https://en.wikipedia.org/wiki/Universe>.
2. Wikipedia contributors, “Steady-State Model,” Wikipedia, The Free Encyclopedia, https://en.wikipedia.org/wiki/Steady_State_theory.
3. Elizabeth Howell, “What Is the Big Bang Theory?” Space.com (Nov 7, 2017), <https://www.space.com/25126-big-bang-theory.html>.
4. Wikipedia contributors, “A Universe from Nothing,” Wikipedia, The Free Encyclopedia, https://en.wikipedia.org/wiki/A_Universe_from_Nothing. 

“Science is but an image of the truth.”

—Francis Bacon