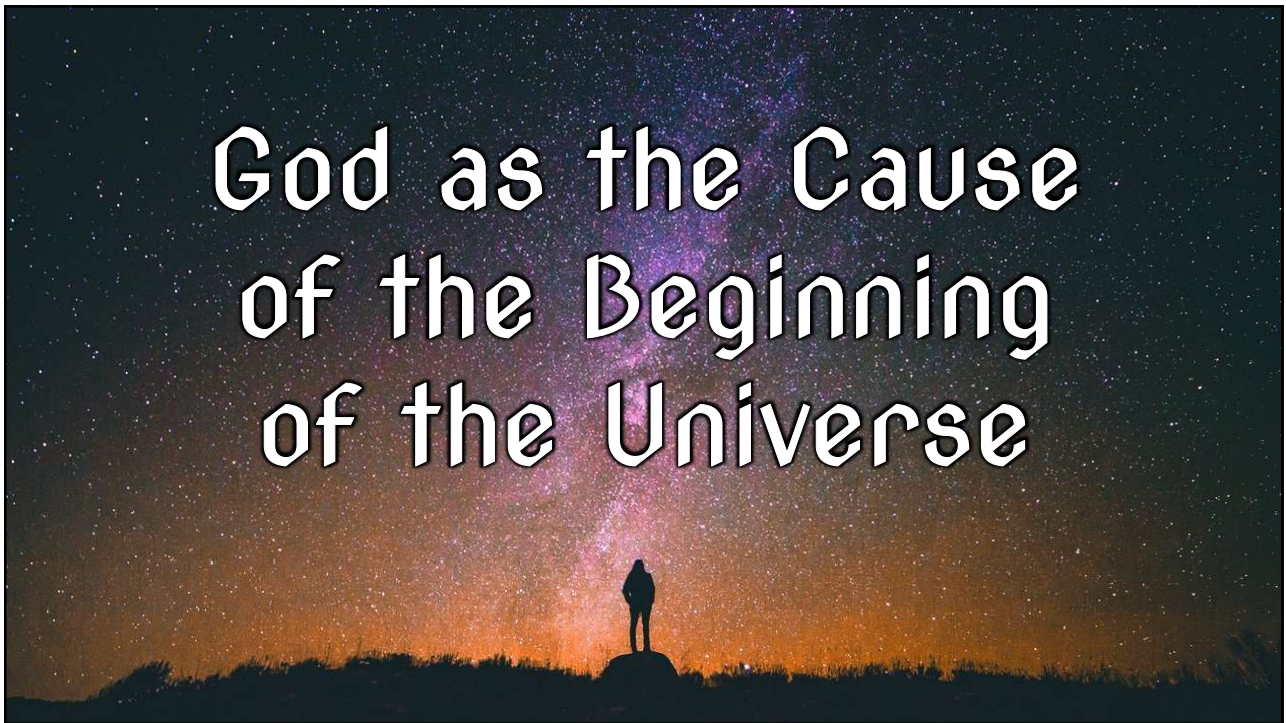




God as the Cause of the Beginning of the Universe

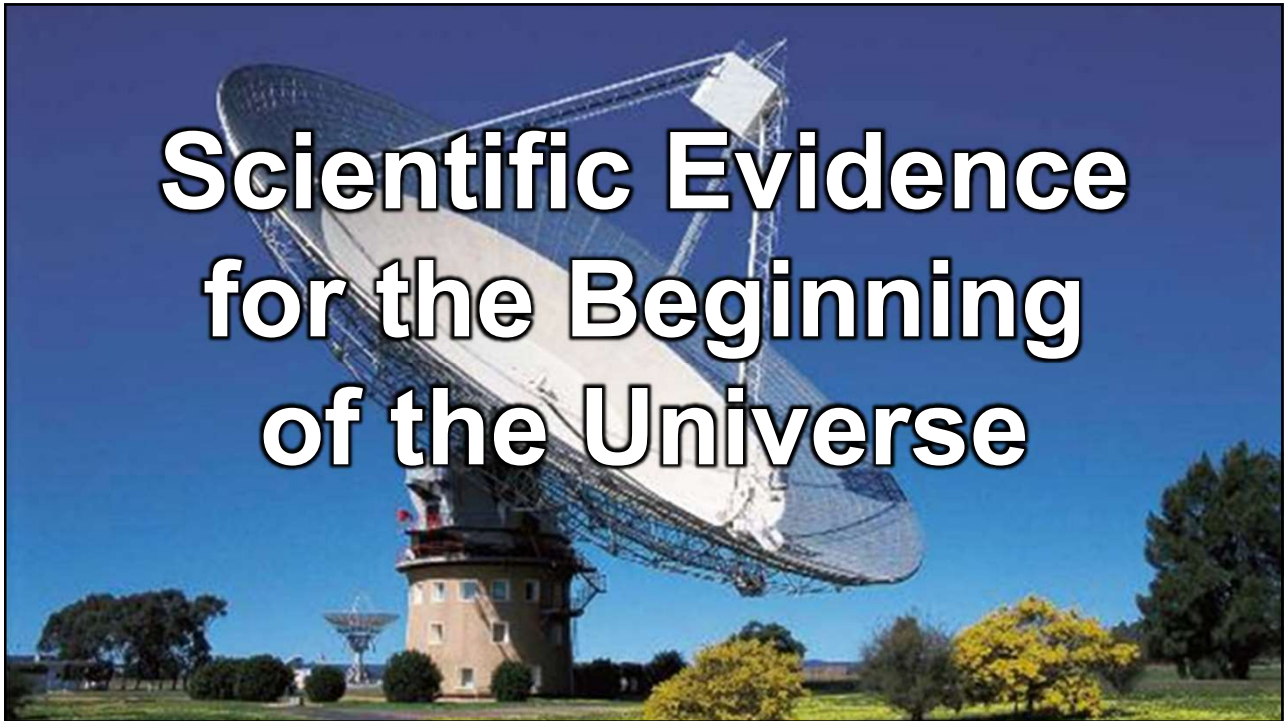


1. The Universe began to exist.

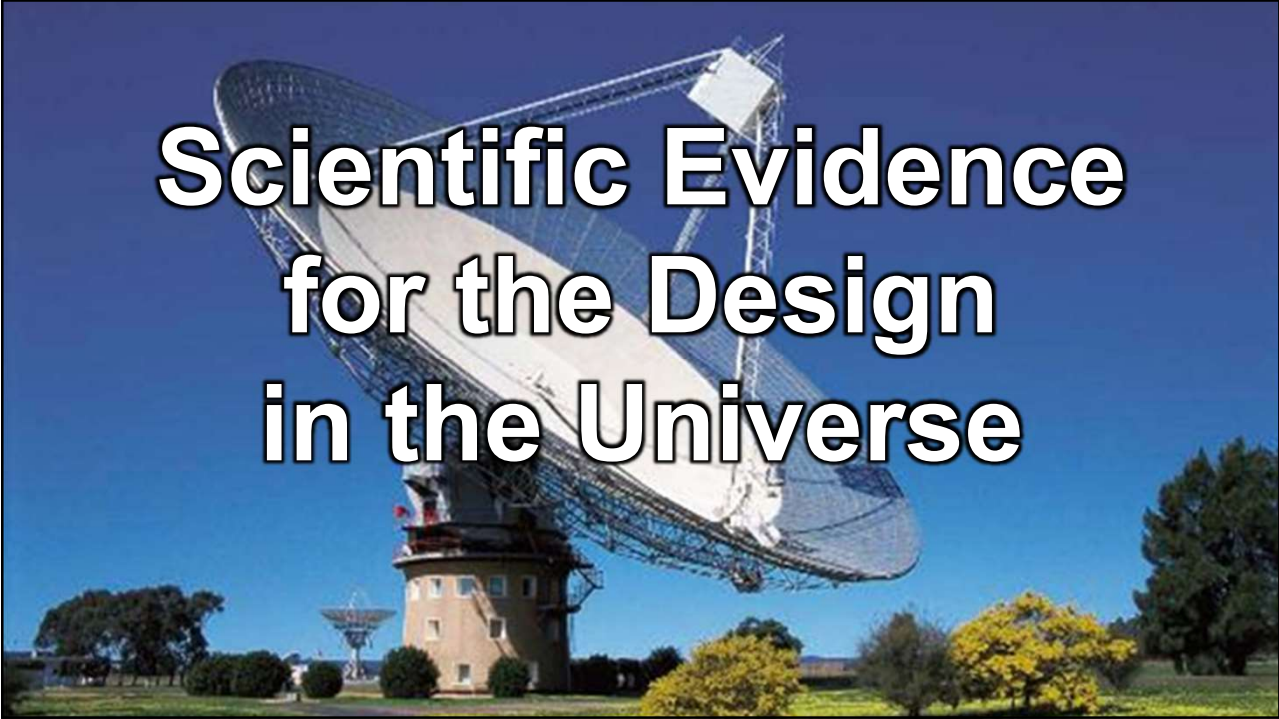
2. Whatever begins to exist has a cause of its existence.

Therefore, the universe has a cause of its existence.

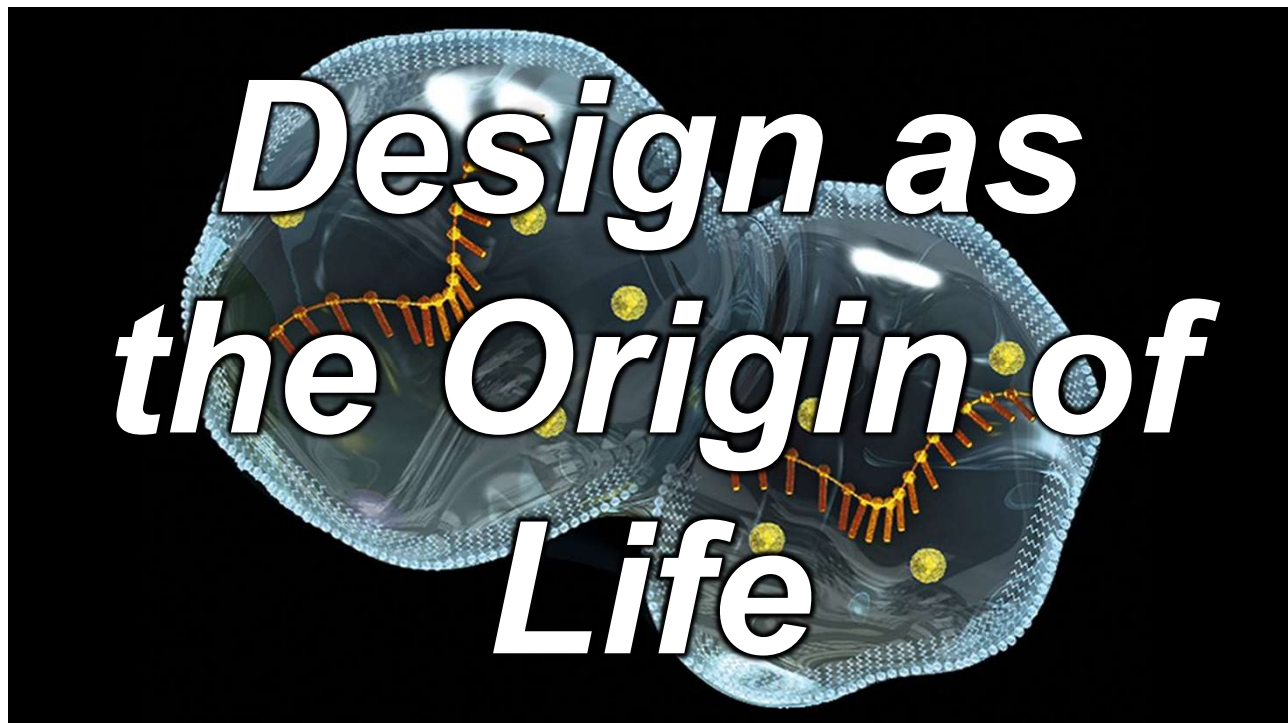
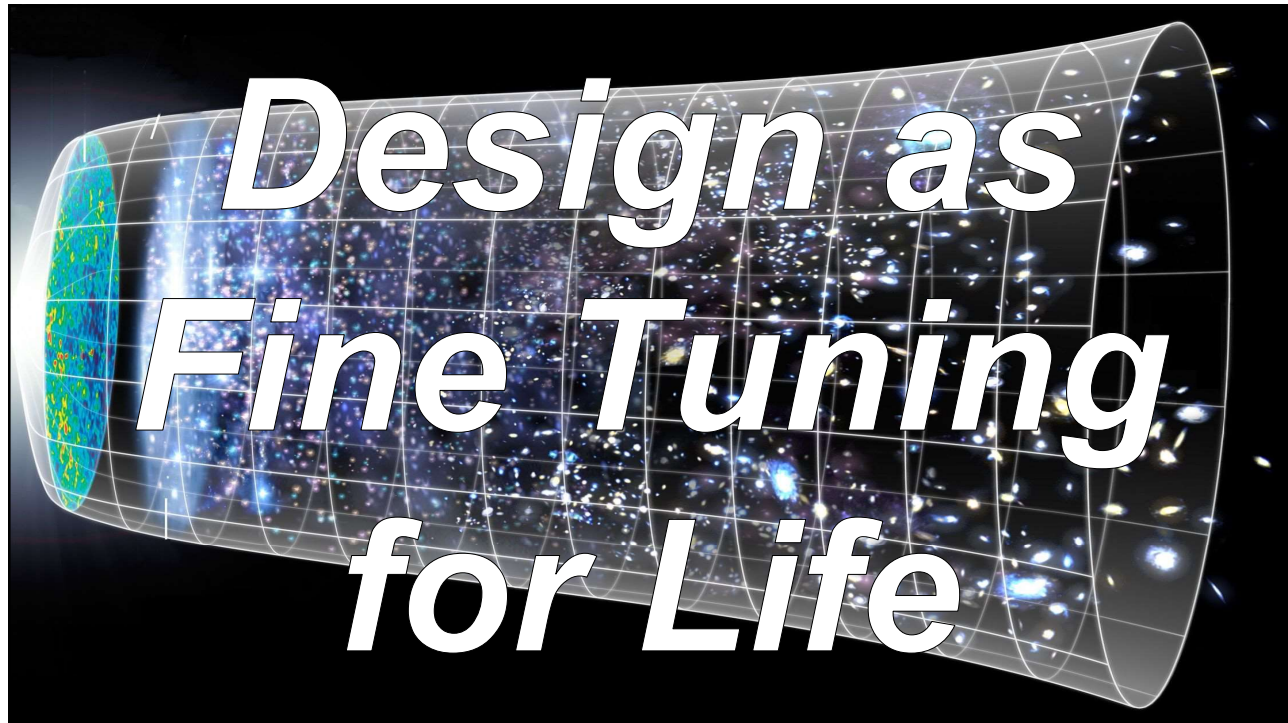
**Scientific Evidence
for the Beginning
of the Universe**

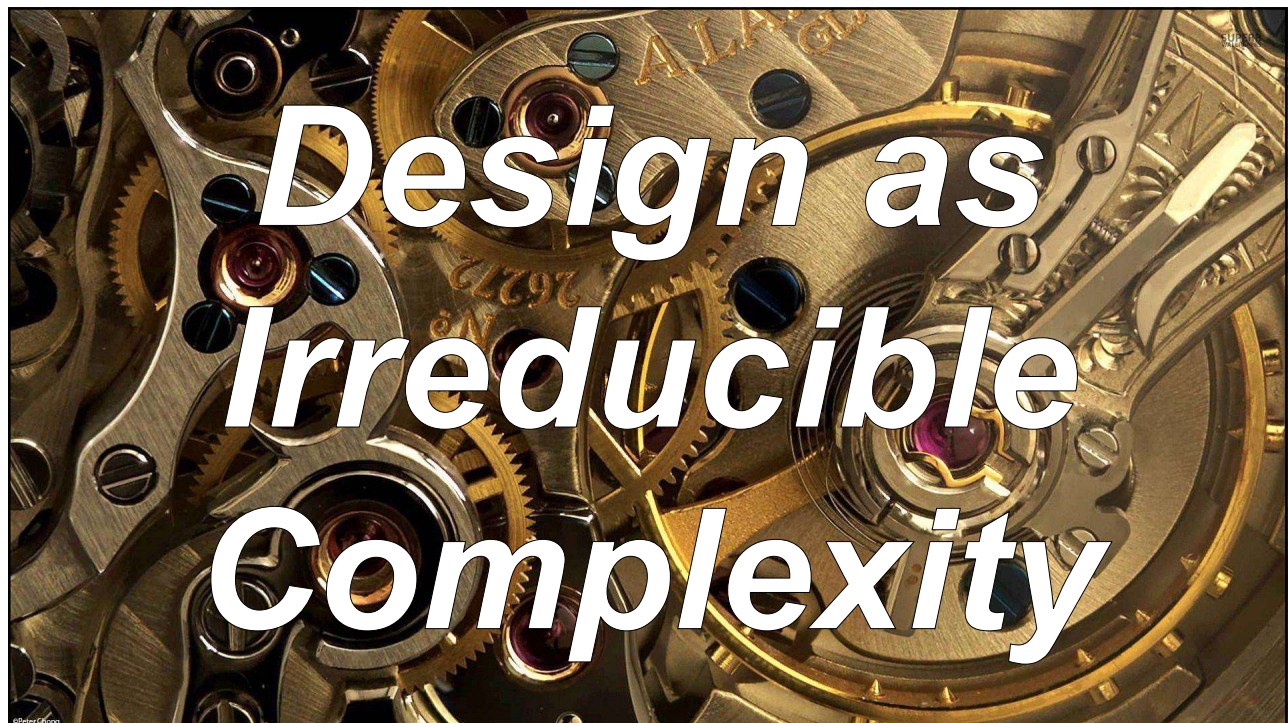


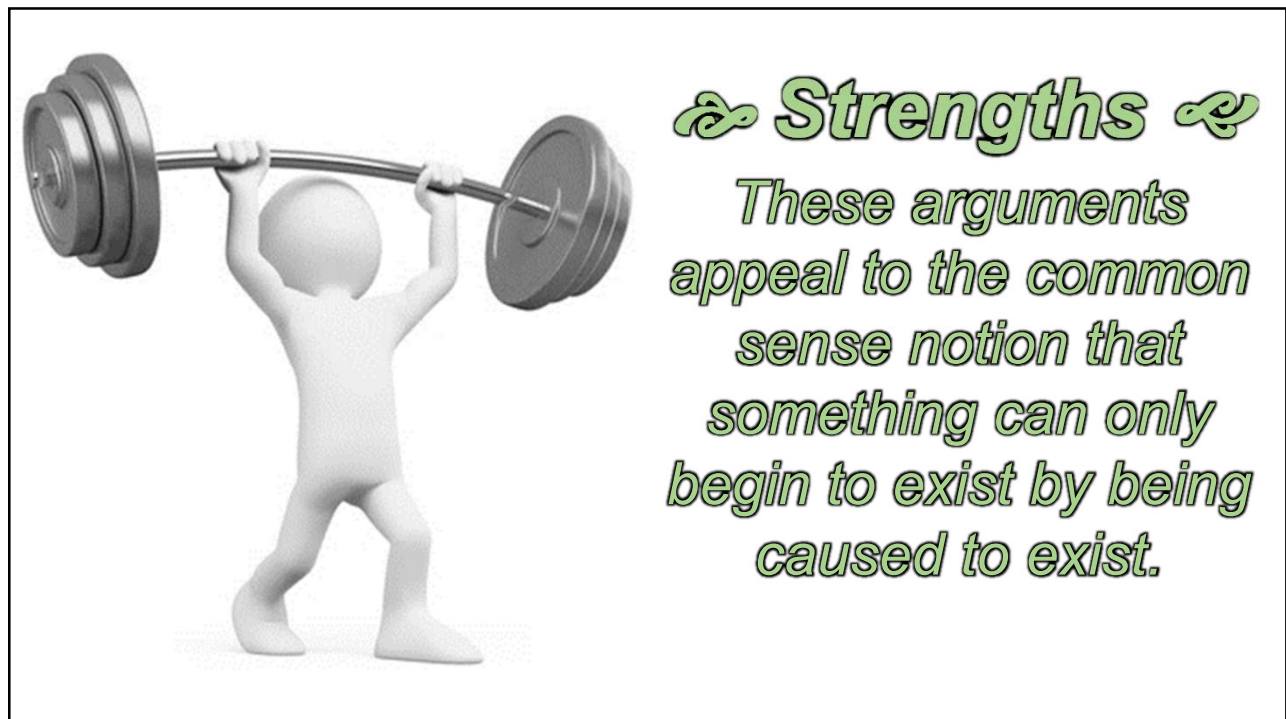
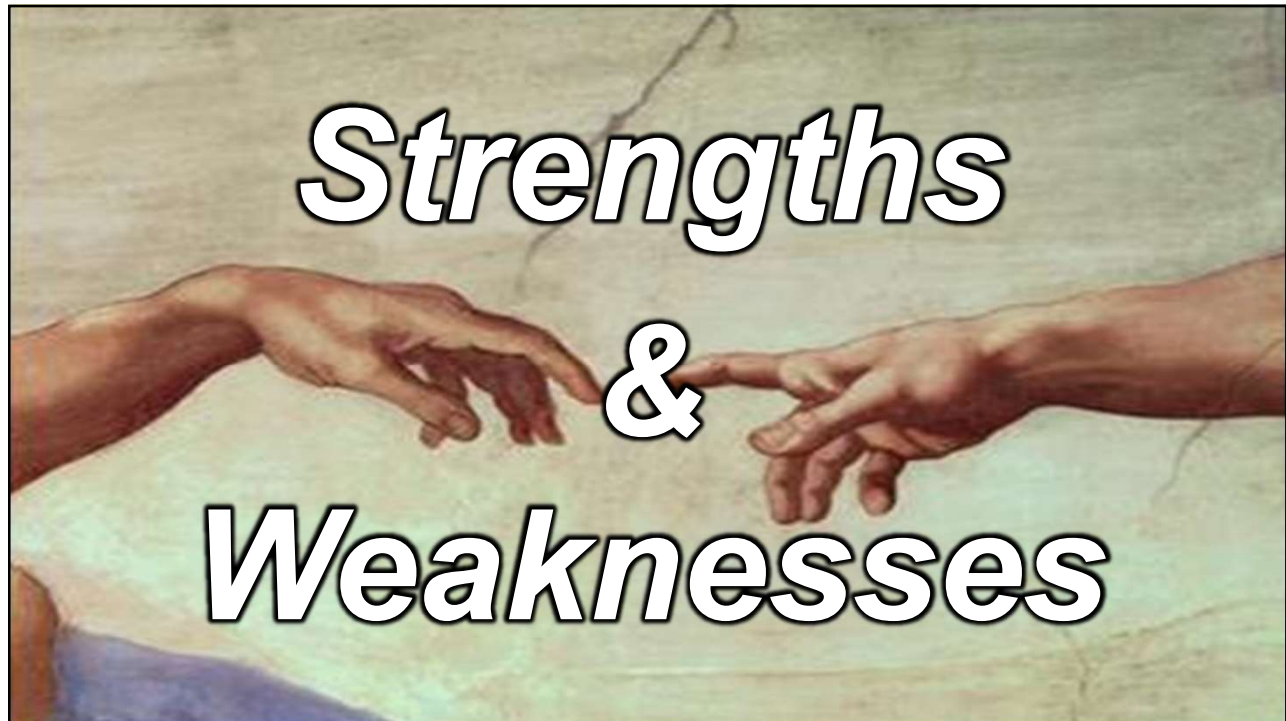
- ✓ *Big Bang Theory*
- ✓ *Expanding Universe*
- ✓ *Second Law of Thermodynamics*



**Scientific Evidence
for the Design
in the Universe**









∞ Strengths ∞

These arguments appeal to the common sense notion that anything that exhibits sufficient evidence of design is likely caused by an intelligence.



∞ Strengths ∞

They often appeal to data from contemporary science (with all of science's social, etc., clout).




∞ Strengths ∞

They generally avoid trafficking in the technicalities of academic philosophy which are less familiar than the general categories of the sciences.




∞ Weaknesses ∞

Without further arguments, they do not demonstrate that the cause of the universe still exists.




Weaknesses

Without further arguments, they do not demonstrate that the cause of the universe is God (i.e., that the cause has the attributes of classical theism).



Weaknesses

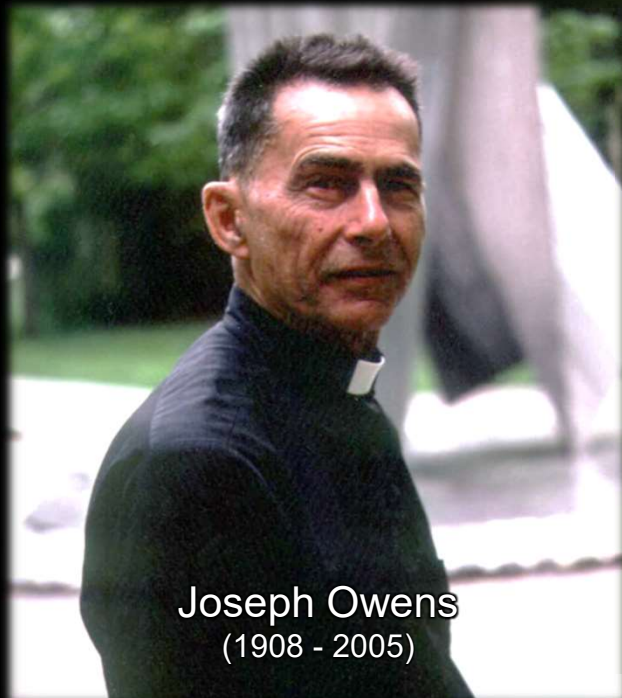
Without further arguments, they do not demonstrate that the cause of the universe is good (even apart from the other attributes of classical theism).



My Weaknesses

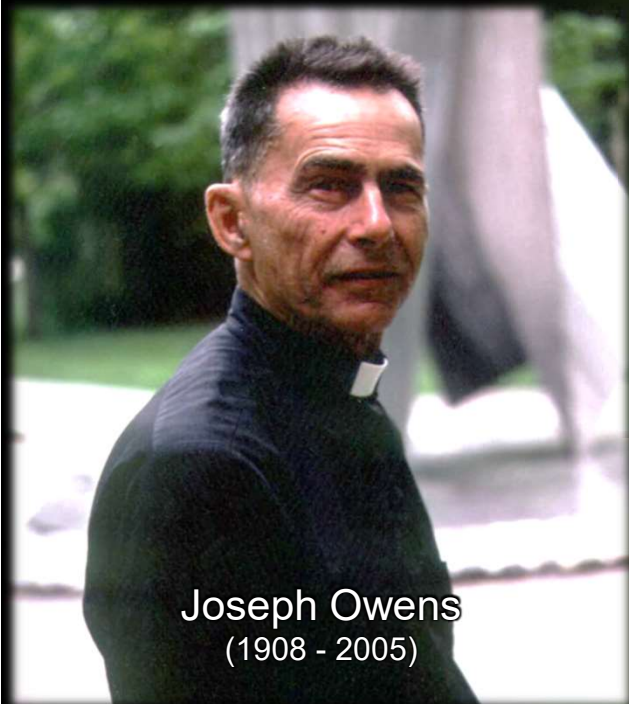
Certain aspects of the science are disputed.

Such disputes can invariably get technical and, thus, are beyond the knowledge of the non-scientist like me.



**Joseph Owens
(1908 - 2005)**

"Other arguments may vividly suggest the existence of God, press it home eloquently to human consideration, and for most people provide much greater spiritual and religious aid than difficult metaphysical demonstrations."

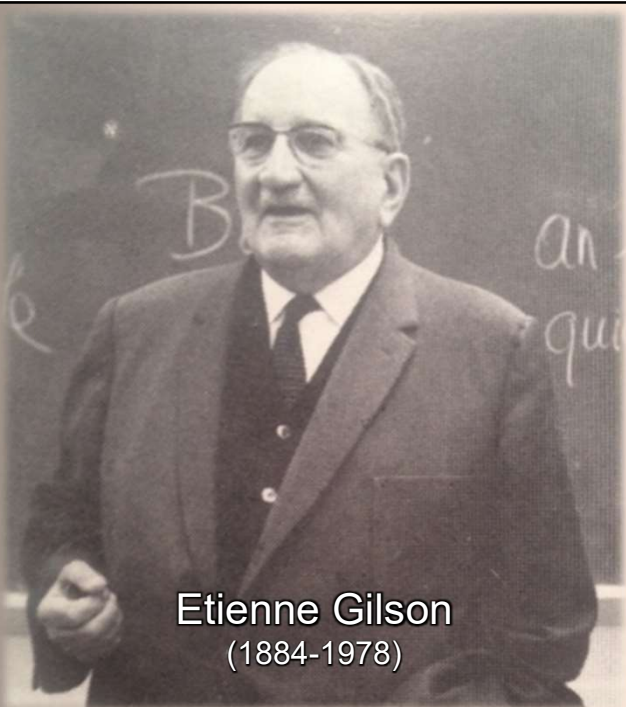


"But on the philosophical level these arguments are open to rebuttal and refutation, for they are not philosophically cogent."

[Joseph Owens, "Aquinas and the Five Ways," *Monist* 58 (Jan. 1974): 16-35. (p. 33)]

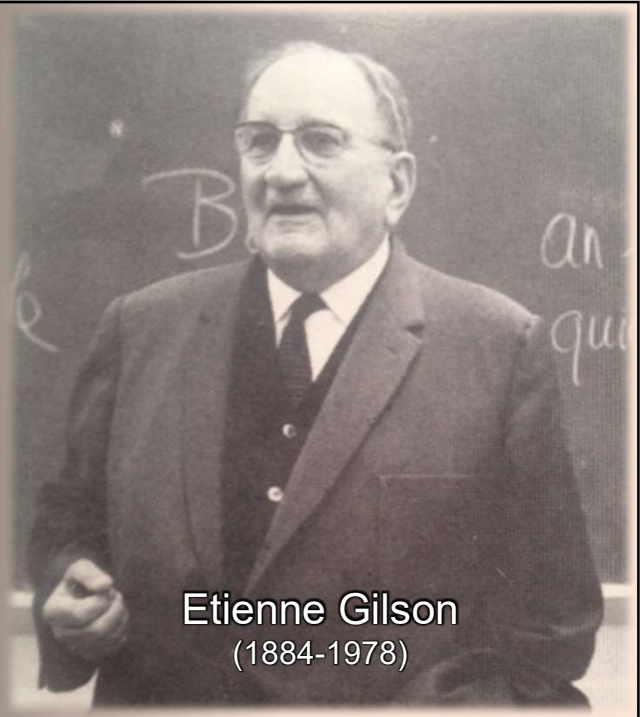
Joseph Owens
(1908 - 2005)

Gilson was concerned about "the liberty which [physicists and biologists] grant themselves of philosophizing ... and presenting their philosophy as if it were a matter of their science. ..."



Etienne Gilson
(1884-1978)

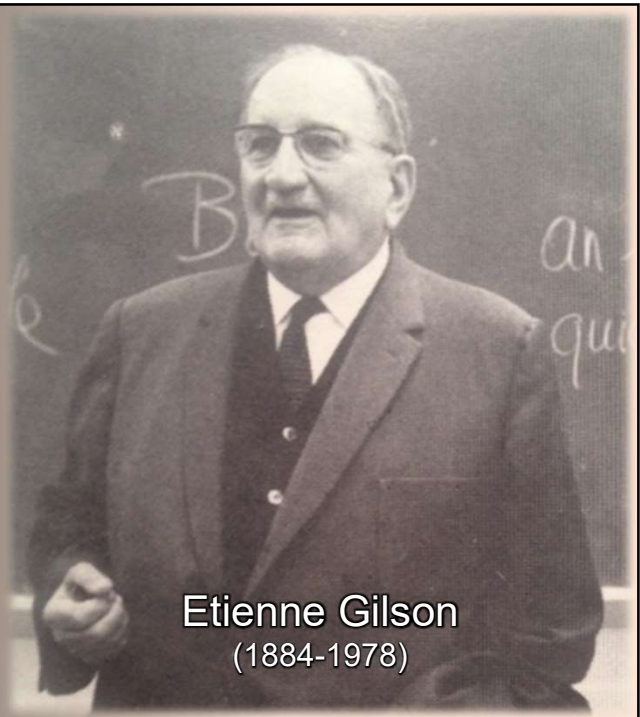
"It does not bother them if the philosophy thus bandied about under the name of science often consists in a denial of the validity of philosophical position as accepted by those whose *metier* [profession] is philosophy. ..."



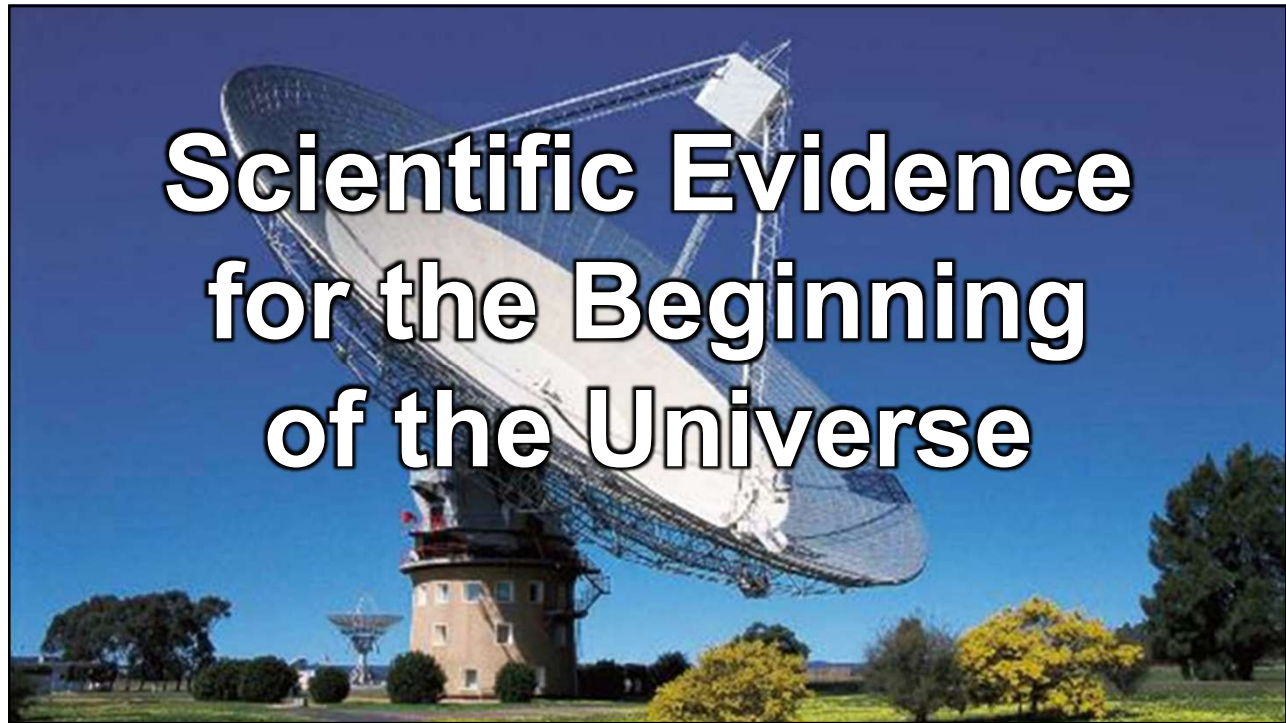
Etienne Gilson
(1884-1978)

"Holding reasonably that it is necessary to have learned a science in order to be authorized to speak about it, he does not for an instant doubt that it is a matter of indifference who may be authorized to speak of philosophy, provided only that he knows some other discipline."

[Etienne Gilson, *Linguistics and Philosophy: An Essay on the Philosophical Constants of Language* (Notre Dame: University of Notre Dame Press, 1988), xvii]



Etienne Gilson
(1884-1978)



- ✓ *Big Bang Theory*
- ✓ *Expanding Universe*
- ✓ *Second Law of Thermodynamics*

The Big Bang Theory

∞ Definition ∞

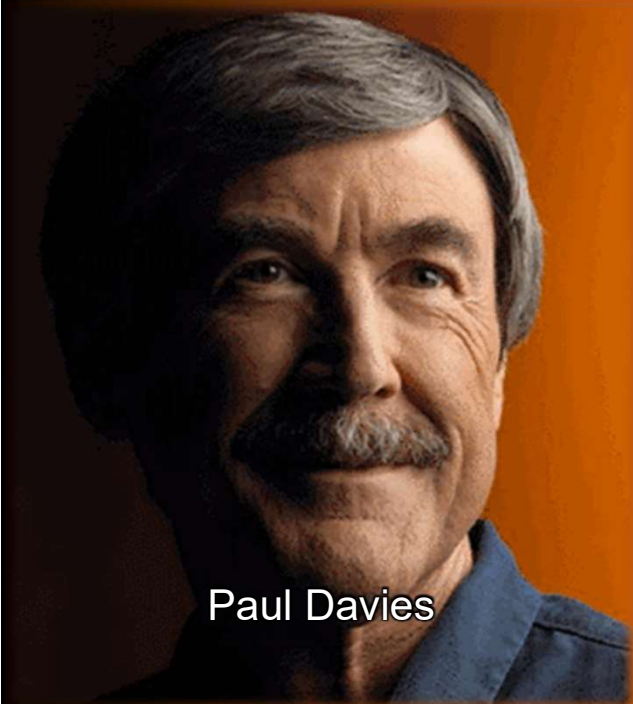
Scientists maintain that the universe began in a colossal explosion a finite time ago.

∞ Significance ∞

The universe has not existed from eternity, according to the Big Bang Theory.

∞ Significance ∞


Therefore, the universe began to exist a finite time ago.



Paul Davies

"Whether one accepts all the details or not, the essential hypothesis — that there was some sort of creation — seems, from the scientific point of view, compelling."

[Paul Davies, *God and the New Physics* (New York: Simon and Schuster, 1983): 10]

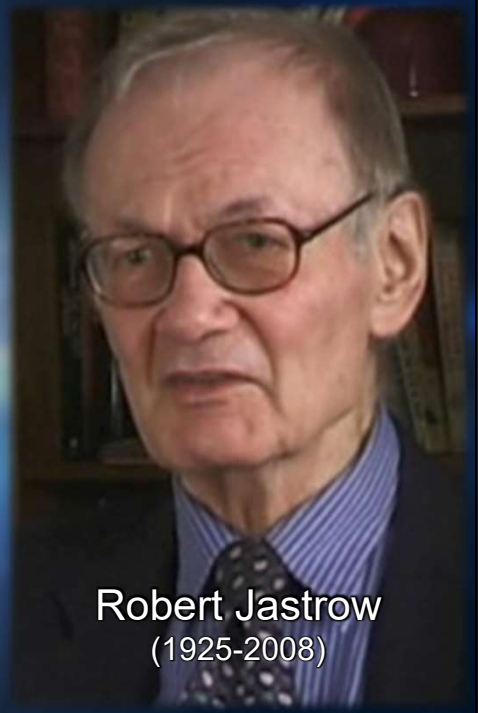


Steven Weinberg
(1933-2021)

"In the beginning there was an explosion. Not an explosion like those familiar on Earth . . . but an explosion which occurred simultaneously everywhere, filling all space from the beginning"

[Steven Weinberg, *The First Three Minutes* (Fontana Paperbacks, 14) available at <http://www.slobodni-univerzitet-srbije.org/files/weinberg-steven-the-first-three-minutes.pdf>, accessed 09/24/18]

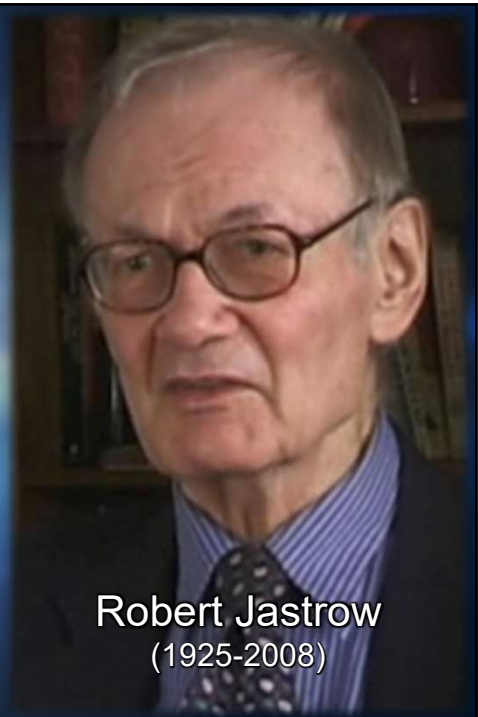
"Recent developments in astronomy have implications that may go beyond their contribution to science itself."




Robert Jastrow
(1925-2008)

"In a nutshell, astronomers, studying the universe through their telescopes, have been forced to the conclusion that the world began suddenly, in a moment of creation, as the product of unknown forces."

[Robert Jastrow "Message from Professor Robert Jastrow, "
<http://www.leaderu.com/truth/1truth18b.html>, accessed 09/20/21]



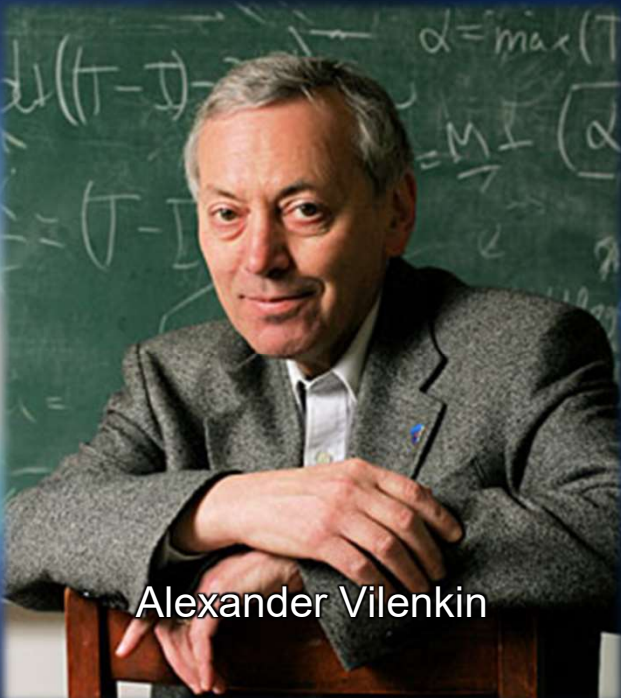
Robert Jastrow
(1925-2008)



"Almost everyone now believes that the universe, and time itself, had a beginning at the Big Bang."

[Steven W. Hawking and Roger Penrose, *The Nature of Space and Time* (Princeton, N.J.: Princeton University Press, 1996), <http://www.crowhealingnetwork.net/pdf/Stephen%20Hawking%20-%20The%20Nature%20Of%20Space%20And%20Time.pdf>, accessed 09/20/21]

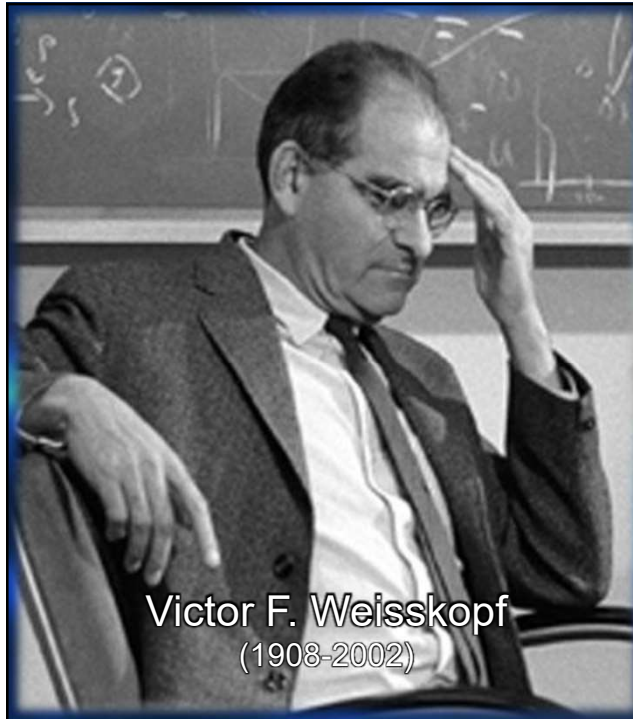
Stephen Hawking
(1942-2018)



"With the proof now in place, cosmologists can no longer hide behind the possibility of a past-eternal universe. There is no escape, they have to face the problem of a cosmic beginning."

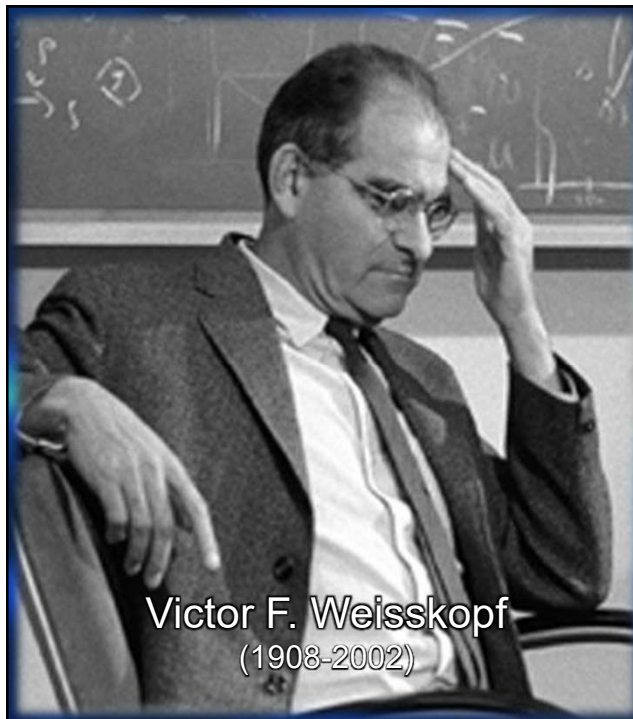
[Alexander Vilenkin, *Many Worlds in One: The Search for Other Universes* (New York: Hill and Wang, 2006), p.176, cited at <http://www.reasonablefaith.org/site/News2?page=NewsArticle&id=6115> downloaded April 24, 2010]

Alexander Vilenkin



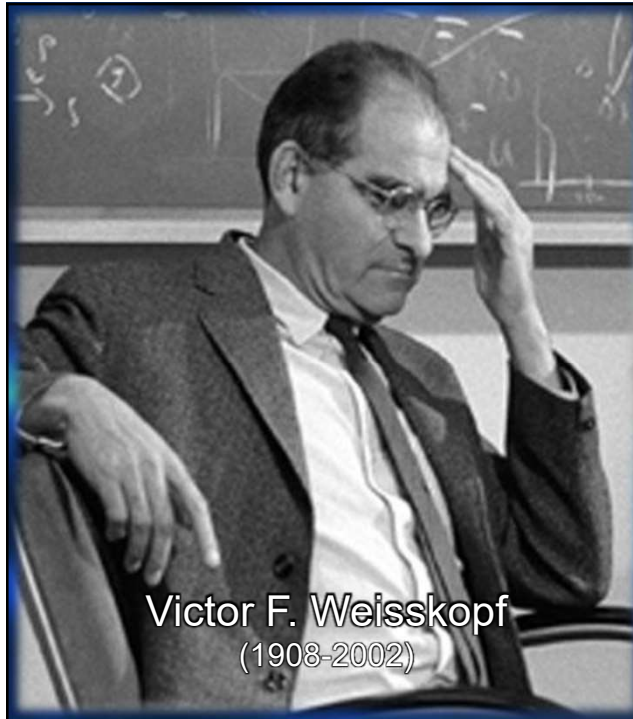
Victor F. Weisskopf
(1908-2002)

"The question of the origin of the universe is one of the most exciting topics for a scientist to deal with. It reaches far beyond its purely scientific significance, since it is related to human existence, to mythology, and to religion. . . ."



Victor F. Weisskopf
(1908-2002)

"It hits us in the heart, as it were. The origin of the universe can be talked about not only in scientific terms, but also in poetic and spiritual language, an approach that is complementary to the scientific one."



Victor F. Weisskopf
(1908-2002)

"Indeed, the Judeo-Christian tradition describes the beginning of the world in a way that is surprisingly similar to the scientific model."

[Victor F. Weisskopf, "The Origin of the Universe," *American Scientist*, Sep.-Oct. 1983, 71, pp. 473-480, reprinted in *The World of Physics: A Small Library of the Literature of Physics from Antiquity to the Present*, 3 vols. (New York: Simon and Schuster, 1987), vol. 3, pp. 300, 317]



Christopher Isham

"Perhaps the best argument in favor of the thesis that the Big Bang supports theism is the obvious unease with which it is greeted by some atheist physicists."



Christopher Isham

"At times this has led to scientific ideas, such as continuous creation or an oscillating universe, being advanced with a tenacity which so exceeds their intrinsic worth



Christopher Isham

"that one can only suspect the operation of psychological forces lying very much deeper than the usual academic desire for a theorist to support his or her theory."

[C. J. Isham, "Creation of the Universe as a Quantum Process," in R. J. Russell, W. R. Stoeger, and G. V. Coyne, eds., *Physics, Philosophy, and Theology* (Vatican City State: Vatican Observatory, 1988), 378, quoted in David Berlinski, *The Devils Delusion: Atheism and Its Scientific Pretensions* (New York: Crown Forum, 2008), 81]

The Expanding Universe

∞ Definition ∞

Scientists maintain that every object in the universe is moving away from every other object such that even space itself is expanding.

∞ Significance ∞

The universe could not have been expanding from eternity otherwise it would be infinitely dispersed (which it is not).

∞ Significance ∞

Therefore, the universe began to exist a finite time ago.

Question

What does it mean when they say the universe is expanding?

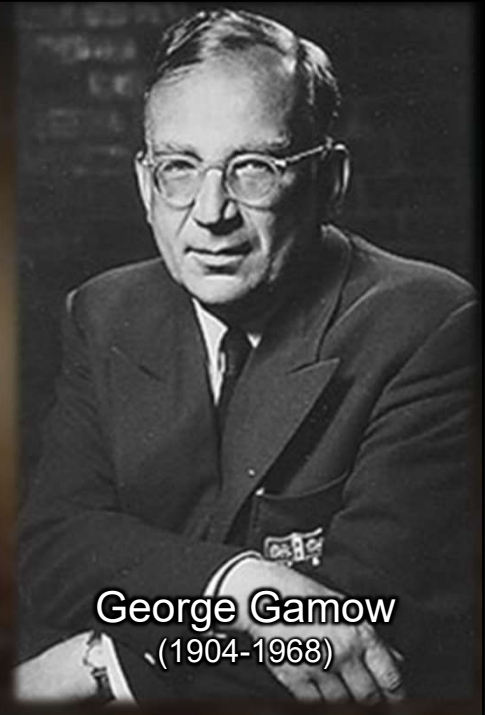
Answer

When scientists talk about the expanding universe, they mean that it has been growing ever since its beginning with the Big Bang.

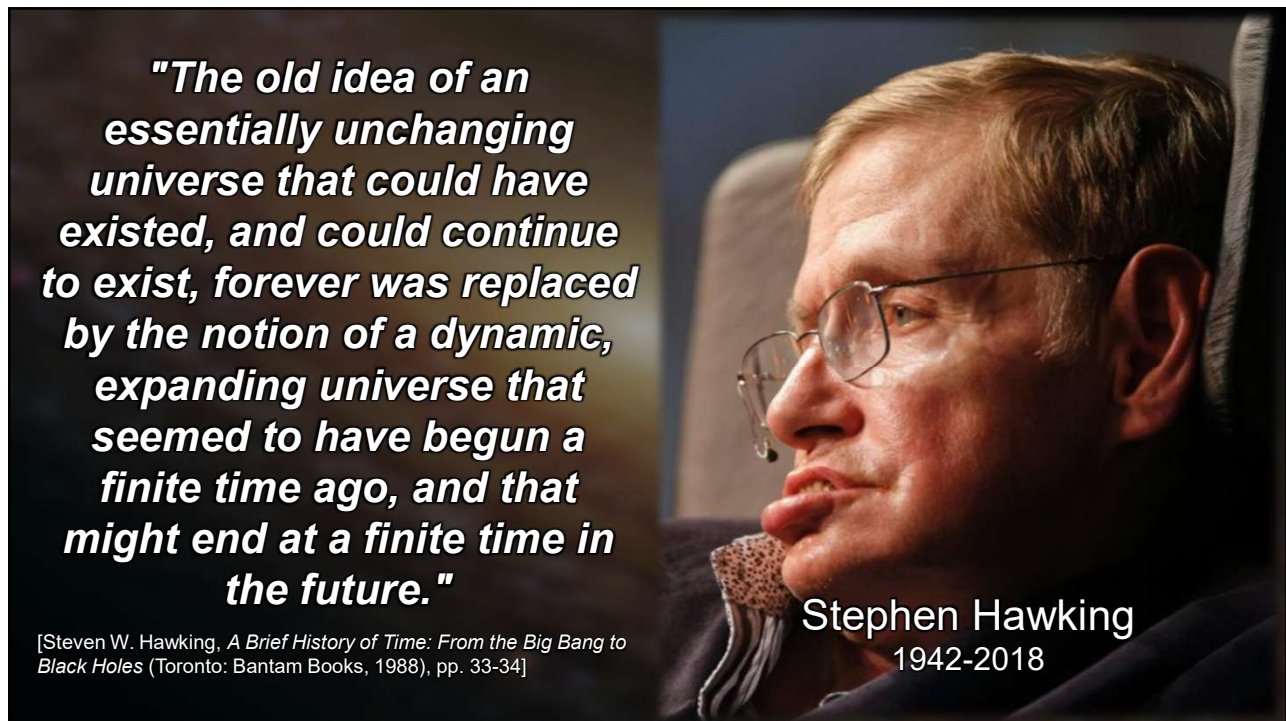
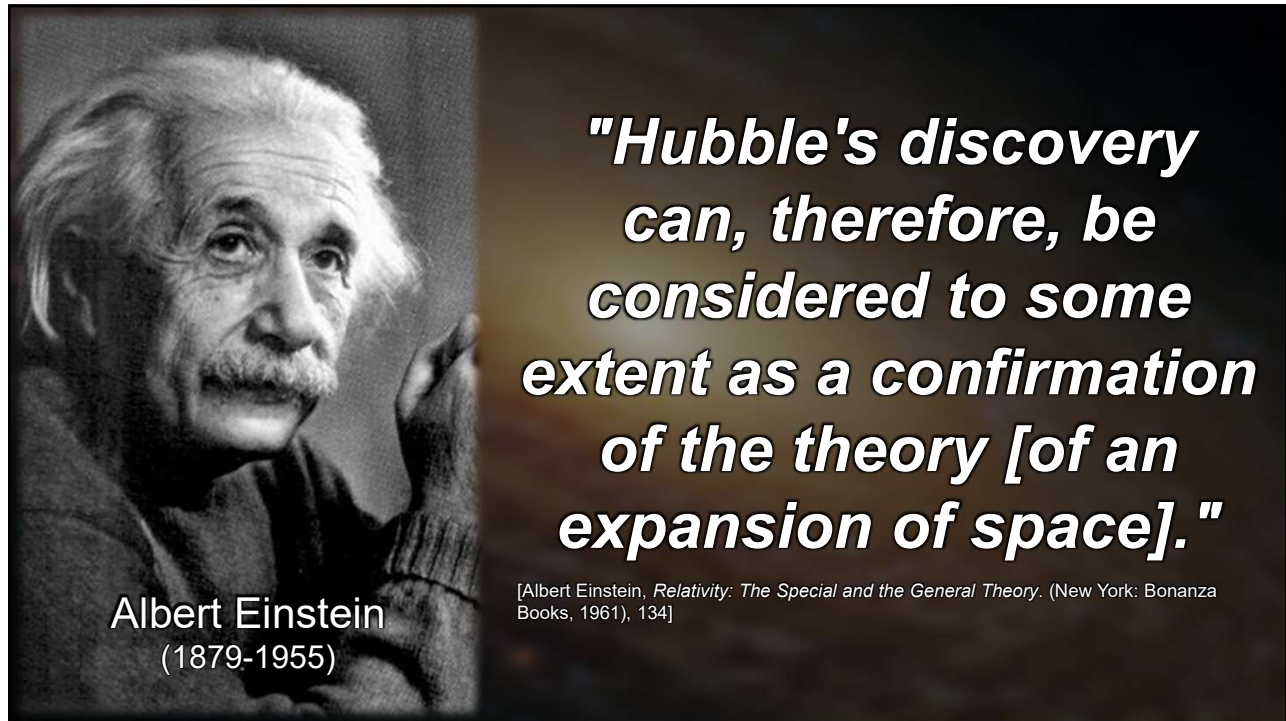
<https://www.loc.gov/everyday-mysteries/item/what-does-it-mean-when-they-say-the-universe-is-expanding/>, accessed 09/20/21

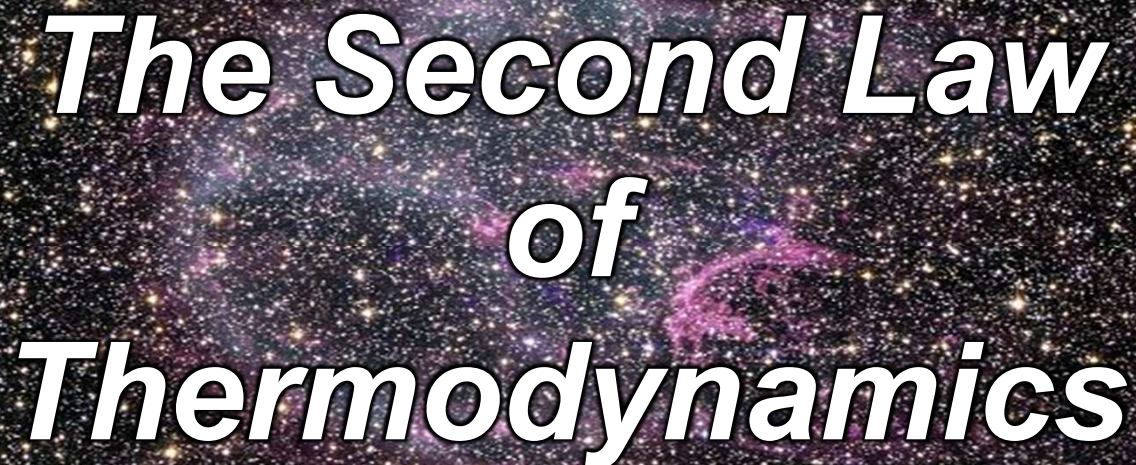
"The entire space of the universe, populated by billions of galaxies, is in a state of rapid expansion, with all its members flying away from one another at high speed."

[George Gamow, "Broadening Horizons," in *The World of Physics: A Small Library of the Literature of Physics from Antiquity to the Present*, 3. vols. (New York: Simon and Schuster, 1987), vol. 3, 259]



George Gamow
(1904-1968)





The Second Law of Thermodynamics

∞ Definition ∞

All isolated systems will tend toward a state of maximum disorder (entropy).

∞ Definition ∞

In an isolated system the amount of energy available to do work decreases and becomes uniform.

∞ Definition ∞

This amounts to saying that the universe is "running down."

∞ Significance ∞

The universe could not have been running down from eternity otherwise it would have run down by now (which it has not).

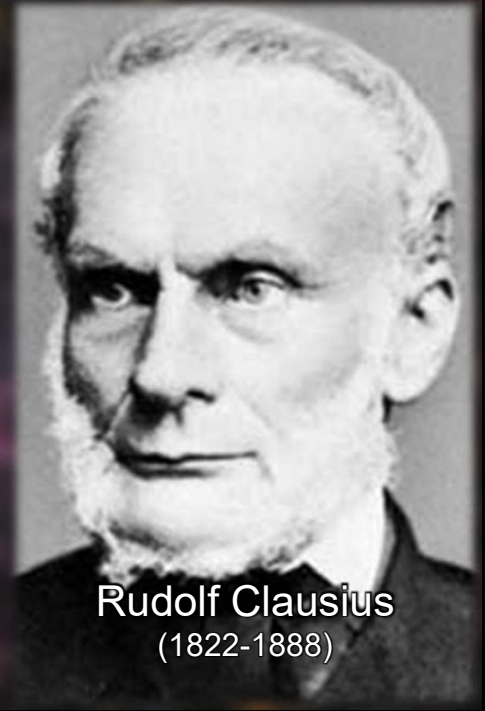
∞ Significance ∞

Therefore, the universe began to exist a finite time ago.

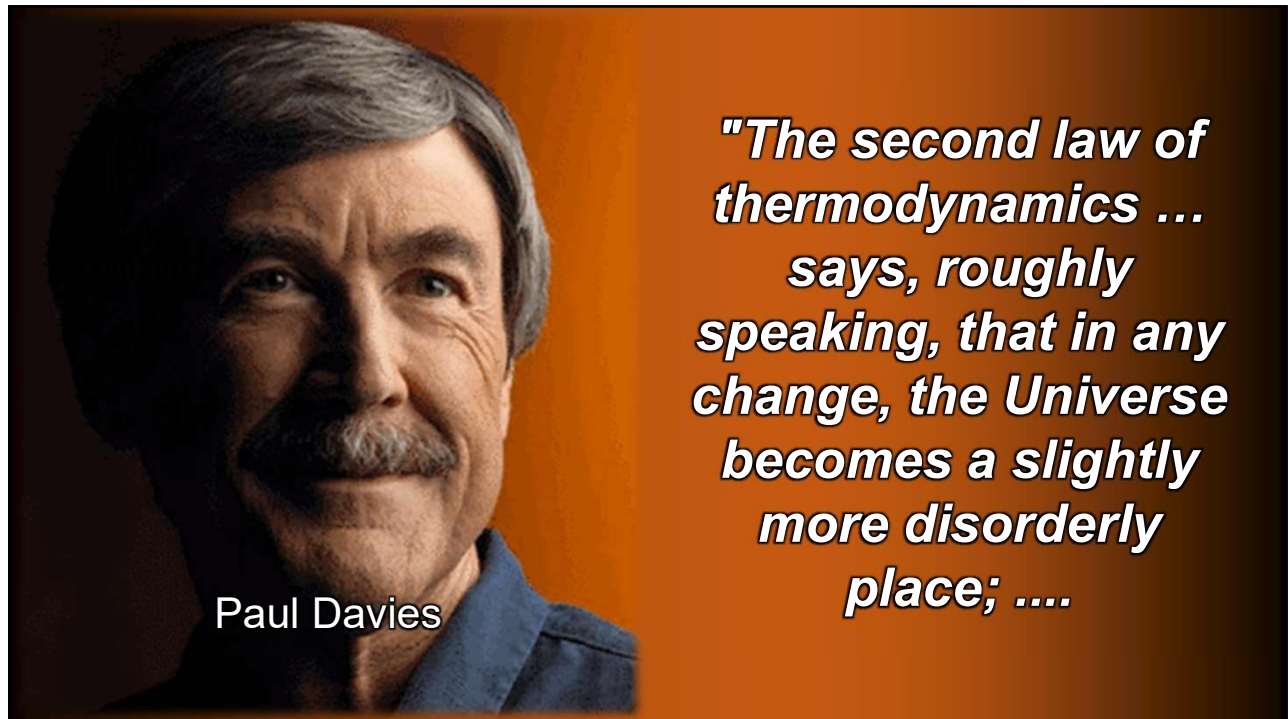
"We can express the fundamental laws of the universe which correspond to the two fundamental laws of the mechanical theory of heat in the following simple form:

- 1. The energy of the universe is constant.***
- 2. The entropy of the universe tends toward a maximum."***

[Rudolf Clausius, "The Second Law of Thermodynamics," in *The World of Physics: A Small Library of the Literature of Physics from Antiquity to the Present*, 3. vols. (New York: Simon and Schuster, 1987), vol. 1, p. 734]

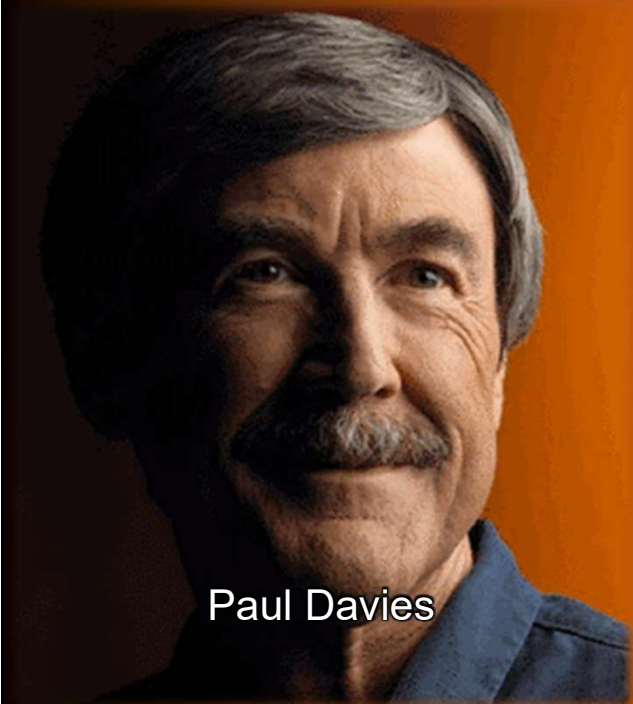


Rudolf Clausius
(1822-1888)



Paul Davies


"The second law of thermodynamics ... says, roughly speaking, that in any change, the Universe becomes a slightly more disorderly place;"



"This natural tendency towards disintegration and chaos is evident all around us: people grow old, ... stars burn out, clocks run down."

[Paul Davies, "Chance or Choice: Is the Universe an Accident?" *New Scientist* 80 (1978): 506, as cited in W. R. Bird *The Origin of Species Revisited: Theories of Evolution and of Abrupt Appearance*, 2 vols. (Nashville: Regency, 1991): vol. I, p. 397]

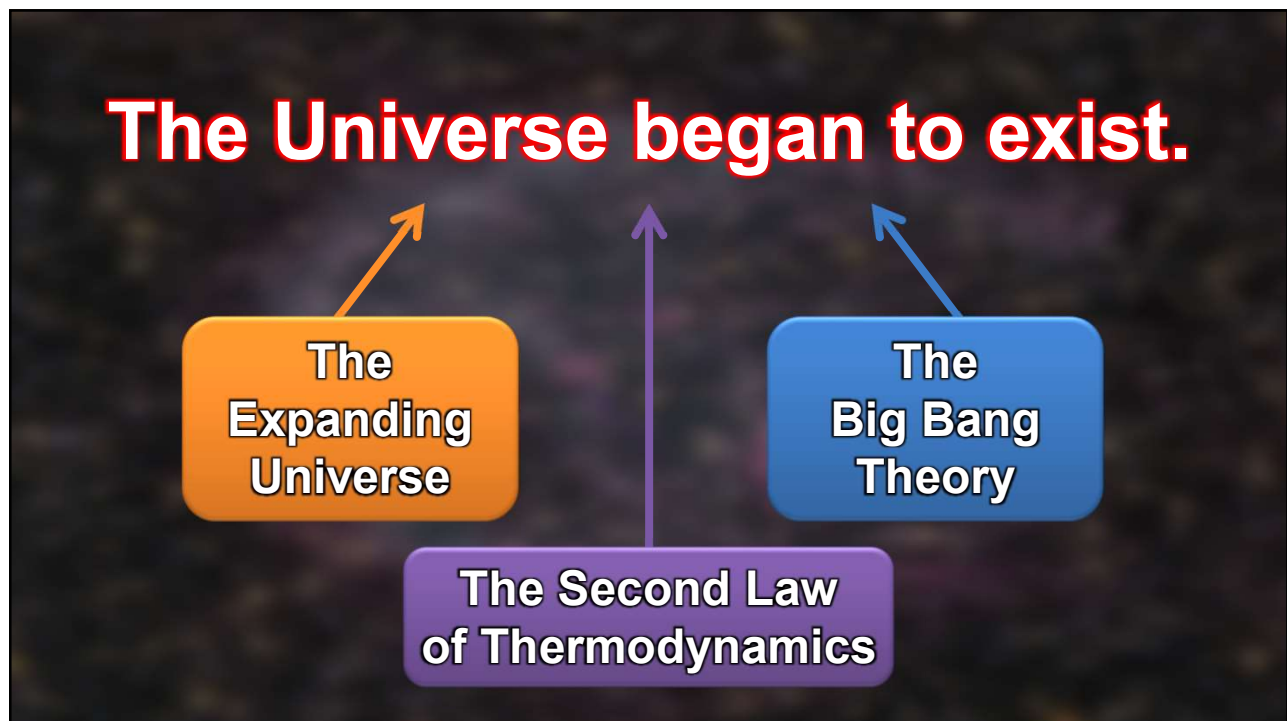
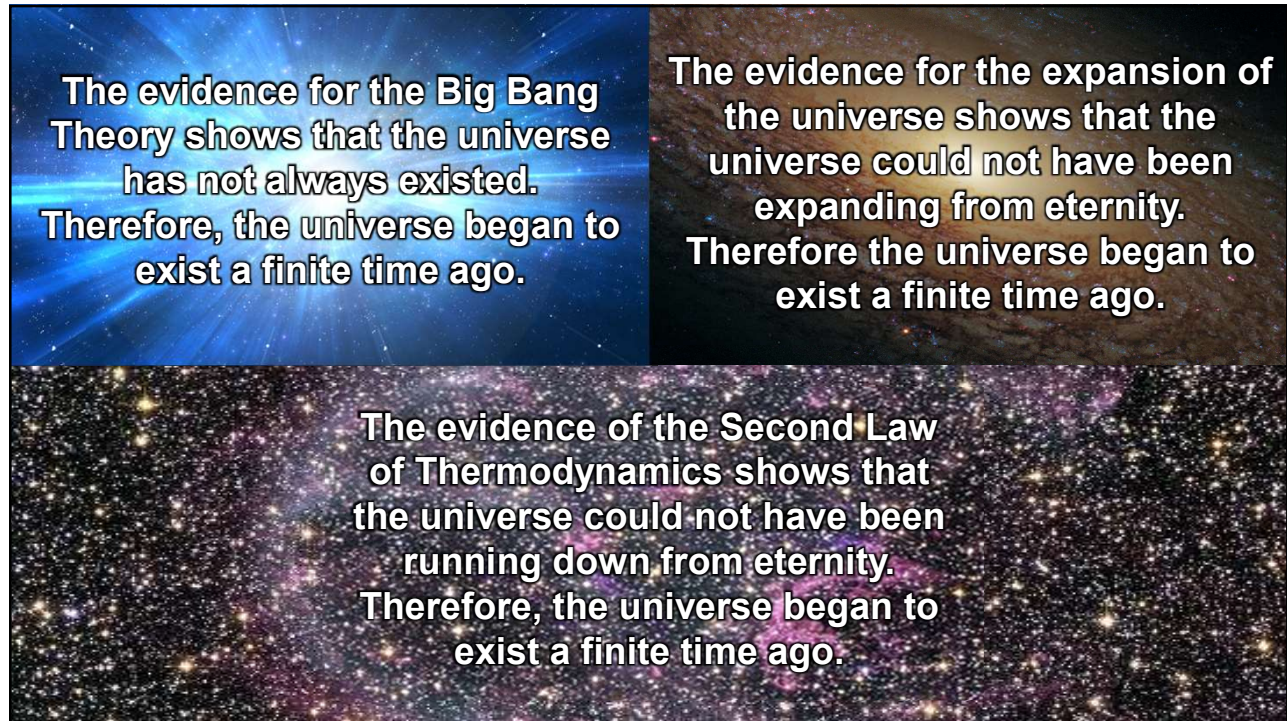
Paul Davies

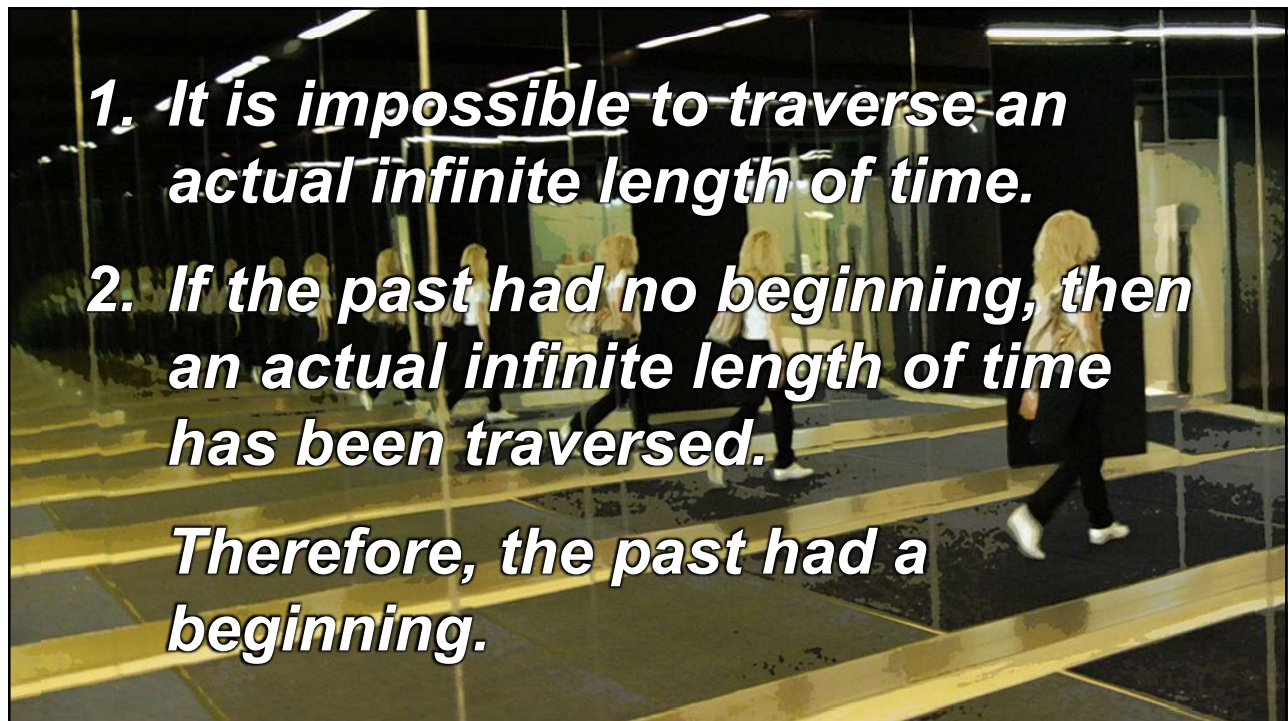
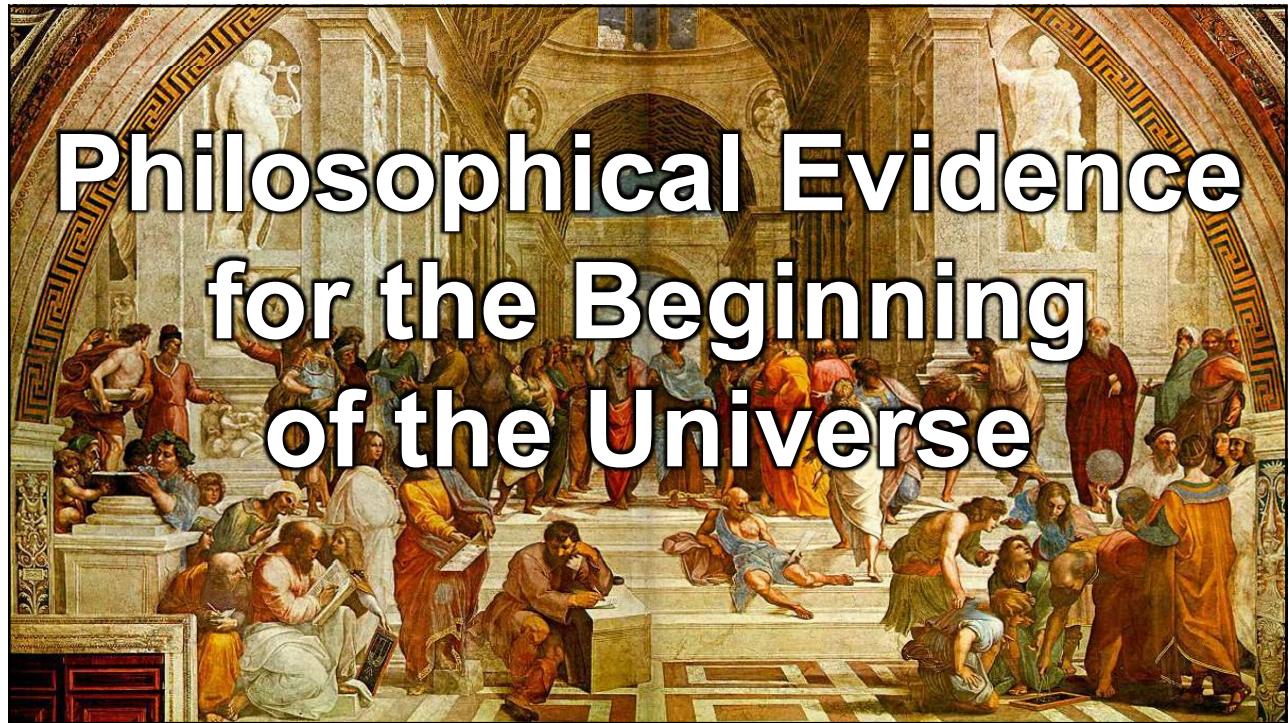


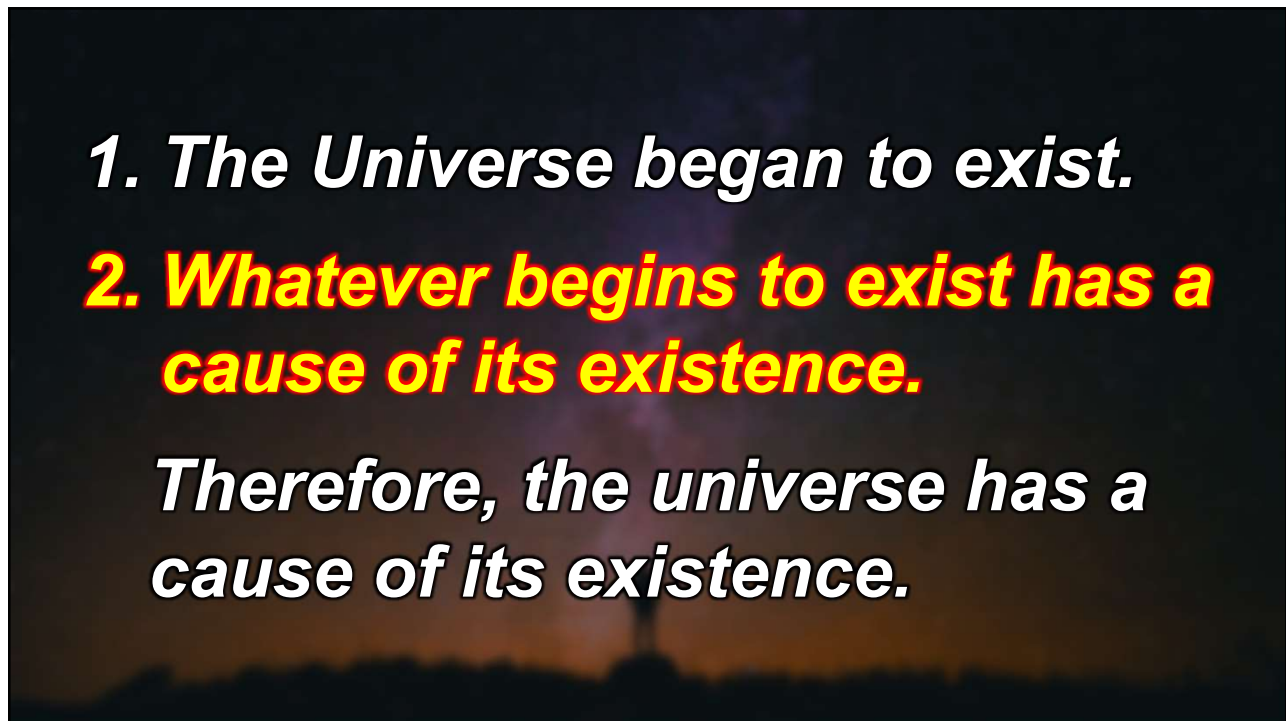
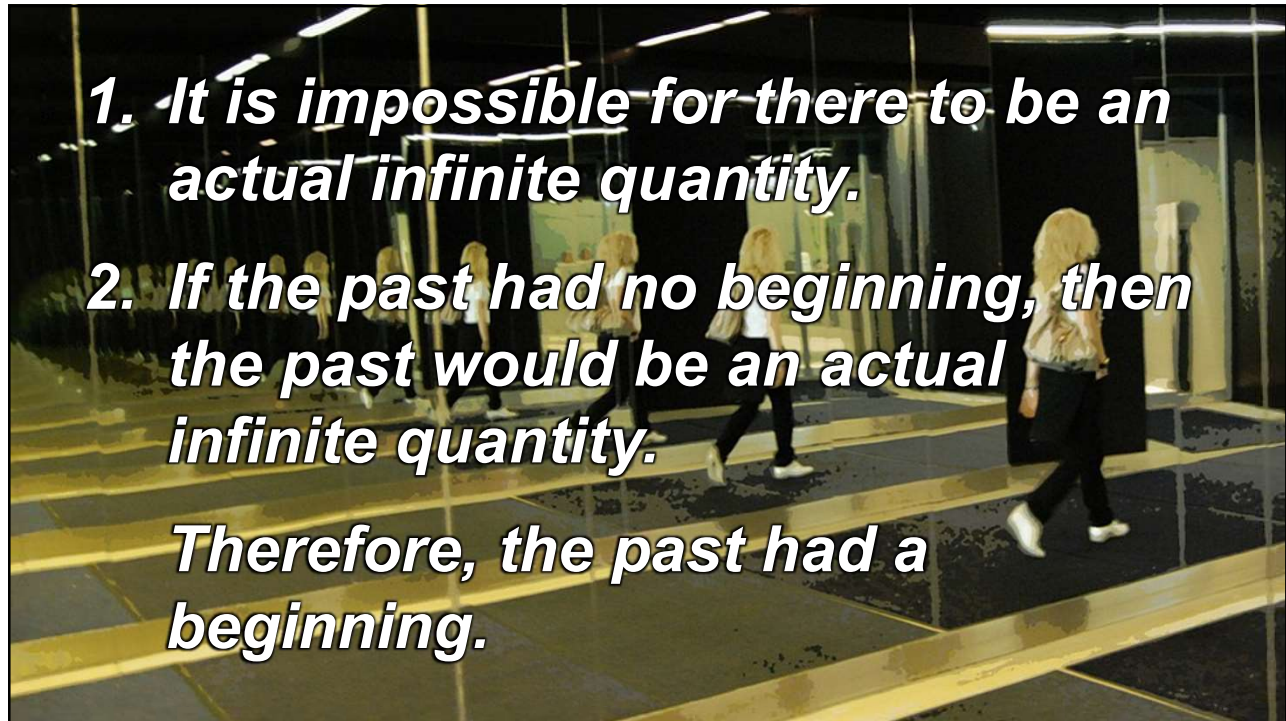
"The laws of thermodynamics ... [point] to one conclusion; ... that the Universe had a beginning."

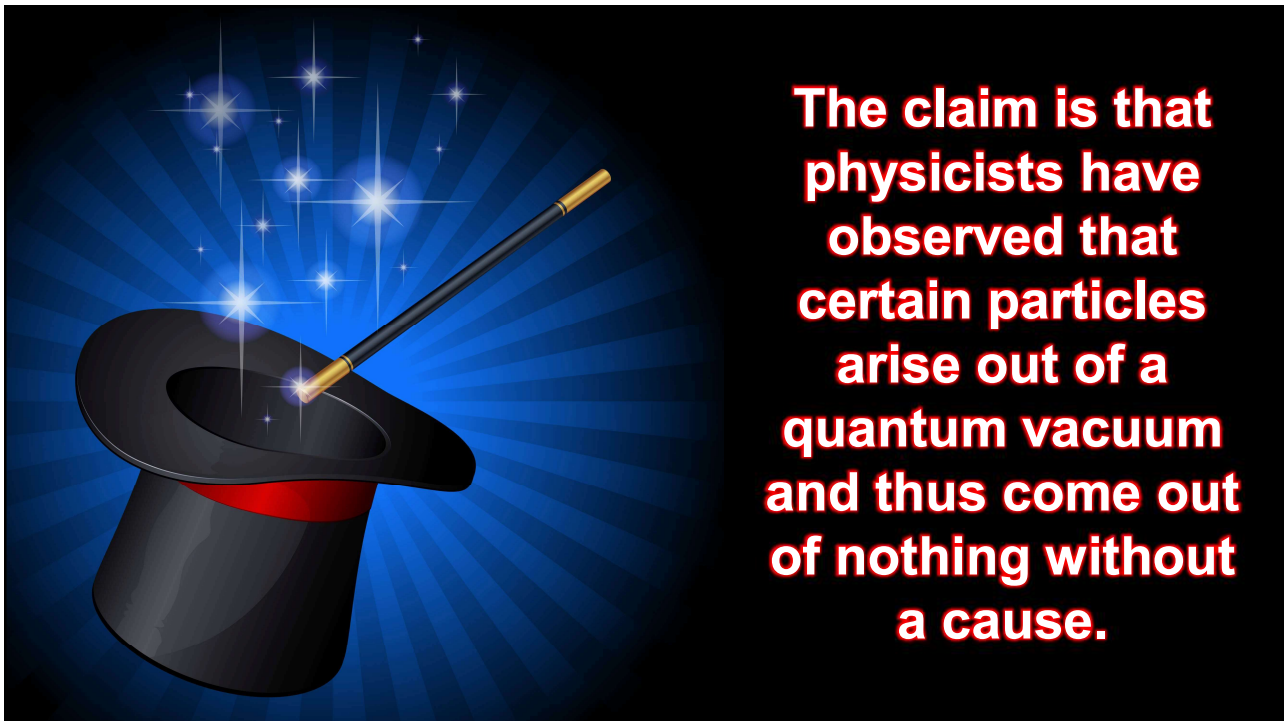
[Robert Jastrow, *God and the Astronomers* (New York: W. W. Norton & Company, Inc., 1978), 111]

Robert Jastrow
(1925-2008)

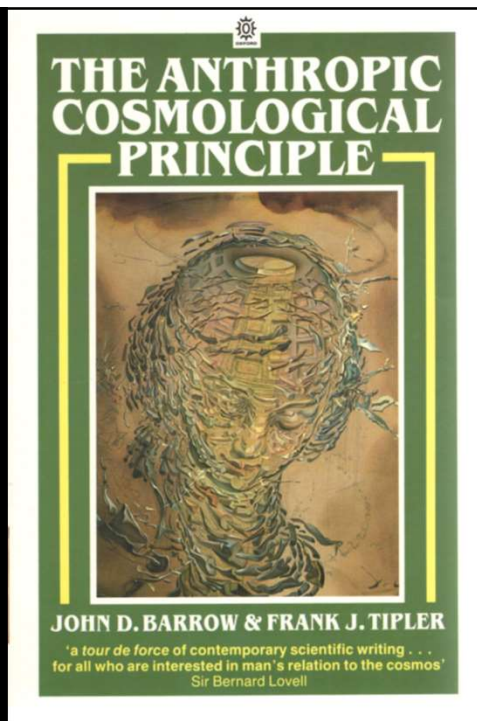










The claim is that physicists have observed that certain particles arise out of a quantum vacuum and thus come out of nothing without a cause.





"The modern picture of the quantum vacuum differs radically from the classical and everyday meaning of a vacuum—nothing. ... The quantum vacuum ... states ... are defined simply as local, or global, energy minima. ..."

John Barrow

Frank Tipler

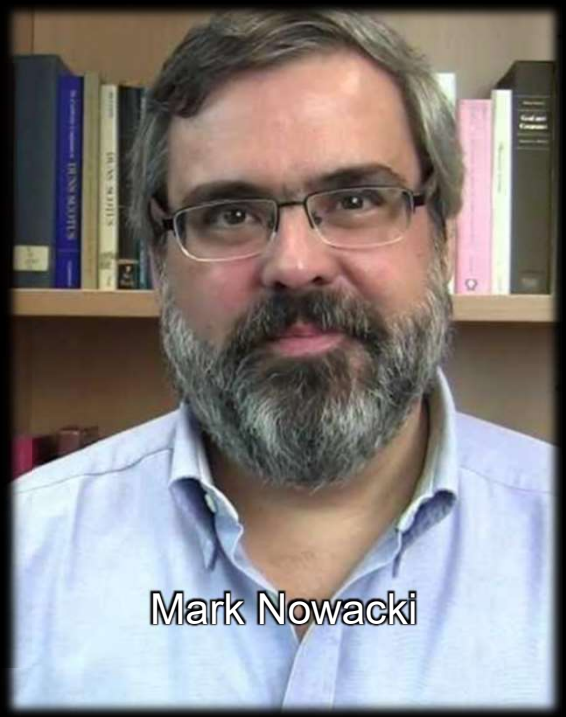
"The quantum mechanical vacuum is not truly 'nothing'; rather, the vacuum state has a rich structure which resides in a previously existing substratum."

[John D. Barrow and Frank J. Tipler, *The Anthropic Cosmological Principle* (Oxford: Oxford University Press, 1986), 440, 441]

John Barrow

Frank Tipler

"... the quantum vacuum is very different from the void of Newton: the quantum vacuum is a soupy morass of energy and particles in constant flux; and virtual particles derive their existence from the surrounding quantum gumbo."



"So, whatever the full causal account of virtual particles might be, it is clear that their arising is not a case of something coming to be out of nothing."

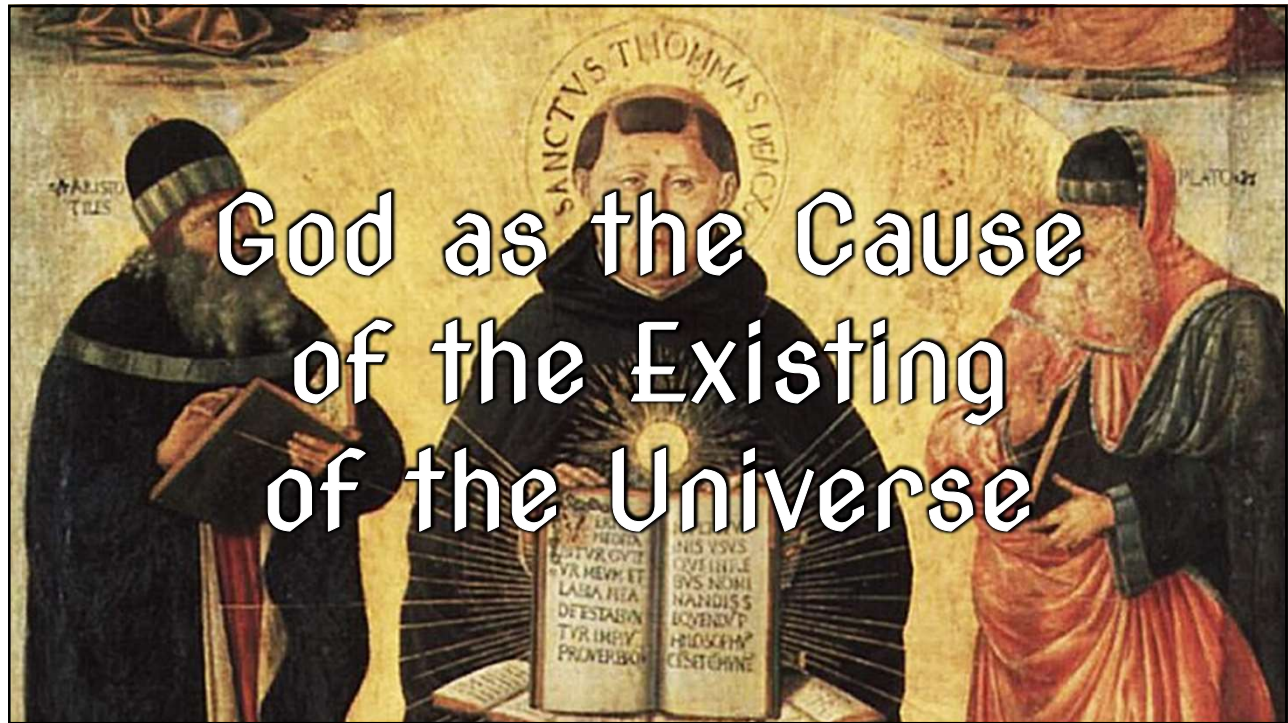
Mark R. Nowacki, "Whatever Comes to Be Has a Cause of Its Coming to Be: A Thomistic Defense of the Principle of Sufficient Reason" *The Thomist* 62 (1998): 291-302.



- 1. The Universe began to exist.***
- 2. Whatever begins to exist has a cause of its existence.***

Therefore, the universe has a cause of its existence.





God as the Cause of the Existing of the Universe