

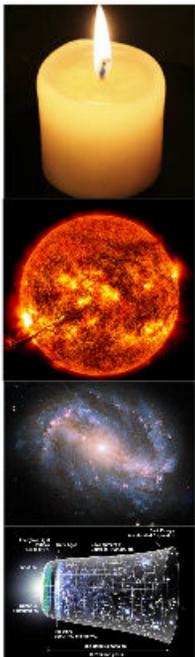
Reason 1: The Cosmological Argument



How did we get here? And where are we going? These questions have been the subject of thousands of books from science and religion. Wars have been fought over these questions. Is it even possible to find an answer to them? Even though there is plenty of disagreement, there are also points of agreement. After all we know we exist!

To answer these questions, we need to start from what we know, the *first principles*, that which does not need to be proven. We know *we exist*, and we are *aware of our existence*. Because we can see children being born and ourselves getting older, it is logical to conclude there is a beginning, “A Cause”, to our existence. There must have

been a first human. We can also observe the same in the animal world. Animals are born and die; they too must have a starting point of existence. The necessity for “Cause” leads us to another “First Principle” the need for cause;



What was the cause of the car you drive? _____

What was the cause of your house? _____

What was the cause of the company you work for? _____

What was the cause of the world? _____

What was the cause of the Sun? _____

What was the cause of the Universe? _____

The principle of causality: Only being can cause being. Nothing does not exist, and only what exists can cause existence, since the concept of “Cause” implies an existing thing that has the power to effect another. From absolutely nothing comes absolutely nothing.¹

Everything that comes to be must have a cause. If you take a candle and light it, it will burn for a limited amount of time until its potential energy is burned. The heat, the candle emits is similar to the heat the sun emits. The fact that the candle’s energy source is finite demonstrates the need for cause. There was a cause for the candle and there will be an end to the candle. The heat emitted from the Sun is contingent (dependent) on the finite (limited) energy contained in the Sun.

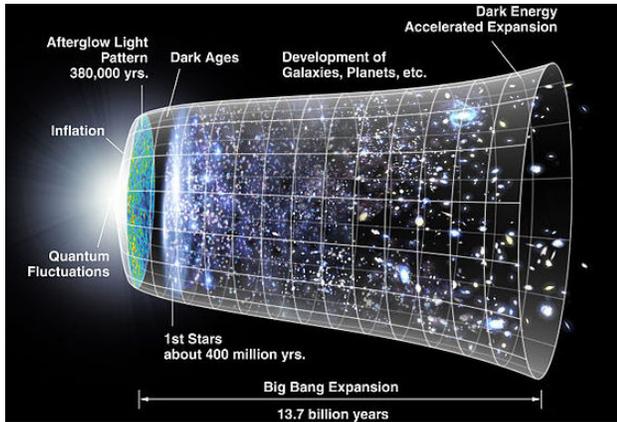
This demonstrates the Sun is also finite, there was, a cause, for the Sun to exist. This principle is the same throughout the whole universe. The farthest galaxies emitting finite energy have a point; they were turned on, “A cause” for their existence.



Sir Frances Bacon

¹ Geisler, Norman, Baker Encyclopedia of Christian Apologetics, First principles, pg. 251, Baker, 1999

Sir Francis Bacon (1561-1626) the father of modern science said, "True knowledge is knowledge by causes."² If the Universe is finite and had a beginning, then it would need to have a cause—if causality is a valid principle. A flaw in the causality principle would be equivalent to having a fatal crack in the foundation of science.³ David Hume, (1711-1776) the skeptic admitted, it is absurd to deny the principle of cause.



"I never asserted so absurd a proposition as that anything might arise without a cause."⁴

What is the Cause of the Universe?

For a finite universe to exist there needs to be a cause. This question is not a religious question, but a question about reality and truth. Based on the observable universe we know there was a time when the universe as we know it did not exist. What brought the universe into existence? Did the universe always exist? Did matter, space and time one day explode into existence? Did matter always exist? These questions have pondered scientist, philosopher and theologian.

For those who are seeking evidence for the existence of God. The creation of the universe is one of the most powerful arguments. This is the Cosmological argument for the existence of God.

The Cosmological Argument

In the cosmological discussion the first question to be answered is, "Did the universe have a beginning?" What are the options?

- If the universe had a beginning, then it needs a first cause.
- Did the universe self-cause itself? In order to self-cause itself it would have to not exist (to cause existence) and exist (in order to be caused) at the same time. Therefore, this option is ruled out because it violates the "Law of non-contradiction".
- Did the universe always exist? As Carl Sagan believes, ("The Cosmos is all that is or ever was or ever will be"). Naturalist believe the universe either;
 - A. Came from nothing by nothing
 - B. Always existed.

Option A. is impossible, it not possible for nothing to produce something. So the option left is to accept that the universe always existed, option b.

Laws that affect the Universe:

1. **The First Law (Law of Energy Conservation)** states that energy can neither be created nor destroyed.
2. **The Second Law (Law of Energy Decay)** states that in a closed system, the amount of usable energy in the universe is decreasing." Entropy is the level of disorder in a system. A highly ordered system is in a low state of entropy. A disordered system is in a higher state of entropy.

Is the Cosmos running out of usable energy?

² Francis Bacon, *Novum Organum* (New York:Bobbs-Merrill, 1960 ed) pg. 121

³ Geisler, *Unshakable Foundations*, Bethany House, 2001, pg. 74

⁴ David Hume, *The Letters of David Hume*, ed J.Y.T. Greig (Oxford:Clarendon,1932), 1:187

Cosmologists treat the universe as a gigantic heat engine with no external source of energy input. This means that the total amount of usable energy in the universe is fixed and is decreasing as time passes (nuclear fusion is occurring throughout the universe).⁵

This means that at some point the universe was at highly ordered state. According to the 2nd Law, the universe is expected to run out of usable energy.

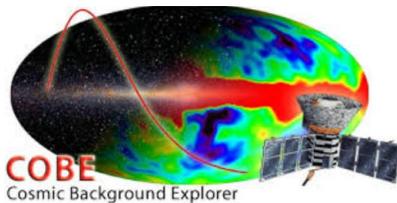
Roy Peacock, an expert in thermodynamics, wrote "A Brief History of Eternity" to show how discoveries in the universe along with the laws of thermodynamics show the universe is finite. He writes,

The Second Law of thermodynamics is probably the most powerful piece of legislation in the physical world. It ultimately describes every process we have ever discovered: it is the final Court of Appeal in any dispute relating to action and procedures, whether they are naturally generated or man inspired. It draws the conclusion that in our universe there is an overall reduction in order, a loss of available energy that is measured as an increase in entropy. So the available stock of order is being exhausted. Akin to the dying battery of a flashlight, useful energy is being dissipated into entropy after which none remains for use...For us to live in a universe in which the Second Law of thermodynamics holds, then, it must be a universe that has a starting point, a creation.⁶

Is there Evidence of a Finite Universe?

What are the implications of a finite universe? The logic works this way,

1. Everything that had a beginning had a cause
2. The universe had a beginning
3. Therefore the Universe had a cause

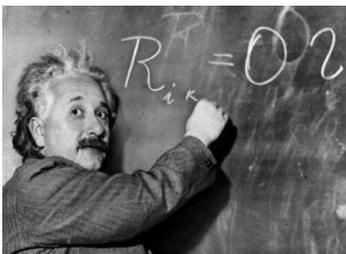


The Radiation Echo:

Arno Penzias and Robert Wilson, two physicists at Bell Laboratories discovered the earth is bathed in a faint glow of radiation. They were awarded the Nobel Prize in 1978. Their data found this radiation was left over from the initial explosion of the beginning of the universe, commonly referred to as the Big Bang.

In November of 1989, a satellite named COBE; (Cosmic Background Explorer) was successfully launched into space with instruments aboard capable of measuring the radiation echo left behind from the Big Bang. In April 1992, the final summation of COBE's data was made public and hailed as unprecedented. Stephen Hawking, author of "A Brief History of Time", called the discovery, "The most important discovery of the century, if not all time."⁷

This affirms the universe had a beginning.



The Expanding Universe

Albert Einstein's General Theory of Relativity predicted that the universe had a beginning and is expanding in all directions. If we reversed the theory, there would be a starting point to the universe. This disturbed Einstein; his own theory demanded a starting point for the universe.

Robert Jastrow, founder of NASA's Goddard Institute for Space Studies and served for twenty years as its director wrote about Einstein's reaction in his realization of a finite universe:

⁵ Geisler, Unshakable Foundations, Bethany House, 2001, Pg. 93

⁶ Roy Peacock, A Brief History of Eternity, Crossway, 1990, Pg. 106

⁷ Michael D. Lemonick, "Echoes of the Big Bang," Time, May 4, 1992

Around this time, signs of irritation began to appear among the scientists. Einstein was the first to complain. He was disturbed by the idea of a Universe that blows up, because it implied that the world had a beginning. In a letter to de Sitter—discovered in a box of old records in Leiden some years ago—Einstein wrote, “This circumstance (of the expanding Universe irritates me,” and in another letter about the expanding Universe, he said: To admit such possibilities seems senseless.”...I suppose that beginning in time annoyed Einstein because of its theological implications.⁸

Based on Einstein’s theory of general relativity, the universe is finite and expanding in all directions. Since 1919 this theory has been verified numerous experiments. Therefore, we can conclude the universe had a beginning. It is finite.

What Caused the Universe?

If the universe had beginning then it must have a cause. The Big Bang does not only involve the start of matter but also space and time. Matter, space and time are interdependent. The explosion of the universe was a highly orchestrated cosmic explosion with just the right mixture of gravity and explosive energy. John Polkinghorne, a theoretical physicist, and a colleague of Stephen Hawking, writes:

In the early expansion of the universe, there has to be a close balance between the expansive energy (driving things apart) and the force of gravity (pulling things together). If expansion dominated then matter would fly apart too rapidly for condensation into galaxies and stars to take place...(The possibility of our existence) requires a balance between the effects of expansion and contraction which at a very early epoch in the universe’s history (The Planck time) has to differ from equality by not more than 1 in 10^{60} . The numerate (mathematical) will marvel at such a degree of accuracy. For the non-numerate, I will borrow an illustration from Paul Davies of what that accuracy means. He points out that it is the same as aiming at a target an inch wide on the other side of the observable universe, twenty thousand million light years away, and hitting the mark.⁹

“If the existence of the cosmos as a whole needs to be explained, and if it cannot be explained by natural causes, Then we must look to the existence and action of a supernatural cause for its explanation”¹⁰

Since it is impossible for nothing to produce something, something must have always existed as the “First Cause” of the universe. Furthermore, this First Cause must be eternal (outside of time, since time is part of the finite universe) and powerful enough to account for the origin and existence of the universe. This Cause must be knowledgeable, powerful and eternal.

How does Science respond to these finds?

An agnostic scientist Robert Jastrow founder of the Goddard Institute of Space Studies writes about the implications of these discoveries in science.

Theologians generally are delighted with the proof that the Universe had a beginning, but astronomers are curiously upset. Their reactions provide an interesting demonstration of the response of the scientific mind---supposedly a very objective mind---when evidence uncovered by science itself leads to a conflict with the articles of faith in our profession. It turns out that the scientist behaves the way the rest of us do when our beliefs are in conflict with the evidence. We become irritated, we pretend the conflict does not exist, or we paper it over with meaningless phrases.¹¹

⁸ Robert Jastrow, *God and the Astronomers* (New York: W.W. Norton & Co. 1992)

⁹ John Polkinghorne, *One World* (London: SPCK, 1986), 57

¹⁰ Mortimer J. Adler, *How to Think about God* (New York: Macmillan, 1980) 131

¹¹ Norman Geisler & Frank Turek, *I Don’t Have Enough Faith to be an Atheist*, Crossway, 2004 pg.88