

Intelligent Design vs. Evolution

Defending God's Creation

Genesis 1:1-3

- 1 In the beginning, God created the heavens and the earth.
- 2 The earth was without form and void, and darkness was over the face of the deep. And the Spirit of God was hovering over the face of the waters.
- 3 And God said, "Let there be light," and there was light.

Light: The Beginning

- Perhaps the best argument ... that the Big Bang supports theism is the obvious unease with which it is greeted by some atheist physicists. At times this has led to scientific ideas ... being advanced with a tenacity which so exceeds their intrinsic worth that one can only suspect the operation of psychological forces lying very much deeper than the usual academic desire of a theorist to support his or her theory.
 - Astrophysicist C. J. Isham

Light: The beginning

- “In the beginning there was an explosion. ... The universe was filled with light.”
– Nobel Prize-winning physicist Steven Weinberg
- “It seems impossible that you could get something from nothing, but the fact that once there was nothing and now there is a universe is evident proof that you can.” – Bill Bryson

Kalam Cosmological Argument

- The argument can be stated as follows
 1. Whatever begins to exist has a cause
 2. The universe began to exist
 3. Therefore, the universe has a cause
- Historically, the second premise was the point that was under the most contention.

Kalam Cosmological Argument

#1 Everything that begins to exist has a cause

- This concept is continually verified and never falsified.
- How many people are concerned that a horse will “pop” into existence in their house and eat their couch?
- At least there is matter, energy, time and space in your house. Before the beginning there was NOTHING!

Kalam Cosmological Argument

- Objection to premise #1:
 - Quantum Vacuum Theory
 - Proposed by Edward Tryon as explanation for beginning of universe
 - Theoretically could produce subatomic particles
 - Do these particles even exist?
 - Not getting something from nothing
 - Where did the vacuum/energy come from?
 - Where did the precise laws of physics which would govern this vacuum come from?

Kalam Cosmological Argument

- “Nobody has defended such an absurd position (that premise #1 is false) which, again, makes me inclined to think this is just a corner they’re backed into by the evidence for the beginning of the universe.”
- William Lane Craig

Kalam Cosmological Argument

#2 The universe had a beginning

- Mathematics – actual infinite is absurd
 - Do not confuse with potential infinite
- Infinite past – yields an infinite number of past events
- Infinite numbers and addition and subtraction ($\infty - \infty = 0, 3, \text{ or } \infty$)
- Impossibility of traversing the infinite – cannot form infinite by successive addition
- Does this rule out God? No, because God exists outside of time

Kalam Cosmological Argument

#2 The universe had a beginning

- Science
- 1917 Einstein added a “fudge factor” to his equations of General Relativity to make the universe static.
- 1929 Edwin Hubble measures the “red shift” and concludes the universe is expanding
- Reverse the expansion and the universe has a beginning as a point – a “singularity”

Kalam Cosmological Argument

- 1965 – “background radiation” is measured and is 3.7K as predicted by the Big Bang theory
- Origin of the light elements needs a more powerful furnace than stars so could only come from the furnace of the Big Bang

Kalam Cosmological Argument

- “The universe began from a state of infinite density. . . . Space and time were created in that event and so was all the matter in the universe. It is not meaningful to ask what happened before the Big Bang; it is like asking what is north of the North Pole.”
 - Description from four astronomers in Scientific American, 1976
- Infinite density = Nothing

Kalam Cosmological Argument

- 2nd Law of Thermodynamics
 - In a closed system, entropy is constantly increasing, i.e. things are moving from a state of order to disorder
 - Never been falsified
 - With enough time, we would be in thermodynamic equilibrium, i.e. “heat death”
 - If universe existed for infinite amount of time then we would be in “heat death”
 - Therefore, universe had a beginning!

Kalam Cosmological Argument

- “Almost everyone now believes that the universe, and time itself, had a beginning at the Big Bang.”
 - Stephen Hawking

Kalam Cosmological Argument

- “There is a kind of religion in science; it is the religion of a person who believes there is order and harmony in the Universe. Every event can be explained in a rational way as the product of some previous event; every effect must have its cause; there is no First Cause ... This religious faith of the scientist is violated by the discovery that the world had a beginning under conditions in which the known laws of physics are not valid, and as a product of forces or circumstances we cannot discover. When that happens, the scientist has lost control. If he really examined the implications, he would be traumatized.”
agnostic astronomer Robert Jastrow

Kalam Cosmological Argument

- Alternatives to the Big Bang
- Steady State Theory – the universe is expanding, but matter is continually created to fill the void
 - Violates 1st law of thermodynamics
- Oscillating Model of the Universe (Sagan) - the universe expands and then contracts and cycles indefinitely
 - Density of universe not sufficient for contraction
 - 2nd law – still need a “singularity”
- Hawking’s Mathematical Trick – use imaginary numbers

Kalam Cosmological Argument

- #3 Therefore, the universe has a cause
- 13th Century philosopher Thomas Aquinas always presupposed an eternal universe otherwise the proof would be too easy.
- According to Aquinas' arguments, science has made the existence of God undeniable

Kalam Cosmological Argument

- “Suppose you suddenly hear a loud bang .. and you ask me, ‘What made that bang?’ and I reply, ‘Nothing it just happened.’ You would not accept that.” – Atheist Kai Nelsen
- “... the essential element in the astronomical and biblical accounts of Genesis is the same; the chain of events leading to man commenced suddenly and sharply, at a definite moment in time, in a flash of light and energy.” – agnostic astronomer Robert Jastrow

Kalam Cosmological Argument

- Therefore, God has a cause?
- No! God did not begin to exist and therefore, falls outside of the realm of this argument!

The Cause

- What are the necessary inferences about the cause?
 - “A cause of space and time must be an uncaused, beginningless, timeless, spaceless, immaterial, personal being endowed with freedom of will and enormous power. And that is the core concept of God.”
 - William Lane Craig, in *The Case for a Creator*, pg. 108

Fine-tuning the Universe

- How much fine-tuning of the fundamental laws and parameters of physics are required for life?
- If fine-tuning is required, what are the implications?

Fine-tuning the Universe

- Four fundamental or universal forces in nature. These fundamental forces are:

Gravity

Electromagnetic

Weak nuclear

Strong nuclear

Fine-tuning the Universe

- **Strong nuclear force**
 - 10,000,000,000,000,000,000,000,000,000,000,000,000,000,000
- **Electromagnetic force**
 - 100,000,000,000,000,000,000,000,000,000,000,000,000,000
- **Weak nuclear force**
 - 1,000,000,000,000,000
- **Gravity**
 - 1

Gravity

- Gravity is the force of attraction between two masses. It is $1/10^{40}$ of the magnitude of the strongest fundamental force.
- The magnitude of the force of gravity controls many things.
- The formation of stars and planets is determined by gravity.
- If the force of gravity were less stars and planets would be smaller or they wouldn't form at all.

Electromagnetic Force

- The electromagnetic coupling constant binds electrons to protons in atoms. The characteristics of the orbits of electrons about atoms determines to what degree atoms will bond together to form molecules. If the electromagnetic coupling constant were slightly smaller, no electrons would be held in orbits about nuclei. If it were slightly larger, an atom could not "share" an electron orbit with other atoms. Either way, molecules, and hence life, would be impossible.

Strong Nuclear Force

- The strong nuclear force overcomes the repulsion of protons in nucleus caused by the electromagnetic force.
- If the strong nuclear force were decreased by less than 1% then the atoms that are necessary for life would be radioactive.
- If it were decreased by more 5% nothing but hydrogen could exist (it would be smaller than the electromagnetic force).

Conversion of H to He

- “For the universe to exist as it does requires that hydrogen be converted to helium in a precise but comparatively stately manner – specifically, in a way that converts seven one-thousandths of its mass to energy. Lower that value very slightly – from 0.007% to 0.006%, - and no transformation could take place: the universe would consist of hydrogen and nothing else. Raise the value very slightly – to 0.008% - and bonding would be so wildly prolific that the hydrogen would long since have been exhausted. In either case, with the slightest tweaking of the numbers the universe as we know and need it would not be here.” spiritual skeptic Martin Rees, Professor of Astronomy at Cambridge

Fine Tuning

- Cosmological Constant
 - Initial explosion/expansion of Big Bang
 - Ratio of Mass of proton to neutron
 - Oxygen and Carbon synthesis in stars
 - Law of Inertia
 - Pauli Exclusion Principle
 - Initial Entropy of universe
 - In all, over 30 parameters and constants which must be so for life to exist!
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- Life is balanced on a razor's edge!

Fine Tuning

- “It is hard to resist the impression that the present structure of the universe, apparently so sensitive to minor alterations in numbers, has been rather carefully thought out...The seemingly miraculous concurrence of these numerical values must remain the most compelling evidence for cosmic design.”
 - Physicist Paul Davies, *God and the New Physics*, pg. 189

Beauty of Physics and Mathematics

"If nature is so 'clever' as to exploit mechanisms that amaze us with their ingenuity, is that not persuasive evidence for the existence of intelligent design behind the universe? If the world's finest minds can unravel only with difficulty the deeper workings of nature, how could it be supposed that those workings are merely a mindless accident, a product of blind chance?"

Paul Davies, *Superforce*, pg. 235-36

Objection

- Multiverse – our universe is one of many (infinite) number of universes
- Argued this is the Cause
- Argued would explain fine tuning

Multiverse

- Metaphysical desperation
- “Concept without scientific proof”
 - William Lane Craig
- Cannot be observed
- Cannot be supported experimentally
- Even if could would not eliminate God!
 - Where did the universe generating machine come from?
 - Where did the laws of physics come from?

Multiverse

- “The trouble is that no possible astronomical observations can ever see those other universes. The arguments are indirect at best. And even if the multiverse exists, it leaves the deep mysteries of nature unexplained.”
 - George Ellis, “Does the Multiverse Really Exist?”, *Scientific American*, August 2011

Multiverse

- **“Fundamental constants are finely tuned for life.** A remarkable fact about our universe is that physical constants have just the right values needed to allow for complex structures, including living things. Steven Weinberg, Martin Rees, Leonard Susskind and others contend that an exotic multiverse provides a tidy explanation for this apparent coincidence: if all possible values occur in a large enough collection of universes, then viable ones for life will surely be found somewhere. This reasoning has been applied, in particular, to explaining the density of the dark energy that is speeding up the expansion of the universe today. I agree that the multiverse is a possible valid explanation for the value of this density; arguably, it is the only scientifically based option we have right now. But we have no hope of testing it observationally.”
 - George Ellis, “Does the Multiverse Really Exist?”, *Scientific American*, August 2011

Multiverse

- “Proponents of the multiverse make one final argument: that there are no good alternatives. As distasteful as scientists might find the proliferation of parallel worlds, if it is the best explanation, we would be driven to accept it; conversely, if we are to give up the multiverse, we need a viable alternative. This exploration of alternatives depends on what kind of explanation we are prepared to accept. Physicists' hope has always been that the laws of nature are inevitable -- that things are the way they are because there is no other way they might have been -- but we have been unable to show this is true. Other options exist, too. The universe might be pure happenstance -- it just turned out that way. Or things might in some sense be meant to be the way they are -- purpose or intent somehow underlies existence. Science cannot determine which is the case, because these are metaphysical issues.”
 - George Ellis, “Does the Multiverse Really Exist?”, *Scientific American*, August 2011

Intelligent Design

- Mind/Intelligence can produce fine tuned things!
- **Heb 11:1** Now faith is the assurance of things hoped for, the conviction of things not seen.
- **Heb 11:6** And without faith it is impossible to please him, for whoever would draw near to God must believe that he exists and that he rewards those who seek him.

Further Info

- www.leaderu.com/truth/3truth11.html
- www.discovery.org/a/91