

# The Horizontal Cosmological Argument\*



- ◉ 1) Everything that **begins** had a cause  
(that's because things that begin cannot cause themselves to exist.)
- ◉ 2) The universe had a beginning.
- ◉ 3) Therefore the universe had a cause.

\*Also known as the **Kalim** argument (Kalim is Arabic for "eternal")



- The critical point of this argument is that everyone acknowledges that anything that had a **beginning**...
- ...is **not** infinite.
- That is, it hasn't always been here.



- If the universe hasn't always been here, then it had a beginning.
- If it had a beginning, then something caused it to begin.
- The question then is: what caused the universe to begin?



# Cause & Effect

- ◉ There are only three logical types of causes...
- ◉ Self caused
- ◉ Uncaused
- ◉ Caused by another





# Self-Caused

- As we've already stated, it is ontologically impossible to cause oneself to exist.
- For you (or the universe) would have to already exist to cause anything.
- If you don't exist, then you cannot cause anything to exist—most especially yourself!
- So the universe cannot be self-caused.



# Uncaused

- ◉ If the universe is uncaused, then it did **not** have a beginning.
- ◉ That would mean the universe is **infinite**.
- ◉ But we can show through scientific observation that the **universe had a beginning!**
- ◉ Which would mean that the universe is finite...therefore it **cannot be uncaused!**



# SURGE

- ◉ Second Law of thermodynamics.
- ◉ Universe is expanding.
- ◉ Radiation echo.
- ◉ Great mass.
- ◉ Einstein's error.





# Second Law of Thermodynamics

- The second law of thermodynamics states that the universe is running out of useable energy ( $\Delta S_{\text{univ.}} > 0$ ).
- What is running down is not infinite.
- Therefore, the universe had a beginning.



- ◉ What has a beginning, has a cause.
- ◉ The universe had a cause.
- ◉ Therefore the universe cannot be **uncaused**.



# Universe is Expanding

- In 1927 Edwin Hubble observed evidence that the universe is expanding.
- What is expanding is not infinite (an infinite cannot get bigger!).
- If the Universe is expanding, then it is finite.
- Whatever is finite had a beginning.



- ◉ What has a beginning has a cause.
- ◉ The universe has a cause.
- ◉ Therefore the universe cannot be **uncaused**.



# Radiation Echo

- The radiation echo in the universe is akin to the glow you would see when you shut off an old tube-type TV.
- The universe has a background "glow" called Cosmic Microwave Background radiation (CMB).



- ◉ Discovered accidentally by astronomers **Robert Wilson** and **Arno Penzias** in 1964.
- ◉ It is believed to be the remnants of the first light when the universe exploded into existence (i.e. the "Big Bang".)
- ◉ That "glow" (ie. redshift) of the Big Bang explosion is fading (technically it is "stretching" out of the microwave portion of the light spectrum & into radio waves.)



- ◉ What is fading is not infinite.
- ◉ Rather, it is finite.
- ◉ What is finite had a beginning.
- ◉ The fading cosmic background radiation indicates that the universe had a beginning.



- ◉ What has a beginning has a cause.
- ◉ The universe has a cause.
- ◉ Therefore the universe cannot be **uncaused**.



# Great Mass

- According to the Big Bang theory the universe exploded from a single point & then expanded in all directions.
- That would mean that the **greatest mass** of energy would be at the edges of the universe (like the ripple from a pebble dropped into a pond).



Notice that the biggest ripple  
is at the farthest edge of the circle





- In 1992 the Hubble Space Telescope confirmed that in fact the **greatest mass** of energy is at the edge of the universe (Quasars).
- Confirmation that the universe began from a single point in time & space.
- Therefore the universe has a beginning.



- ◉ What has a beginning has a cause.
- ◉ The universe has a cause.
- ◉ Therefore the universe cannot be **uncaused**.



# Einstein's Theory of General Relativity.

- ◉ In Einstein's theory of General Relativity he sought to prove that the universe is infinite...
- ◉ ...that it has **no** beginning.
- ◉ He published the field equations for General Relativity in 1915.




# Alexander Friedmann

- In 1922 Russian mathematician Alexander Friedmann found an **error** in Einstein's math!





- Einstein had introduced a **fudge factor** (represented by a lambda) into his equation for general relativity to produce a static universe—with **no** beginning!

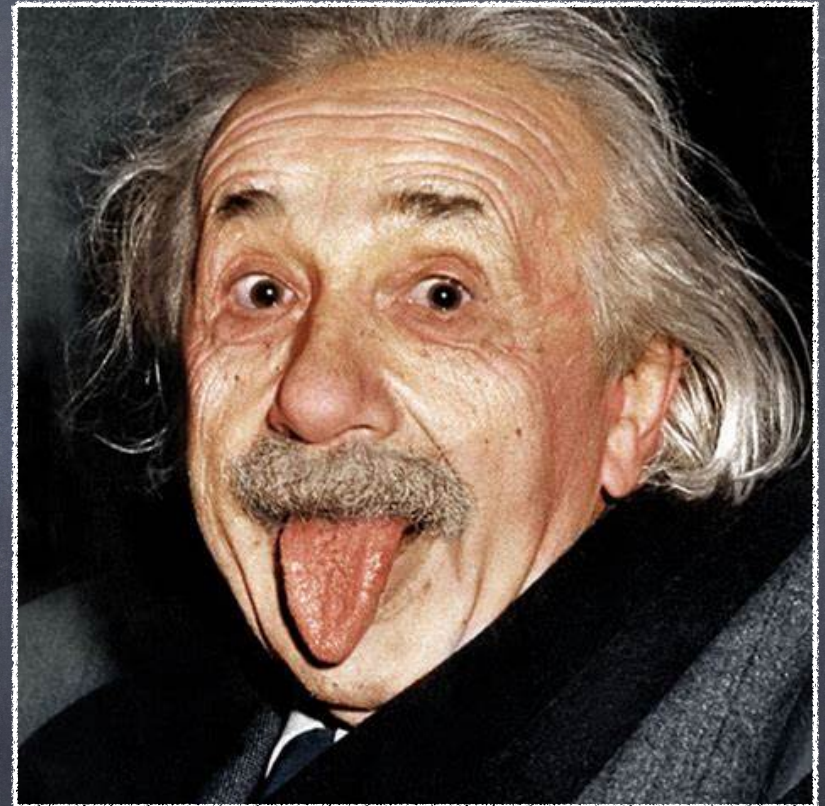

$$R_{\mu\nu} - \frac{1}{2}R g_{\mu\nu} + \Lambda g_{\mu\nu} = \frac{8\pi G}{c^4} T_{\mu\nu}$$



- However, after Friedmann corrected Einstein's math the equation for General Relativity produced a universe that is either expanding or contracting, that is a...
- ... finite universe!
- That is, the universe had a beginning.



- After his fudge factor was exposed, Einstein called it "the biggest blunder of his life."
- And, admitted that the universe had a beginning!



\*Show Me God, Heeren & Smoot, pg. 107-108

\*Forty Minutes With Einstein by A. Vibert Douglas,  
The Royal Astronomical Society of Canada, Vol. 50, No. 3



- ◉ What has a beginning has a cause.
- ◉ The universe has a cause.
- ◉ Therefore the universe cannot be **uncaused**.



# Cause & Effect

- ◉ We conclude then that the universe is **not...**
- ◉ Self caused
- ◉ Uncaused
- ◉ Therefore the universe must be...





# Cause & Effect

- ◉ Self caused
- ◉ Uncaused
- ◉ Caused by another!





- ◉ And...
- ◉ Since an "Another" caused the universe to exist, the "Another" cannot be a part of the universe.
- ◉ The "Another" must be wholly different from the universe (space, energy & matter) & transcend the natural universe.
- ◉ Thus the "Another" must be pure **spirit** since the "Another" created the **material** universe.



- The "Another" must be super-natural (beyond the natural).
- And, the "Another" had to create the material universe out of nothing—for nothing existed prior to its existence.
- Does the "Another" sound like Anyone you know?



A large, open hand is shown from the palm side, holding a bright, glowing celestial body that resembles a star or a young planet. The hand is positioned against a dark, starry background with nebulae. Several smaller celestial bodies, including planets and moons, are scattered around the hand. The overall scene suggests a sense of creation and divine power.

# *God the Creator*

Thus it is true  
that the Theistic  
God exists!

And miracles  
are possible!



# Reviewing the Horizontal Cosmological Argument

- ◉ 1) Everything that begins had a cause  
(that's because things that begin cannot  
cause themselves to exist.)
- ◉ 2) The universe had a beginning.
- ◉ 3) Therefore the universe had a cause.