Dr. Perry Phillips, Three Pillars of the Big Bang, 6-Minute Video Overview

Biblicalelearning.org by Ted Hildebrandt

For centuries, the scientific consensus held that the universe was static, infinite, and eternal. Most astronomers assumed that, while galaxies might drift in random directions, the cosmos as a whole had simply existed forever. Even Albert Einstein initially built his models of general relativity around this assumption, introducing a mathematical fudge factor to prevent a shifting cosmos.

This model faced a deep gravitational contradiction. A universe full of heavy galaxies shouldn't sit perfectly still. Arguing that the universe had a specific birth date meant challenging the most entrenched paradigms in physics.

Modern cosmologists operate like crime scene investigators. Lacking a time machine, they analyze the physical evidence left behind to reconstruct a birth they never witnessed. Space contains three distinct, measurable pillars of evidence that map our current reality back to a single, explosive origin.

The first break in the case came from Edwin Hubble. Using the 200-inch mirror at the Nantes-Palomar Observatory, Hubble noticed that almost every distant galaxy was moving away from Earth. He measured this through the Doppler effect.

Just as a train whistle drops in pitch as it passes and retreats, light waves behave similarly. As a galaxy moves away, its light waves physically stretch, shifting toward the red end of the visual spectrum. This trend line represents Hubble's law.

The farther away a galaxy is from us, the faster it is receding into the distance. To visualize this, imagine a loaf of raisin bread baking. As the dough rises, the raisins don't travel through the bread.

The dough itself expands, pulling them apart. In our universe, the fabric of space is stretching. Reversing this expansion leads to an inevitable conclusion.

If we go back far enough, all the matter in the cosmos was once packed into a single, microscopic point. By measuring the rate of that expansion, scientists can calculate the universe's age. The math places that definitive start date at approximately 13.7 billion years ago.

Thermodynamics suggests that if the universe began in a superheated state, space should still be warm. It's like finding a campsite with warm rocks. The fire is gone, but the environment still holds the heat.

In 1964, Arno Penzias and Robert Wilson discovered this heat by accident. Their sensitive radio antenna picked up a persistent hiss that remained even after they scrubbed the equipment and evicted a family of nesting pigeons. This signal was the cosmic microwave background, the measurable remnant heat of the Big Bang, radiating from every direction in space.

You can see this energy at home. On an old analog television tuned to a dead channel, a small fraction of that black-and-white static is actual interference from cosmic radiation hitting the antenna. Satellite probes like COBE and Planck have since confirmed that this radiation matches the exact thermal curve predicted by the Big Bang model.

This ambient glow provides a thermal fingerprint for the universe's explosive start. The third piece of evidence is found at the subatomic scale. In the first three minutes of existence, the entire universe was an unimaginably dense nuclear furnace.

At those temperatures, protons crashed together with enough force to overcome their natural repulsion, fusing raw hydrogen into heavier helium. Calculations show this furnace should have left a specific ratio behind, one part helium for every 12 parts hydrogen. When astronomers test the chemistry of Jupiter's atmosphere or distant gas clouds, they find that exact 1 to 12 ratio throughout the cosmos.

The universality of this chemical recipe indicates that all matter was forged in the same initial event. Expansion, radiation, and elemental ratios form a cord of three strands, anchoring the Big Bang in physical observation rather than theoretical guesswork. Yet the matter we can see and touch makes up only 4% of the universe.

The rest consists of invisible dark matter and dark energy. Dark energy is actually causing the expansion rate to accelerate, pushing galaxies apart faster than in the past. While the composition of the universe remains mysterious, the physical evidence tracks the origin of time and space to a specific moment.

Author C.S. Lewis distinguished between mechanism and purpose with the analogy of a boiling teapot. Science explains the heat and pressure causing the water to whistle, but the teapot is also boiling because someone wanted a cup of tea. The convergence of these three physical pillars suggests that our universe is a singular, unfolding story with a definitive beginning.