

Dr. Perry Phillips, Big Bang and Creation -- 3 Pillars

AUTHOR: Dr. Perry Phillips

SOURCE: Biblicalelearning.org by Ted Hildebrandt

Keywords

Big Bang, Cosmology, Hubble's Law, Redshift, Cosmic Microwave Background, Helium Abundance, Dark Energy, Albert Einstein, George Lemaître, Penzias and Wilson

Abstract

This presentation by Dr. Perry Phillips explores the scientific evidence supporting the Big Bang theory of the universe's origin. He presents three foundational scientific discoveries—Hubble's Law of cosmic expansion, the cosmic microwave background radiation, and the universal abundance of light elements—as the "three pillars" of the theory. Dr. Phillips discusses the historical contributions of key scientists and demonstrates how modern astronomical findings align closely with a biblical view of creation. Ultimately, he argues that the convergence between physical cosmology and theology fosters fruitful dialogue on the universe's sudden, light-filled beginning.

Outline

I. Introduction to Big Bang and Creation

- A. Introduction of Dr. Perry Phillips and the Gordon College connection
- B. Opening Prayer: Recognition of God's communication through works and words
- C. Presentation Goal: Examining the physics behind the Big Bang

II. CSI Cosmology: Investigating the Universe's Origin

- A. Cosmology defined as the study of the universe's origin, history, fate, and makeup
- B. The "Who, When, Where, and How" of creation
 1. Who: God created the universe for His glory
 2. When: Approximately 13.7 billion years ago
 3. Where: The entire universe

- 4. How: Investigated through science
- C. Compatibility of scientific mechanisms with divine creation (C.S. Lewis's teapot analogy)

III. Pillar 1: Hubble's Law and the Expanding Universe

- A. Historical Discoveries
 1. Vesto Slipher (1912): Discovery of galaxy redshift and systemic recessional motion
 2. Albert Einstein: General relativity relating matter and energy to geometry
 3. Lemaître, de Sitter, and Friedman: Mathematical solutions showing an expanding or contracting universe
 4. Edwin Hubble and Milton Humason: Formulation of Hubble's Law
- B. Physical Principles
 1. Redshift and Blueshift (Doppler Effect analogies: train horn, car horn)
 2. Standard of measurement: Light-year as a unit of distance and a time machine looking into the past
 3. Space itself expanding (Raisin bread analogy)
- C. Key Implications of Pillar 1
 1. Reversible timeline: Running cosmic history backward implies a singular, dense, hot point of origin 14 billion years ago
 2. Discovery of Dark Energy (early 2000s): The rate of cosmic expansion is accelerating rather than slowing down

IV. Pillar 2: Cosmic Microwave Background (CMB) Radiation

- A. Theoretical Prediction
 1. Gamow, Herman, and Alpher: Predictions of remnant heat from the hot Big Bang (Campfire analogy)
 2. Blackbody (Planck) radiation curve
- B. Empirical Discovery
 1. Penzias and Wilson (1964): Accidental discovery of isotropic hiss at Bell Labs

2. Dicke's Princeton group: Theoretical confirmation of the hiss as CMB
- C. Space Observations and Cosmic Composition
 1. Satellites: COBE, WMAP, and Planck confirming perfect agreement with blackbody curves
 2. Composition of the Universe: 4% baryonic (ordinary) matter, 23% cold dark matter, and 73% dark energy

V. Pillar 3: Universal Helium and Light Elemental Abundance

- A. Nuclear Fusion in the Early Universe
 1. The Alpher-Bethe-Gamow theory of light element synthesis
 2. Fusion conditions: Extreme heat and pressure in the first three minutes to overcome proton-proton repulsion
- B. Observational Proof
 1. Predicted mass ratio: 25% helium, 75% hydrogen
 2. Observed ratio matches predictions across planets, molecular clouds, and distant galaxies

VI. Conclusion and Theological Implications

- A. Scriptural Reflections
 1. Proverbs 25:2: The glory of God to conceal and the glory of kings/scientists to search out a matter
 2. Ecclesiastes 4:12: A three-stranded cord (the three pillars) is not easily broken
- B. Convergence of Science and Faith
 1. Jack Davis (*The Frontiers of Science and Faith*): The ex nihilo beginning in Genesis converges with modern Big Bang models
 2. Robert Jastrow (*God and the Astronomers*): An agnostic scientist's view on astronomical evidence leading to a biblical view of origin
- C. Closing Remarks
 1. Dr. Phillips' review article in *Perspectives on Science and Christian Faith* (June 2005)

2. Thanking the audience