

**Creation Science Fellowship, Inc
One Year Creation Program**

Session 9

**Cosmogony and Cosmology:
Creation Style**

Robert E. Walsh
July 14, 2011

Agenda

- Cosmogony and Cosmology: What's the Difference?
- The Problem of Starlight and Time
- A History of Creation Cosmologies
 - Tired Light
 - C-Decay
 - Non-Riemannian Space
 - Mature Creation and the Appearance of Age
- The Modern Models
 - Humphreys
 - Harnett
- The Nature of Space-Time
 - Relativity
 - Quantum Mechanics
- Where do we go from here?

**Cosmogony and Cosmology
What's the Difference?**

Cosmology and Cosmogony

- Both words are from two out of three Greek words:
- kosmoj – order, arrangement, an *ordered* arrangement (emphasis is actually on the quality not quantity of the kosmos)
- logoj – dynamic, word, message, “study of ”
- ginomai – become, born, begotten
- **Cosmogony** is a compound word from kosmoj and ginomai and means “How the Universe Originated”
- **Cosmogony** is a compound word from kosmoj and logoj and means “How the Universe Operates”

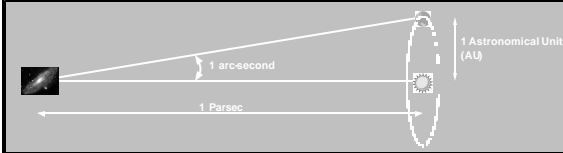
The Problem of Starlight and Time

Understanding Cosmic Distances

- To better understand the size of the universe we need a more convenient unit of measure for such large astronomical distances
- A Light Year is the distance light travels in a vacuum (no mass, only space-time) for one year
 - 5.8 Trillion Miles (5,800,000,000,000 miles)
 - 9.5 Trillion Kilometers (9,500,000,000,000 kilometers)

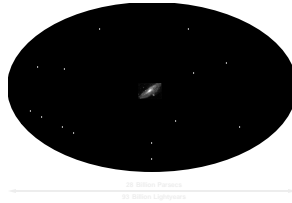
Understanding Cosmic Distances

- A Parsec is the distance of an object when it subtends one parallax arc-second
 - An Astronomical Unit is 93 Million Miles (93,000,000)
 - An Arc-Second is 1 Degree/60/60
 - Simple Trigonometry (1 Parsec = $1\text{AU}/\tan(1 \text{ Arc-Second})$)
 - 3.26 Light-Years
 - 19 Trillion Miles (19,000,000,000,000 Miles)



It's a Big Universe

- The Hubble Telescope has greatly expanded our "universal" observational view
- Latest figure for the diameter of the universe is:
 - 28 Billion Parsecs
 - 93 Billion Light Years
- Thus, if the universe is only 6000 years old, no object greater in distance than 6000 Light Years could be observed today!

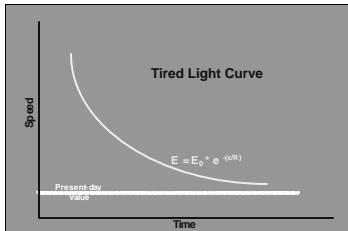


A History of Creation Cosmologies

The Tired Light Model

The Tired Light Model

- Light (photons) slows down due to cosmic "friction"
- Follows a traditional exponential decay law
- $E = E_0 * e^{-\alpha R}$



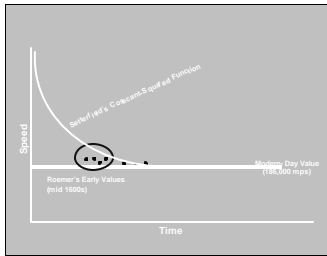
The Tired Light Model

- Addresses mainly the red shift problem
- If true then stellar objects would be "blurred" ... they are not
- Related to 2 above no known mechanism
- Does not predict observed time dilation
- Can not explain the 3 degree background radiation
- No longer in vogue!

The C-Decay Model

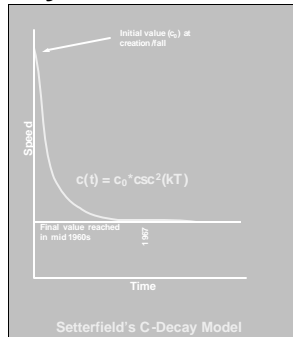
The C-Decay Model

- Popularized by Barry Setterfield in Creation Ex-Nihilo Magazine (late 70s)
- Based on "curve fitting" the data
- Using data between mid 1600s (Roemer) and present



The C-Decay Model

- Cosecant-Squared Decay Curve
 - Sharp drop from initial value (c_0)
 - Levels out about 1967
 - Decay proposed as a function of time (kT)
- Proposed other physical constants are dependent on the value of C



The C-Decay Model

- **Electron Rest Mass**
 - $E = mc^2 \Rightarrow m \sim 1/c^2$
- **Planck's Constant**
 - $E = h\nu = h c/\lambda \Rightarrow h \sim 1/c$
- **Gravitational Constant**
 - $F = G m^*M/r^2 \Rightarrow G \sim (1/c^2) * (1/c^2) = (1/c^4)$
- **Radioactive Decay Constant**
 - $\lambda \sim c$

The C-Decay Model

- According to some lacks a rigorous data analysis
- Could lead to a "local" violation of the Conservation of Energy
- Lacks a rigorous mechanism
- *Implications* agree with other researchers from other fields
- Addresses both Starlight and Time problem and potentially the red shifting of stellar objects

The Riemannian Space Model (Moon and Spence Rebutted by G. Russell Akridge 1984)

The Appearance of Age Model

The Appearance of Age

- God created the universe to “look old” or “mature”

The Appearance of Age

- How old did Adam appear on Day 10?
 - “Well, I look about 25 Years Old”



- Day 11. How old is that 100 foot oak tree?
 - After counting the rings, it looks about 60 years old.



The Appearance of Age

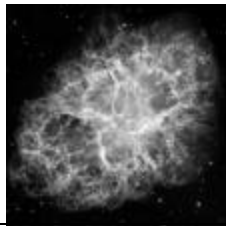
- How old is the Andromeda Galaxy?
 - Well it is 2.5 Million Light Years away, so it must be 2.5 Million Years Old.

- The “Appearance of Age” model breaks down after 6000 years.



The Appearance of Age

- After 6000 years, it creates “fantasy” events!
- Enter the Crab Nebula
 - Created by a supernovae observed in 1054 (~5000AC)
 - Distance of 6500 LY
 - 1500 Years of “mythical light”
 - The event never really happened – which is a contradiction!



The Humphreys Model

The Nature of Space-Time

- Too often we think of space and time as *separate* entities
- Modern physics views them as parts of a unified whole called..
- Space-Time
- To illustrate this concept consider the trampoline ...



- Thus, the existence of mass (matter) “*bends*” space-time

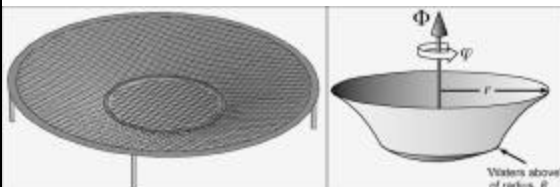
Initial Humphreys Model

- Published in 1994, Master Books
- Presupposed that God created the universe through the means of a “white hole” model
- Weaknesses – wrong time coordinates used, missed sign changes from time to space and visa versa
- Strengths – used General Relativity and a strong commitment to a normative reading of the Biblical text

Current Humphreys Model:

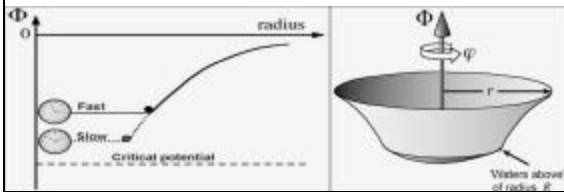
Graphically Speaking

- Based on Gen 1:1-3 the entire mass of the universe was in the form of sphere of water of radius “R” “within” space-time (First through Third Day)
- God began to separate the waters
 - For the earth (waters below)
 - For the universal ring (waters above)



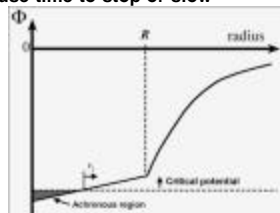
Current Humphreys Model: *Graphically Speaking*

- Let's discuss some high-level details
 - Radii of waters and space-time
 - Gravity affecting clock speed
 - Critical gravity potential limit



Current Humphreys Model: *Graphically Speaking*

- The Fourth Day – the cosmic stars were created (Gen 1:14-19)
- Russ seems to imply that this is a separate creation of “stuff” distinct from the universal watery matter
- This “extra” mass would cause time to stop or slow down at the earth...



Current Humphreys Model

- Much published in the Journal of Creation (2007 and 2008)
- Strength in using General Relativity
- Is the mass from the day 4 stars separate from the universal waters?
- Is “achronicity” valid from a Biblical viewpoint?
- Is the mathematical physics correct?

**The Harnett Model
(At a later date)**

The Nature of Space and Time

**Criteria for the Biblical
Astroscience Sub-Model**

- On the macroscopic scale SPACE is viewed as a scroll
 - Space can be stretched like a curtain
 - Space can be folded and bent like a sheet
 - Space expanded from a central area
 - Space is bounded [has an edge]
- On the microscopic scale SPACE is viewed as a scroll
 - A scroll is made up of individual fibers
- Space is finite
- Space is created and therefore not "absolute"

Criteria for the Biblical Astroscience Sub-Model

- Time has an absolute beginning
- Time has duration
- Time is quantized
 - There exists a unit of time below which man can not measure
- Time is created and therefore not "absolute"
- Light seems to simply "appear"
- Matter is created and therefore not "absolute"

Abstractions from the Biblical Criteria

- On the macroscopic scale space and time seem to be viewed as a continuum, thus **General Relativity** can be used to model the OPERATION of the space-time continuum
- On the microscopic scale space and time seem to be viewed as quantized elements, thus **Quantum Mechanics** can be used to model the OPERATION of the spacetime continuum

Where do we go from here?

Where do we go from here?

- Rigorously define the Biblical Cosmological Model
- Encourage young Creation geeks to go into physics (Relativity, Cosmology)
- Form a Creation Astro-Science/Cosmology Society
- Create a Journal devoted to the development of the Creation Model of Cosmology/Cosmogony
- ICC 2013

??? QUESTIONS ???

References

- Byl, John, "God and the Cosmos", Banner of Truth, PA, 2001
- Carroll & Ostlie, "In Introduction to Modern Astrophysics", Addison Wesley, NY, 1996
- Faulkner, Danny, "Universe by Design", Master Books, 2004
- Harnett, John, "Starlight, Time, and the New Physics", Creation Book Publishers, 2007
- Humphreys, D. Russell, "Starlight and Time", Master Books,
- Misner, Thorne, and Wheeler, "Gravitation", Freeman, NY, 1973
- Steidl, Paul, "The Earth, the Stars, and the Bible", Pres. & Ref, NJ, 1979
- Web Sites
 - <http://www.answersingenesis.org/acj>
 - <http://creation.com/>
 - <http://www.creationresearch.org/index.htm>
 - <http://www.cspittsburgh.org/index.php>
