

What Time is it?

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How Old is the Universe?

Uniformitarian Estimates for Age of the Earth

Biblical Time

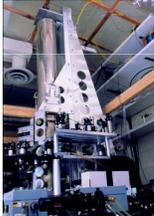
- The creation narrative suggests two "times"
 - God is outside of time (created).
 - Time and calendars are given to man.
 - The Hebrew calendar starts with Genesis 1:27 (man) not with Gen 1:1 (in the beginning).
 - Notice the difference in how they read.
 - Big events followed by "and there was evening and there was morning, a third day."
 - Not: "after 9.5 hours dry land appeared and another 4 hours passed during the formation of the vegetation..."
 - This changes when we get to man (Gen 4:25; 5:3; etc...)
 - Genesis 2:4 – "generations" vs. "day"

Understanding Time

- Time is relative.
 - Einstein's Special Theory of Relativity (SR or STR).
 - Length contraction, time dilation and relativity of simultaneity.
 - These contradicted the classical notion that the duration of the time interval between two events is equal for all observers.
 - Time dilation – the time lapse between two events is not invariant from one observer to another, but is dependent on the relative speeds of the observers' reference frames
 - The "twin paradox"
 - A twin who flies off in a spaceship traveling near the speed of light and returns to discover that his or her twin sibling has aged much more.
 - The rate time passes is relative to gravity and velocity.

Understanding Time

- Time is relative.
 - How then do we determine time?
 - NIST-7 and NIST-F1

Accurate to within 1 second every 6,000,000 or 20,000,000 years, respectively

Understanding Time

- Time is relative.
 - How then do we determine time?
 - NIST-7 and NIST-F1
 - How do they work?
 - In 1967 a second was defined as 9,192,631,770 oscillations of the ¹³³Cs.
 - Prior to 1967 a second was defined 1/31,556,925.9794 of by the time it takes the earth to orbit the sun.
 - So what?
 - The two clocks (AY vs. CY) don't agree – time is relative!
 - Each planet, each star, each location within our universe has its own unique gravitational potential, its own relative velocity and, therefore its own unique rate at which the local proper time passes—its own apparent age.

Understanding Time

3. The Big Stretch (not the Big Bang)

- Isaiah 45:12 – “stretched”

Understanding Time

3. The Big Stretch (not the Big Bang)

- Isaiah 45:12 – “stretched”
- During the stretching of the Universe, the laws of science were probably not the laws we know today!
- Seven Fundamental Qualities to our Existence not Fully Understood:
 - Energy
 - Matter
 - Light
 - Gravity
 - Space
 - Time
 - Information

The Speed of Light

- Light is one way to measure relativity, unless it too is changing.
- Is the speed of light constants?
 - 299,792,458 m/s
 - Russian cosmologist, V.S. Troitskii (of the Radiophysical Research Institute in Gorky) concluded that the speed of light was ten billion times faster at time zero—at the beginning of the Big Bang!
 - He attributes the cosmic background radiation and most redshifts to the rapidly decreasing speed of light. (“Experimental evidence against the Big Bang cosmology” V S Troitskii 1995 Phys.-Usp. 38 665-66g)
 - Barry Setterfield has reached the same conclusion concerning the decrease in the speed of light and redshifts by a completely different approach.

The Speed of Light

The Decrease in the Speed of Light (1740-1983)

The Speed of Light

The Decrease in the Speed of Light (1740-1983)

Other Constants Related to Light

17 physical “constants” dependent on c were analyzed to determine whether they would increase, decrease or remain constant relative to a decreasing value for c.

“Constant”	Prediction	Observed Trend
electron charge	Constant	Constant
energy	Constant	Constant
Avogadro’s number	Constant	Constant
Boltzman’s constant	Constant	Constant
Rydberg constant	Constant	Constant
fine structure constant	Constant	Constant
permittivity	Constant	Constant
Bohr magneton	Constant	Constant
gas constant	Constant	Constant
effective mass	Increase	Increase
Planck’s constant	Increase	Increase
h/q ratio	Increase	Increase
permeability	Increase	Increase
specific charge	Decrease	Decrease
gyromagnetic ratio	Decrease	Decrease

Biblical Time



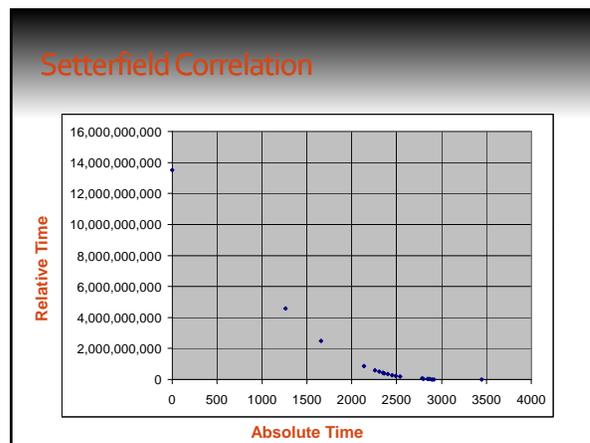
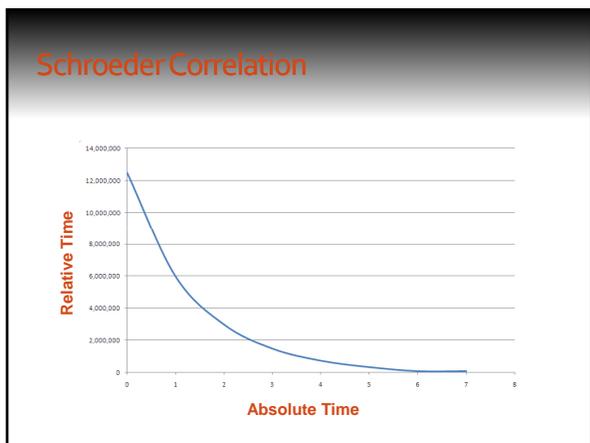
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Genesis One and Time

Creation Week (God's Perspective)
Absolute Time



Hebrew Calendar (Man's Perspective)
Absolute Time



Setterfield Correlation

Atomic Time, The Geological Ages and Dynamical Time

Atomic Age	Geological Age	BC - years before Christ	AC - years after creation	Geologic Era and Notes
14 - 10 Billion AY	Unnamed	6792 BC	0 AC	Archaicozoic Era Calendar years - 226 years long Atomic years - from Archaean on - 3.9 billion years long At initial point of creation, light speed 2.4 x 10 ¹¹ times current speed.
10 - 4.5 Billion	Azoic	6792-4531	0-1261	Closes with Catastrophe: Noah's Flood - "Second Eden's" axis tilt of earth.
4.5 - 2.5 Billion	Archaean	4531-4136	1261-1656	At the close of this era, light speed now about 2 million times current speed.
2.5 Bill - 870 Mill	Early Proterozoic	4136-3656	1656-2136	
870 - 600 million	Neo Proterozoic	3656-3484	2136-2256	
600 - 500 million	Cambrian	3484-3484	2256-2308	Paleozoic Era
500 - 425 million	Ordovician	3484-3441	2308-2351	Calendar years - 275 years long Atomic Years - 570 million years long
425 - 405 million	Silurian	3441-3429	2351-2363	Closes with Catastrophe: The Destruction of the Tower of Babel
405 - 345 million	Devonian	3429-3390	2362-2402	Closes with Catastrophe: The Permian Extinction

Setterfield Correlation

345 - 280 million	Carboniferous	3390-3343	2402-2449	At the close of this era, the speed of light was 1.5 million times its current speed.
280 - 250 million	Permian	3343-3301	2449-2491	
250 - 180 million	Triassic	3301-3253	2491-2539	Mesozoic Era
180 - 135 million	Jurassic	3253-3199	2539-2693	Calendar Years - 256 years long Atomic Years - 507 million years long Closes with Catastrophe: Three Days of Peleg? Continental Division?
135 - 65 million	Cretaceous	3199-3005	2693-2787	Cretaceous Tertiary Extinction? higher axis tilt Light speed at the close of this era about 500,000 times its current speed?
65 - 58 million	Paleocene	3005-2991	2787-2801	Cenozoic Era
58 - 36 million	Eocene	2991-2947	2801-2845	
36 - 25 million	Oligocene	2947-2925	2845-2867	
25 - 13 million	Miocene	2925-2901	2867-2891	
13 - 1 million	Pliocene	2901-2877	2891-2915	
1 mill - 2345 BC	Pleistocene - Recent	2877-2345	2915-3447	In the end of the Ice Age) Calendar years - about 600 years long Atomic years - about 13 million years long

Genesis One and Time

Creation Week (God's Perspective)
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Hebrew Calendar (Man's Perspective)
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Genesis One and Time

unformed	unfilled
Day One energy, matter, space, time, light, information	Day Four sun, moon, stars, celestial bodies
Day Two atmosphere and waters	Day Five swimming and flying creatures
Day Three land, vegetation, seeding	Day Six animals, and man

Day Seven: God rested, blessed, and sanctified the creation

Entropy

Hypothetical Curve of Entropy Level

A. Day 1: Entropy is undefined before creation begins. To the left of the graph is "eternity past." God exists outside of time and space. There is no pre-existing matter.

Entropy

Hypothetical Curve of Entropy Level

B. Day 1: Space, time and matter are brought into existence. Entropy drops sharply because of large reservoir of energy capable of doing work is now in existence. This energy is in the form of rest mass, $E=mc^2$.

Entropy

Hypothetical Curve of Entropy Level

C. Day 1: Light is created. Photons (perhaps of all wavelengths) imply that additional energy has now been added to the universe. Entropy drops further because of the creation of this new energy.

Entropy

Hypothetical Curve of Entropy Level

D. Day 2: The heavens are stretched out and attain their maximum diameter, which is the present diameter of the universe. A further addition of energy from God is involved, due to work done stretching the fabric of space. Entropy drops further.

Entropy

Hypothetical Curve of Entropy Level

E. Day 3: Genetic codes and living systems are created. This lowers the total entropy of the universe further because of the high degree of order, or information content in genetic codes. Random, simple molecules are assembled into highly-ordered structures.

Entropy

Hypothetical Curve of Entropy Level

F. Day 4: The sun, moon and stars created. Energy created on Day 1 is concentrated. Amorphous matter also created on Day 1 is assembled into the heavenly bodies. The universe now has a higher degree of order, hence still lower entropy.

Entropy

Hypothetical Curve of Entropy Level

G. Day 6: The creation of man and the higher animals. Orderly living systems are built and programmed with "seeds" for replicating.

H. Day 7: God "rests," that is, He ceases from the work of creating and begins his work of sustaining the cosmos.

Entropy

Hypothetical Curve of Entropy Level

I. Day 7: The universe is now complete and entropy has its lowest value (maximum energy reserves plus highest degree of order). Since the entire universe is interlinked, it could not function as a working system until the end of Day 6. The finished universe now begins to function and history as we know it begins to be measured. The Biblical clock is established by the motion of the moon, earth and heavenly bodies.

Entropy

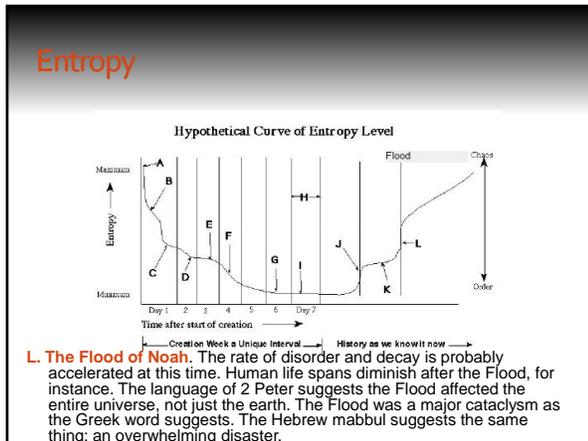
Hypothetical Curve of Entropy Level

J. government of nature is disrupted. Angels play a prominent role in the management of the forces of nature during the age we now live in. The sin of man brings a "curse" on the earth further increasing the tendency of all things to rust, rot, wear out, and decay. Nature yields less bountifully. Thorns and thistles and opportunistic diseases increase.

Entropy

Hypothetical Curve of Entropy Level

K. The "Old" Creation is now "ruined" and hopelessly flawed. The Second Law of Thermodynamics is in effect, and from now on, "Entropy always increases." God's ultimate remedy will be the creation of "new heavens and a new earth."



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