

Genesis and Time: 6 Days and 13.8 Billion Years
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The Problem

- A) According to surveys, the church is losing a high percentage of church-raised _____.
- B) Much of this is due to a perceived incompatibility between things learned in secular _____ classes and in _____.
- C) A primary issue is the question of 6 days of creation in 4004 BC vs a universe 13.8 billion years old.

A Different Approach

- A) Debates over 6 days vs 13.8 Gyrs are based on the concept of _____ as measured on Earth today.
- B) Science has shown that time varies with _____ and with _____.
- C) The concept of variable time is held both by secular scientists and prominent 6-day creationists:
 - 1) Henry Morris, Author of *The Genesis Flood*
 - 2) Russell Humphreys, Answers in Genesis.
- D) Through _____ 6 days and 13.8 Gyrs can both be right.

Science and the Bible

- A) The Bible is _____ . . . but there are two ways to get things wrong:
 - 1) The church adopts bad _____
 - 2) The church preaches bad _____
- B) Consider two historical examplea to illustrate this . . .

Aristotle's Science (4th century BC)

- A) Aristotle is considered the first scientist. But he “didn’t do silly experiments, [he] proved truth with impeccable_____.”
- B) Without experimental basis, Aristotle believed:
- 1) The Sun and planets circle Earth (_____).
 - 2) The Universe is _____ – no beginning or end.
- C) Today we know this approach is bad science because _____ is the “gold standard” of science.
- D) Yet Aristotle was the standard for science until _____ and _____.

The Inquisition of Galileo (1633)

- A) The _____ adopted Aristotle’s physics, and interpreted the Bible to say the sun and planets circled the Earth.
- B) _____ and _____ demonstrated from observation and mathematics that the Earth and the planets circle the Sun.
- 1) Yet the church prosecuted Galileo for _____.
 - 2) Adopting bad science thus led to bad theology.

The Eternal Universe

- A) _____ (1040-1105), an eminent medieval Hebrew scholar, also adopted Aristotle’s physics.
- 1) He realized Aristotle’s eternal universe contradicted the traditional, straightforward translation of _____.
 - a) “In the beginning, God created . . .”
- B) _____ and _____ disagreed.
- 1) So Rash did a convoluted retranslated of Genesis 1:1 based on Aristotle: an eternal universe and four elements: _____, _____, _____, and _____.
 - 2) This is detailed in a [separate article](#).

- C) The modern New Jewish Publication Society Torah (NJPS or TNK) follows Rashi:
- 1) “When God began to create heaven and earth—the earth being unformed and void, with darkness over the surface of the deep and a wind from God sweeping over the water—God said, ‘Let there be light’; and there was light” (Gen 1:1–3, NJPS).
 - 2) This claims God’s creative effort was forming _____ in an eternal universe.
- D) Yet Rashi’s retranslation of Genesis 1:1 followed _____ – not the Hebrew text.
- 1) Bad _____ led to bad _____.

But it Took Another Millennium to Discredit the Eternal Universe

- A) Aristotle’s eternal universe was considered “_____” well into the 20th century.
- B) As Einstein derived his theory of _____, he predicted the universe had a beginning.
- 1) Yet because of prevailing science, he put a “fudge factor” into the theory to force an _____.
 - 2) Einstein later called this his “_____.”

The Eternal Universe Discredited

- A) In 1927 _____, physicist and Catholic priest, proposed an expanding universe and the theory now known as the “_____.”
- 1) An expanding universe was experimentally verified by astronomer _____ two years later.
 - 2) In 1965, Penzias and Wilson discovered _____ coming from all directions.
 - a) This was predicted by the “Big Bang” theory.
- B) Lemaitre’s theory was affirmed. The _____ theory fell apart.

- C) Since 1965 there has been so much _____ that the Big Bang Theory is now called the “standard theory.”
- D) _____ believes the universe had a beginning.

The Big Bang Theory

- A) The Universe and time (space-time) were created when a point source _____ of infinitesimal size yet infinite mass “exploded.”
- 1) Since _____ was created with the Big Bang, it is irrelevant to ask what happened before.
- B) Many Christians denigrate the Big Bang, claiming it represents _____.
- C) But valid naturalism must have a supporting theory – and there is none.
- 1) There is no theory to explain what happened in the first 10^{-43} seconds after the Big Bang.
- 2) There is no theory for a naturalistic _____ for the Big Bang.
- D) A being outside our space-time, _____, is the most plausible cause for the Big Bang.**

The Bible and Modern Science Say Essentially the Same Thing

- A) Bible: “In the beginning God created the heavens and the earth.” (Gen 1:1 NASB).
- 1) This has traditionally been interpreted as creation ex nihilo – from _____.
- B) Science: In the beginning a point source singularity of infinitesimal size and infinite density exploded in a “Big Bang.”
- 1) Most plausibly caused by _____.
- C) These statements are essentially the same.

Historical Review of the Bible and Science

- A) The theory that the Sun revolves around the Earth was changed to the Earth revolves around the Sun.
- 1) _____ was right; bad theology was wrong.

- 2) _____ was changed to agree with science.
- B) The theory of an eternal universe was changed to a universe which had a beginning – from nothing.
- 1) _____ was right; bad science was wrong.
 - 2) _____ was changed to agree with the Bible.
- C) Until ~1970, Christians were ridiculed for believing the universe had a “beginning.”
- 1) We were called “anti-science.”
 - 2) This led many Christians to believe the Bible and science are _____.
 - a) This attitude persists today.
- D) Yet by acceptance of the Big Bang Theory, science now confirms the Bible!
- 1) It is impossible to express how important this is.

This Historical Review Illustrates A Fundamental Point:

- A) Science and the Bible should _____.
- B) If they don't, the problem is bad _____ or bad _____ – or both.

That Brings Up the Original Question: 6 Days or 13.8 Billion Years?

How Does Science Date the Universe?

- A) Six independent measurements suggest the universe is $10^{19} \times 10^9$ years (10-19 Gyrs)
 - 1) They are essentially the _____ within experimental error.
 - a) The most recent and most accurate measurement suggests 13.8 Billion Years (Gyrs)?
- B) These measurements are all based on solid, _____-based science.
 - 1) These measurements need to be taken _____.
- C) Good science and good theology should _____.

What does the Bible say?

- A) Genesis 1 Proclaims Creation in Six Yôm
 - 1) The Hebrew Word Yôm in Genesis 1 is traditionally translated “_____”

2) But Yôm Can Also Mean an _____

a) Brown, Driver, Briggs defines yôm as not only a “day,” but also as an indefinite time period.

b) Yôm as an Indefinite Time is suggested by _____ and _____.

B) We will not dwell on this – or claim it’s _____.

1) We mention this to emphasize the _____ of biblical Hebrew – part of the main point.

In Considering the Time of Creation, Remember . . .

A) Since God is the _____ of the universe and time:

1) God’s Heaven must be _____ our physical universe.

2) Yet our omnipotent God is able to enter our universe _____.

B) God must also be outside of _____.

1) Our omniscient God transcends time.

a) God knows the past – and the _____.

The _____ and _____ of Genesis 1 is Critical In Calculating Creation Time .

A) Genesis 1 Illustrates Divine Action from _____

1) God is in Heaven, Commanding and Observing His Creation

God’s Time is not Our Time

A) Psalm 90:4 and 2 Peter 3:8 proclaim a day is as a _____ to God – and vice versa.

B) Such verses are usually interpreted _____ . . . and together with the Genesis 1 framework, they provide biblical justification for the scientific principle of _____.

Time Dilation

- A) Science has experimentally verified that time is _____ – not fixed.
- B) This is because the speed of light is _____ relative to the observer.
- C) It is fixed at 186,282 mi/s for all _____, regardless of their relative motion.
 - 1) Predicted by _____ Equations.
 - 2) Confirmed by Michelson-Morley Experiment (1887) – and many others since, including:
 - a) Jets flying around the world in opposite directions in 1971.
 - b) The presence on Earth of large numbers of _____ (subatomic particles created high above the Earth's surface).

Knowing that the speed of light is constant, we can show that time isn't.

- A) Do a simple _____.
 - 1) Set up a flashbulb and a photo-detector.
 - a) The bulb sends out a flash of light.
 - b) The flash reflects off the mirror and triggers the detector.
 - c) Measure the time between _____ and _____ the flash of light.
- B) Put the experiment on a space ship
 - 1) Have the astronaut measure the _____ the light travels.
 - 2) You, a ground-based observer, also measure the transit time for the astronaut's light beam.
- C) Since the speed of light is _____, the two measured times are different.

The Implications of Time Dilation

- A) Time passes _____ in a moving system, compared to a system at rest.
 - 1) If a twin goes away in a space ship at a high speed for a long time, then returns to earth, the traveling twin will be _____ than the stay-at-home twin.
- B) Time depends on _____.
 - 1) Very High velocity, to be precise.
 - a) Time dilation is _____ at human velocities.

b) But it becomes important a velocities approaching the speed of _____.

Recall . . .

A) Science suggests _____ was created by God when He created the universe.

1) Time is a created entity.

a) Time is not _____ – it's relative.

Gravitational Time Dilation

A) Time dilation also occurs due to _____.

1) Time moves more _____ in high gravity.

2) In a _____, it moves infinitesimally slowly.

B) Gravity may have been _____ the universe was created . . .

Recall from the Bible:

A) God the creator is _____ His creation.

1) God not confined to our _____ and _____.

2) God dwells in a real and physical _____ distinct from man's universe.

3) God _____ our universe, but does not live here.

B) Genesis 1 is written from God's vantagepoint.

1) If 6 yôm mean six 24-hour days, it is measured in "heavenly time."

Can 6 days in Heavenly Time be 13.8 Gyrs in Earthly time?

A) Yes . . . with a relative _____ very close to the speed of light

1) Parts of the _____ are moving away from Earth this fast.

2) Hence such a velocity between Heaven and Earth at the time of creation is

_____.

In Summary . . .

A) The Bible says God's time is _____ Man's time

B) Time is _____ a constant.

1) Time depends on relative _____ and on _____.

a) High velocity time dilation suggests 6 days and 13.8 billion years might plausibly be the same, measured from different _____.

b) _____ time dilation also makes it possible that these two times might be the same.

Hence there may be no discrepancy between 6 days and 13.8 billion years.