

Age of the Earth: ‘Young Earthers’ Versus Evolutionists

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Abstract. The true age of the Earth has remained a centuries old controversy contrasted between modern scientific empirical methods and interpretation of ancient theological scripture. Fundamentalist Christians prefer to take Old Testament passages that the Earth’s age since creation is 7,000 years literally. This so-called ‘Young Earthers’ point of view remains difficult for educated or scientifically minded individuals (even those of faith) to unquestioningly accept. In this short article we attempt to shed significant light on this controversy.

Keywords: Age of Earth; Carbon dating; Evolution; Radiometry; Theology; Young Earther

1.0 Scientific Age of the Earth

The best-known and most precise dating technique is based on radioactive carbon-14, which archaeologists prefer to use. However, the half-life of carbon-14 is only 5730 years, so the method cannot be used for dating materials older than about 70,000 years because no more Carbon-14 will remain in the sample/artefact to compare with its Carbon-12 end product. The science of radiometric dating involves the use of a variety of naturally occurring isotope series, such as rubidium-87/strontium-87, thorium-234/lead-206, potassium-40/argon-40, or uranium-238/lead-206, all of which have very long half-lives ranging from 0.7 to 48.6 billion years [1]. Subtle differences in the relative proportions of the isotope pairs can give reasonably precise or good dates for rock minerals of any age. Significantly, radiometric dating determinations are based on when rock solidified so that isotopes in the radioactive decay series remain in close proximity of each other for valid empirical comparison. The rubidium-strontium series for example is best for determining the ages of mica and feldspar minerals. Naturally occurring rubidium contains 28% Rb-87 which decays to Sr-87 by emission of a β -particle:



The half-life of rubidium-87 is 4.7×10^9 years which is similar to the estimated age of the universe. So by comparing the ratio of rubidium-87 to strontium-87 in terms of the half-life decay constant of rubidium-87 the length of time the mineral was solidified can be determined. If the age calculation results compared from two different decay series agree then scientists assume no contamination in the sample and that the age of the mineral is correct. Thus the generally accepted age of the Earth based on radiometric dating methods has been determined to have an upper limit of approximately 4.567 billion years based on measurements of rock in the earth’s crust. This result has also been compared to moon rock and Martian meteor rock with similar results giving an aura that the age of the Earth is incontrovertible. Radiometric dating techniques have been refined to the point where the margin of error in dating rocks can be less than two million years in a two-and-a-half billion year period.

2.0 Literal Scriptural Interpretation for Age of the Earth (Young Earther Point of View)

Young Earth creationists consider the account of creation given in Genesis to be a factual record of the origin of the Earth and that Christians who believe in the Bible ‘must’ therefore regard the Book of Genesis as historically accurate [2]. Genesis Chap. 1 tells us ‘God created the Heaven and Earth in six days and rested on the seventh’ [2]. The time period is clarified in scriptural accounts such as 2 Peter 3:8 “...one day is with the Lord as a thousand years, and a thousand years as one day” [3] which yields the usual Young Earther creation period of precisely 7,000 years. There are thousands of Christian sects world-wide. It was reported to me (but not verified by academic sources) by a colleague (a French mathematical physicist) who grew up as a Calvinist (Protestant sect); that Calvinism preached that ‘God put dinosaur bones in the Earth to trick mankind into believing the Earth was older than 7,000 years’.

3.0 On the Horns of the Dilemma

Literal Young Earth creationism directly contradicts the modern pragmatic scientific consensus [4]. How can intelligent thinking people of faith choose the scientific method as the most valid method for determining the age of the Earth? To contrast the scientifically determined age of the Earth with 'young Earther' theology we make a different type of theological based calculation that makes clear correspondence to the currently accepted scientific model and which also supports Anthropic cosmological principles [5] guiding evolution (rather than random/Darwinian). Theologically, after the creation period delineated in the Book of Genesis of the Judeo-Christian Bible/Torah, Adam (the 1st man) was 'given his reckoning' in the Garden of Eden. This is interpreted to mean that instead of existing in God's timeless eternal frame; Adam was given a different temporal clock or reckoning relative to the Earth upon which he was placed or lived where "A day with the Lord is a 1000 years with man" [3]. It is easy to think of that as an allegory because how can a timeless eternal realm make direct correspondence to a temporal realm. However this is the root of the literal Biblical 7,000 years interpretation under consideration.

What follows is a simple 'age of the Earth' calculation integrating science and theology in contrast to what we suggest should now be the myopic view of the young-earth creationists who claim the Earth is literally only 7,000 years old. We utilize the following common Judeo-Christian premises from the book of Genesis:

- A day with the Lord is a 1000 years with man
- God created the world in seven days
- The creation occurred first spiritually and second temporally.

These passages can be used to make a simple calculation using 'Gods time'. Therefore

$$7 \text{ days} \times 1,000 \text{ man years per day} = 7,000 \text{ years} \quad (2)$$

which is the usual point of view taken for the period of man's existence. But Adam was not given his reckoning until after he was placed on the Earth so; instead if we consider the creation was 1,000 God years, multiplying

$$365.4 \text{ Man days per year} \times 7000 \text{ God days} \times 1,000 = 2,557,800,000 \text{ billion Man years} \quad (3)$$

We multiply this $\times 2$ because of both the spiritual and temporal creations which then gives an age of the Earth = 5,115,600,000 which is a proper order of magnitude for the scientific age of the Earth.

If you noticed the number appears to be a half billion years off the usual 4.5 billion year scientific age of the Earth. You forgot that the scientific reckoning date begins from the radio-dating time when rock solidified. It seems logical that it took half a billion years of cooling for the Earth to solidify. It is purported that the Martian core took about .5 billion years to solidify. Note: This is the reason Mars no longer has an atmosphere, as the electromagnetic dynamo of a molten core is significant in a planets ability to hold an atmosphere. The Earth's core has still not solidified because the pressure of its larger mass keeps it iron core molten. Thus it's possible by extrapolating the age of the Earth from the time it was a molten ball before the crust solidified to add an additional ~half billion years to the age of the Earth; if we are willing to include the cooling molten ball period before crust solidification Earth. It is interesting by extrapolating some orders of magnitude to note that large glass telescope lenses take several years to cool. Is it just a coincidence that this simple calculation arrives at the correct answer of ~ 4.6 billion years for the age of the Earth?

Now for thoroughness let's calculate in a slightly different way. If we keep the spiritual creation as the same 7,000 God years and reduce the temporal period to 6,000 years we get an age of the Earth of 4,750,200,000 billion years well within acceptable error for the accepted scientific radiometric dating method. But how can we justify this concatenation? Easy. We go back now to make correspondence to the 'young Earthers' in terms of Adam given his reckoning and interpret the omitted 1,000 years as the age of man for the fulfillment of a society of Gods people. Adam to Abraham to Moses to Christ to the present age being the 6,000 years with the 7th to come as the period of the Judeo-Christian Millennium.

This has more pertinent meaning in terms of the first line of Genesis: "In the beginning God created the Heaven and the Earth" – Genesis 1:1. This is taken to mean God created both this earth and its heaven as distinct from the 'infinite' creations 'more numerous than the grains of sand at the seashore'. Scripture also states that 'Adam is given his reckoning' preaching that Man's time is not God's time. "Is not the reckoning of God's time, angel's time, prophet's time, and man's time, according to the planet on which they reside?" [6]. Thus it appears we can make

LDS (Mormon) or any Judeo-Christian doctrine compatible with the scientific method.

References

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