

Topic: Current scientific dating methods are sufficient to establish the age of the earth as over four billion years

Dec 2000

by Roger X. Lenard

This is Essay4a in a series of debate topics between CSFNM and NMSR.

Age dating the Earth is a complex technical challenge. The inherent presumption in age dating is that the present is the key to the past. This very presumption is belied by observations that the Earth has undergone specific periods of very catastrophic events, chief among these are the events of Creation Week and the Biblical Flood; there can be no epistemological certitude of prior events from current investigations. The most reliable historic information concerning these catastrophic sequences is contained in the Bible. Present-day scientific investigation cannot reproduce these distant historic events. Therefore, to gain insight into available data, a systematic approach to gathering and interpreting all the information is necessary. All too frequently, evolutionary approaches rely solely on radiometric age dating and ignore fundamental evidence to the contrary. Herein we discuss some of the many glaring inconsistencies between radiometric age dating and contravening evidence, such as insufficiency of atmospheric helium, orphan Polonium radiohalos, paucity of stone-age burial sites, rapid diffusion of radiogenic helium in granitic biotite, and Grand Canyon radiometric age-dating inconsistencies, among many others.

Grand Canyon Evidence Supports Young Earth Hypothesis

In the western Grand Canyon are lava flows resulting from volcanoes on the Uinkaret Plateau north of the Colorado River. They are among the youngest formations of the GC, being classified of Pleistocene age, definitely less than a few million years. Yet Strontium-Rubidium age measurements of these lava flows date of 1.34 ± 0.04 billion years! Something is clearly wrong with the dating method. The task of the Creationist is to explain how apparently billions of years of radioactive decay could occur in a short period of time so that observed isotopic ratios are allowed. If there is evidence for this, then the Gy - age Earth model can be discarded for one more in consonance with the remaining data mentioned above. Creationists believe that there were at least two periods of highly accelerated radioactive decay: once during creation week and another at the Biblical Flood. The salient fact is that there is no mechanism to tell the difference between the isotopic ratios of radioisotopes for age dating if the rate is accelerated or if it is uniformitarian in interpretation. However, recent scientific evidence now shows that there are credible technical grounds for believing a young earth age.

Radiogenic Helium Diffusion Rates in Biotite Inconsistent with Old Earth Model

Naturally occurring zircons contain Uranium and Thorium. When these elements decay, helium is released. The diffusion rate for the helium from bare zircons is extremely rapid. However, when zircons are embedded in crystals of a mineral called biotite (a type of mica), the biotite acts as a barrier to the diffusion of helium from the zircons. Thus, we can gain an accurate idea of the age by the amount of helium retained in the zircon if the biotite diffusion rate is known. Since we measure the retained helium, we must have a very slow rate if the Earth is ~Gy in age, but a rapid rate if it is much younger. Recently, a prestigious university performed diffusion measurements on biotite from a gneiss sample. The data show that the diffusion rate is extremely rapid. The diffusion rates are somewhat greater than a simple creation model would predict, but they are tens of millions times greater than an evolutionist model would require. Thus, radiogenic helium diffusion does not support the Gy age model for the Earth.

Polonium Orphan Radiohalos

Radiohalos occur when ionizing radiation from radioactive decay deposits energy in a Bragg peak in a visible matrix. Since emitted particle energies are very specific, a series of halos result when one observes (for example) Uranium decay. There are numerous examples of only Polonium radiohalos in within mica of granitic formations. The problem for evolutionary geology is that the ^{218}Po half-life is only 3.1 minutes. If there are no ancestral halos, there must have had to be a way to emplant the ^{218}Po in the crystal formation without any ^{222}Rn . Evolutionary geologists have attempted to duplicate the orphan halos in the laboratory have been universally unsuccessful. The accelerated decay theory encompassed by the CM would allow such a formation to occur.

Insufficient Seafloor Mud

Each year, water and wind erode about 25 billion tons of dirt and rock from the continents and deposit into the ocean. This material accumulates as mud on the hard basaltic ocean floor. The average depth of this mud is less than 400 meters. The primary removal mechanism is plate tectonic subduction. This process removes only 1 billion tons per year. Calculating the depth according to the 3Gy hypothesis would result in kilometers deep deposits of mud. A better explanation is the shorter time span consistent with the Creationist model.

Rapid Decay of the Earth's Magnetic Field

The total energy stored in the Earth's magnetic field has decayed by $1/e$ in the past 1000 years. Evolutionary age dating explaining the rapid reduction, as well as how the Earth could have maintained its magnetic field for billions of years are very complex and ultimately inadequate. The CM provides a more straightforward explanation, based on sound physics and provides a more detailed explanation of the field, its creation, rapid reversals during the Genesis Flood, surface intensity decreases and increases until the time of Christ, and a steady decay since that time. The CM theory matches the paleomagnetic, historic and extant data. The net result is that the Earth's magnetic field energy content (not surface intensity) has decayed at least as rapidly as presently observed. Coupling available data indicates that the Earth's magnetic field could not be more than about 10,000 years old.

The above examples show clearly that in order to subscribe to the Gy age hypothesis, absolutely essential for evolution to be viable, one must accept only limited evidence and discard contravening data. Currently accepted methods for dating the Earth are not sufficient to establish Earth's age at ~4Gy.