Radioisotope Dating: Dire Predictions on Dangerous Assumptions

Earth's surface was drastically altered by a global cataclysm in the recent past – one that was recorded in the sixth to ninth chapters of Genesis. Artifacts from the Genesis Flood are readily seen across Earth's surface, testifying to the ramifications of such a widespread disturbance in geologic history. Though an understanding of the Genesis Flood comprised the basis for early geologic thought, eighteenth-century geologists abandoned Genesis in favor of the assumption that geologic processes occurred gradually without any supernatural intervention (naturalism). Based merely on a predisposed dismissal of Biblical history, this paradigm shift led to a radically distinct geology. What was first viewed as evidence of past catastrophism was re-envisioned as the product of gradual geologic processes over untold eons.

Since the eighteenth century, naturalistic geologists have attempted to quantify this vast chasm of 'deep time,' but no numerical method was found adequate until radioisotope dating schemes were introduced in the mid-twentieth century. Over the succeeding decades, radioisotope dating has bolstered the deep-time geologic paradigm and evolutionary naturalism. Notwithstanding the use of radioisotope dating, a return to the understanding of the Genesis Flood and its implications for interpreting geologic history has led to a growing awareness of the flaws plaguing radiometric dating. The assumptions undergirding radioisotope dating methods have repeatedly produced faulty results in the present, casting doubt on the extrapolation of radiometric schemes into the unobserved past. Diluvial geologists and others have often revealed these flawed presuppositions, but world-renowned naturalistic geologists have recently admitted to the assumptions inherent in radioisotope dating.

Key Words: Radiometric Dating, Potassium-Argon, Mount St. Helens, Grand Canyon, Helium Diffusion, Polonium Radiohalos, Accelerated Radioactive Decay.

Admission of Assumptions

Dr. Gunter Faure has been the premier educator on radioisotope geochronometry for several decades through his volume *Principles of Isotope Geology*. In a more recent coauthored graduate textbook *Isotopes: Principles and Applications*, Faure and Mensing (2009, p. 57) state that:

> "The interpretation of this date [received through radioisotope methods] depends on certain assumptions about the geologic history of the rock or mineral being dated… The assumptions are as follows:
>
> 1. The rock or mineral sample being dated has not gained or lost parent or daughter atoms except by decay of the parent to the stable daughter.
> 2. The decay constant of the parent nuclide is independent of time and is not affected by the physical conditions to which the nuclide may have been subjected and its value is known accurately.
> 3. An appropriate value of [the quantity of daughter atoms before radioisotopic decay] is used in the calculation based on either knowledge of the chemical properties of the daughter element or its isotope composition in the terrestrial reservoir from which the rock or mineral originated.
> 4. The measured values of D and N are accurate and representative of the rock or minerals being dated." (Brackets mine).

Because of these assumptions, geologists rarely date sedimentary rocks. Clastic sediments, such as sandstone or conglomerate, can be highly weathered and likely leached before being deposited, and any dating of the rock would determine only the age of the clast rather than the deposit as a whole. Instead, igneous and metamorphic rocks are most commonly dated due to the assumption that the original concentration of radiogenic elements can be known based on the geologic conditions, such as that heat and hydrothermal fluids released or dissolved the daughter elements from the host rock to leave only parent material present to create daughter atoms (for a review of the specific assumptions associated with each methodology, see Dicken, 2005; Faure and Mensing, 2009; and references therein).

The Assumptions Exposed

As in all pursuits for knowledge, science must necessarily rest upon certain assumptions, such as the fixation of physical laws except when superseded by supernatural intervention. In order to gain credence, these assumptions must be internally consistent and not have been falsified, but what if these assumptions are at best naïve and at worst patently false?

The foundational presupposition ungirding radiometric dating is that any daughter atoms present in a sample were produced solely by steady radioisotopic decay of the parent element, but research of historically cooled lavas reveals a different story. The potassium-argon method is based on the supposition that argon, being inert and incapable of bonding to the crystal lattice, is expelled from the cooling lava, but Dalrymple and Moore (1968) and Dalrymple (1969) documented a number of historical ava flows that retained "excess Argon" rather than releasing the argon with the volatiles, resulting in erroneous old age calculations for the flow.

This example of the radiometric clock not being set to zero has been demonstrated to plague a variety of methods, but the initial presence of non-radiogenic daughter elements is not the only problem. Whether buried or exposed at the surface, rocks are susceptible to water seepage slowly transferring elements both out of and into the specimen. Some elements used in radiometric dating are particularly susceptible to leaching (Snelling, 2009, p. 830), which can either make the specimen appear older or younger based on the relative increase or decrease in parent and daughter atoms.

Some decay rates have also been observed to change based on the environment. For example, the decay rates of silicon-32, radium-226, and others have been found to oscillate as much as 0.3% throughout the seasons, possibly due to Earth's varying distance from the sun (Castelvecchi, 2008). Such a minor fluctuation pales in comparison to certain extreme conditions that have experimentally accelerated the decay rate a *billion*-fold above the assumed half-life (see Cupps, 2014, and references therein). To overcome these variables, a complete understanding of a rock's geologic history must be known, which would furthermore require assumptions on the age and the geologic environment. Without constancy, age determination of rocks cannot be made with certainty.

Errors and Contradictions: The Last Straw

If radiometric dating methods were based on correct assumptions, one must suppose that the true age of rocks could be determined no matter which method was used, yet studies have indicated that this is not the case (Austin and Snelling, 1998; Froede, 2010). A classic example of "isotopic discordance," as it is called, compares the age of the titled Cardenas Basalt (Grand Canyon Supergroup) incised by Grand Canyon[?] to lavas at the Grand Canyon rim (Austin, 1994; Snelling, 2004). Not only did different methods yield different ages, but one method even suggested that the Cardenas Basalt is younger than the lavas on the rim of the Grand Canyon despite the Cardenas Basalt being logically older than Grand Canyon and thus the lavas on the canyon's rim. Similarly, geologist Steve Austin found that the dacite lava dome at Mount St. Helens dated between 0.35 ± 0.05 to 2.8 ± 0.6 Ma (Austin, 1996), all at a time when the specimen itself was no more than a decade old!

Other contradictions arise from studying how radionuclides alter their environment, such as radiohalos. These structures form as the repeated release of radiogenic alpha particles damages the surrounding crystal lattice (Snelling, 2005). Such deformation leaves structural 'fingerprints' such as the thickness of concentric rings characteristic of the responsible radioisotope (such as uranium-238) and estimate elapsed time. For instance, a mature uranium-238 radiohalo requires 500 million decays, thus suggesting 100 million years elapsed (Gentry, 1988, p. 19). However, uranium-238 radiohalos are often accompanied by nearby radiohalos formed by short lived polonium isotopes that lack an apparent source. This indicates that enough polonium had to be transported from the uranium-238 centers within a matter of days in order to produce polonium radiohalos independent of the uranium-238 radiohalos, which requires heightened uranium-238 decay to generate the polonium isotopes within a short time span (Snelling, 2005, 2008).

Another anomalous by-product of uranium-238 decay is the alpha particles themselves. Comprised of two protons and two neutrons, alpha particles become chemically inert helium nuclei that easily diffuse through the surrounding crystal lattice at a predictable rate. Geothermal gradient profiles of the Precambrian granite of Fenton Hill, New Mexico, show the helium generated from the alleged 1.5 Ga of uranium-238 decay would diffuse from the host zircon crystals within 100 Ma, yet Humphreys (2005) found helium levels nearly 60% of the total helium levels generated from 1.5 Ga of uranium-238 decay. As corroborated through later studies (Humphreys, 2010, 2011), billions of years' worth of radioisotope decay appears to have occurred within thousands of years. While some have challenged whether this is supportive of accelerated radioisotope decay (Froede and Akridge, 2012), the fact remains that two independent chronometers provide wildly different ages, challenging the very notion of radiometric dating.

Based upon faulty assumptions, radiometric dating has routinely led to faulty geochronologic and chronostratigraphic models, as has been noted in Southwest Washington (Isaacs, 2020b). Mount St. Helens overlies a truncated fold system of volcanogenic strata transected by a myriad of primarily Miocene to Holocene intrusions, which have been used by secular geologists to date the folding of Tertiary bedrock from

20 to 15 Ma. Evarts et al. (1987) suggested that folding had largely ceased by 15 Ma because some intrusions, such as two dikes southeast of Mount St. Helens dated at 12 and 8 Ma, retain an undeformed posture, indicating the dikes postdate regional folding. However, later study by Evarts and Ashley (1993) determined that these two dikes were instead up to 12 Ma *older* than regional folding, yet the researchers did not explain why these dikes were undeformed despite predating regional foreshortening. Similarly, the folding of the Tertiary bedrock in Washington and Oregon during the Cascade Orogeny has been dated as either 20 to 15 Ma or 4 Ma based on chronostratigraphy and radiometric dating (Isaacs, 2020b). Rather than providing a better glimpse into geologic history, radiometric dating muddles geologic interpretation (for an example, see Isaacs, 2020a).

Conclusions

Ever since their *a priori* dismissal of Biblical geologic history, secular geologists have been grasping at ways to quantify deep time, with each attempt being greeted in triumph only to be later overturned. Though touted as a definitive means to define geologic history, radioisotope dating is yet another example of an errant geochronometry device allegedly disproving the Biblical account. Leading radioisotope geologist Dr. Gunter Faure explored the assumptions underlying radiometric dating in his coauthored volume *Isotopes: Principles and Applications* (Faure and Mensing, 2009) but ignored the overwhelming challenges to those assumptions. Not only does the radiometric clock fail to be set to zero or remain uncontaminated, but the decay "constant" may not be constant at all! Its basis on flawed assumptions results in radioisotope dating muddling geologic interpretation rather than enhancing it, resulting in numerous examples of enigmatic or even contradictory chronostratigraphy. Rather than challenging Biblical geologic history, radioisotope dating is yet another failed attempt to exclude Biblical revelation from geoscience.

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