



LETTERS TO THE EDITOR

Age Dating of Rocks

Richard Bottomley's article, "Age Dating of Rocks" (*Spectrum*, autumn 1999), a chapter from the forthcoming book *Creation Reconsidered*, represents a well-explained introduction to radiometric dating. The second figure in the article gives an especially impressive view of an almost linear and extended time relationship between radiometric dates and part of the fossiliferous stratigraphic sequence of our earth. Readers of *Spectrum* may find it profitable to consider additional dimensions to the radiometric dating scenario. Specifically questions of: (1) variability in dates, (2) selection of data, and (3) the influence of the biblical Flood.

(1) There is little question that one can get great variability in expected radiometric dates. Some Quaternary basalts thought to be less than 1.6 million years old at the top of the Grand Canyon have dated as old as 1,340 and 2,600 million years,¹ while basalts within the bottom layers of the Grand Canyon date younger, at only 781 to 1,090 million years.² Another unexpected example is a date of 34 million years³ for a Precambrian granite in New Mexico that should be at least 570 million years old, according to standard geological interpretations. More than twenty years ago, a list of over three hundred published radiometric dates near or more than 20 percent different from the expected dates was published,⁴ and in 1999 a monograph dealing with anomalies in radiometric dating referenced nearly five hundred articles from the scientific literature.⁵ It would not be difficult to extract from the many radiometric dates a sequence that would present just the opposite of the relationship illustrated on page 47 of Bottomley's article; i.e., the dates would get younger as one goes down through the geologic layers. But I suspect that this might be an exercise in futility that would represent mainly selection of data. However, many dates are considered unreliable by specialists in the field. The prestigious Geological Society (London), prepared a chronology of the geological record somewhat similar to the one published in *Spectrum*. The authors of a major section of this chronology comment:

A large number of age determinations on rocks of Carboniferous to Triassic age have been published. In this review, the radiometric data available in nearly 500 separate articles have been examined by the senior author (S. C. Forster) and, following application of the above criteria, only 45 dated items (Fig. 1) have been accepted from this voluminous literature as suitable for time-scale purposes.⁶

A recent (1998) article by a leading geochronologist, entitled "Geochronology Comes of Age,"⁷ emphasizes some of the recent changes that have gone on in refining radiometric dating techniques. However, the paradigm of a long geologic time scale was established long before geochronology had "come of age." The influence of the geochronology before this should be recognized, and we can expect more changes. There is often the scientific aura of "we have been wrong in the past, but this time we have it right" with radiometric dating.

(2) While there are many anomalous radiometric dates, many of them agree with the generally accepted geological timescale. An important question is: How much selection of data is represented in the hundreds of thousands of dates found in the scientific literature? Selection of data is sometimes freely acknowledged. One investigator states: "In conventional interpretation of K-Ar age data, it is common to discard ages which are substantially too high or too low compared with the rest of the group or with other available data such as the geological time scale."⁸ Another researcher states: "In general, dates in the 'correct ballpark' are assumed to be correct and are published, but those in disagreement with other data are seldom published nor are discrepancies fully explained."⁹

We don't know just how significant these selection factors are, but they are definitely present.

(3) It may be that the variability and selection of dates mentioned above reflects mainly small changes, and that there may be a real trend in radiometric dates toward older dates with depth of sediment. However, this trend may not reflect real time. It may reflect factors associated with the activity of the worldwide flood described in the Bible. Notable are suggestions of:

(a) Incorporation of ancient dating material from the matter of an ancient empty earth that existed here before the recent creation of life described in the Bible.¹⁰ (b) The effect of hydrostatic pressure of the flood waters on the escape of radiometric decay products. (c) The effect of degassing of earth's mantle during the Flood. (d) Cooling effects on molten rock material associated with the Flood. For further discussion and references see the chapter entitled "Time Questions" in the book *Origins: Linking Science and Scripture*.¹¹

It is becoming increasingly apparent that for a century and a half science has led us down the pathway of an evolutionary theory that is becoming more and more implausible. Is science also misleading us down an erroneous time pathway? This may be the case. On the other hand, the newer trends in geological interpretations toward rapid catastrophic geological events are providing increasing credence for the biblical model of origins.

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1. S. A. Austin, "Isotope and Trace Element Analysis of Hypersthene-Normative Basalts From the Quaternary of Uinkaret Plateau, Western Grand Canyon, Arizona," *Geological Society of America, Abstracts With Programs* 24 (1992): A261.

2. E. H. McKee and D. C. Noble, "Age of the Cardenas Lavas, Grand Canyon, Arizona," *Geological Society of America Bulletin* 87 (1976):188-90.

3. W. C. Hoggatt et al., "K-Ar Ages of Intrusive Rocks of the Central Peloncillo Mountains, Hidalgo County, New Mexico," *Isochron/West* 19 (1977): 3-6.

4. J. Woodmorappe, "Radiometric Chronology Reappraised," *Creation Research Society Quarterly* 16 (1979): 102-29.

5. J. Woodmorappe, *The Mythology of Modern Dating Methods* (El Cajon, Calif.: Institute for Creation Research, 1999).

6. S. C. Forster and G. Warrington, "Geochronology of the Carboniferous, Permian and Triassic," in N. J. Snelling, ed., *The Chronology of the Geological Record* (London: Blackwell Scientific Publications for the Geological Society, 1985), 99-113.

7. S. A. Bowring, "Geochronology Comes of Age," *Geotimes* 43, no. 11 (1998): 36-40.

8. A. Hayatsu, "K-Ar Isochron Age of the North Mountain Basalt, Nova Scotia," *Canadian Journal of Earth Sciences* 16 (1979): 973-75.

9. R. L. Mauger, "K-Ar Ages of Biotites from Tuffs in Eocene Rocks of the Green River, Washakie, and Uinta Basins, Utah, Wyoming, and Colorado," *Contributions to Geology, University of Wyoming* 15, no. 1 (1977): 17-41.

10. R. H. Brown, "Radiometric Age and the Traditional Hebrew-Christian View of Time," *Origins* 4, no. 4 (1977): 68-75.

11. Ariel A. Roth, *Origins: Linking Science and Scripture* (Hagerstown Md.: Review and Herald, 1998).

Richard Bottomley replies:

I understand from personal experience the discomfort caused by the implications of long ages for life on earth. However, our discomfort does not give us license to ignore or minimize the data and its implications.

If we are to witness to the generation we are in, we must deal honestly with the real world as it exists, and we must be fair in dealing with data that does not fit our preconceptions. If one person in 100 dies in an organ transplant operation, would you only inform potential recipients about that one failure? Would you conclude that organ transplants are not effective?

Radioactive dating is solid and the data is compelling. As with any field of science, there are anomalies and experimental scatter but the picture is nowhere as bleak as the above interpretation would lead you to believe. As for disputes in academic journals, scientists regularly debate, redefine, and revise research techniques and conclusions. They do not have the short-time creationists' advantage of knowing complete truth before they look at the physical evidence. Instead, there is a professional commitment to progressive truth. It is not always a quick or easy process, but so far we have not found a better, more reliable route to truth about the physical world.

Short-time creationists too often are satisfied with expressing astonishment and dismay that there are any errors or unresolved issues in age-dating techniques. But the real challenge is to face boldly the overwhelming quantity of data from diverse sources that planet earth and life on planet earth do not fit a short-time model. Belief in a Creator God is independent of how he chose to create. I believe it is fine to believe in an earth that is six thousand years old because Ellen White says so. I believe it is also fine to believe in an earth that is 4.5 billion years old because God's second book says so. There is room in our church family for different perspectives of God. But it is not OK to say the earth is six thousand years old because science says so. It does not. Not even close.

The Afterlife of Friends

(via email to author Juli Miller)

I was awe inspired and wept (I'm a grown man) over your article [*Spectrum*, autumn 1999] mainly about your friend Linda and your incredible relationship despite adversity. I continue to have faith in the human race when I read your article.

Bob Brinsmead

I was injured at work two years ago and am permanently disabled. I have faced and understand a lot of what was written. Thanks for sharing. I face a reunion of classmates from academy next Sabbath and I am more prepared.

Coleen Doran