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Introduction

Isotopic (radiometric) dating is the cornerstone of the uniformitarian belief that the earth is very old. There seems to be no end to the dogmatic claims which are incessantly repeated in favor of these dating methods. Both the humanists and their compromising, evangelical devotees have, with no small amount of intellectual arrogance, attempted to hammer home the absolute factuality of the dates derived from these methods—all the while ignoring and belittling the fatal flaws inherent in them.

The present author did an extensive critique of isotopic dating, and this study was published in the September 1979 issue of the *Creation Research Society Quarterly*, and then reprinted in my 1993 (and 1999, 2nd edition) book *Studies in Flood Geology*. While scientific creationists have done individual studies on the isotopic dating methods in recent years, no one has performed an overall review of isotopic dating. This particular book accomplishes just that, while offering a broad-based, yet incisive, rebuttal to the status of these presumed geochronometers.

Much has changed in isotopic dating in the last 20 years, but, as shown throughout this book, these "advances" actually serve to highlight the invalidity of these dating methods. In addition, a wealth of silly arguments have been advanced by apologists for isotopic dating. I address the various bogus claims based on the alleged rarity of discrepant dates, the imagined self-checking properties of these dating methods, the supposed discrediting of the Gospel by questioning the old earth, ostensible "conspiracies" to fabricate agreement on "good" dates, alleged "younging up" trends in isotopic dates, alleged mutual corroboration of biostratigraphic/magnetostratigraphic/isotopic-dating information, concordances between different dating methods, and much more. I also delve into the question of the measurements of decay constants, the alleged convergence of dating results at 4.5 billion years for the age of the earth, and the questionable significance of extinct radioactivity.

There are now several isochron-based methods of isotopic dating in widespread use. Because of the fact that the principles (and fallacies) of the isochron-based methods are essentially the same, I discuss all of these methods in a single chapter. This includes an exposé of some little-known fatal flaws pertinent to all of these methods.

The Ar-Ar method has been widely touted for its presumed ability to distinguish valid vs. invalid dates by analytic criteria alone. I devote an entire chapter demonstrating how widespread acceptance of this method has actually forced its users to abandon such rosy claims. Likewise, the U-Pb method has been revolutionized by the dating of individual zircon grains, inadvertently betraying the composite "ages" of most zircons.

Finally, I tackle the question of how often results of different dating methods can agree by chance. A variety of simple analyses using random numbers clearly shows that fortuitous concordances are not at all unlikely.

A comprehensive index provides the reader with extensive cross references to miscellaneous geologic topics.

Chapter 1

Rebuttal to Critics' Misrepresentations of my Previous Work

Although many of the early dates cited in my earlier paper (Woodmorappe, 1979, 1993) have been superceded by more recent ones, there should be no concern about the bulk of the data being outdated in any substantive sense of the word:

> An individual K-Ar date can only rarely be considered to have a gross precision greater than about 3% when it is compared to dates by other methods and from other laboratories. The analytical methods and precision of conventional K-Ar dates have been only slightly refined since the mid 1950's, so *the vintage of a date is rarely of concern* in its use for time scale calibration (Harland *et al.* 1990, p. 76) [emphasis added].

What of the reactions of uniformitarians to my previous work? Most critics have an obviously very superficial understanding of it (if that). They often characterize it by stereotypes such as "Woodmorappe's list of bad dates." In fact, I also had spent a fair amount of time discussing "good" dates, reliability criteria, and concordance—all of which have been conveniently ignored by the critics. Worse yet, there are many cases where I have been accused of being unaware of something when I had discussed *that very thing* in my previous paper (for examples, see Woodmorappe 1985).

Not surprisingly, apologists for isotopic dating have tried to belittle the fatal flaws of isotopic dating by trying to spin them as "merely a few malfunctioning watches" or "merely a few rotten apples." Consider the following, for example:

> In fact, the number of "wrong" ages amounts to only a few percent of the total, and nearly all of these are due to unrecognized geologic factors, to unintentional misapplication of the techniques, or to technical difficulties (Dalrymple 1984, p. 76).

One wonders, first of all, if "unrecognized geologic factors" do in fact exist, how is one supposed to *know* that they exist? What sorts of powers of omniscience are being arrogated? Or, more seriously, what egregious circular reasoning is being employed?

And what of the "few percent" claim? Based on the literature searches that I have conducted, discussions with geology professors who have used isotopic dating, etc., I find Dalrymple's claim totally fantastic. In fact, I have never read anyone other than Dalrymple make a comparable claim in any of the thousands of scientific articles that I have read on isotopic dating. If Dalrymple can produce a published study in some scientific journal that makes and documents his claim, I would love to see it. He does not, however, cite any study or studies to back up his assertion. Until such a study is forthcoming, and adequately proves such a high rate of dating success on a variety of commonly-used dating materials and in a variety of geologic environments, I think that we best reckon Dalrymple's claim on par with statements by other anti-creationists (who say one thing in the professional literature and another in anti-creationist writings). I am not alone in this conclusion. Richard Milton, a British science journalist and amateur geologist who is neither a creationist nor a religious believer, expresses the following opinion:

> Dalrymple's writings are often strong on rhetoric but weak on scientific fact (Milton 1997, p. 264).

In a chapter of this new paper, I present several lines of direct and indirect evidence which make it all but impossible to accept any argument that suggests that discrepant results amount to only a tiny fraction of all dating results. I also cite a number of qualified geochronologists who openly contradict Dalrymple's "few percent" claim and candidly acknowledge the considerable frequency of discrepancies in isotopic dating. In fact, if anything, it appears that it is closer to the truth to consider the "good" results to be the ones which amount to only a small percentage of all results!

Sounding as if they had just discovered the world, some critics have suggested that a systematic study be done of the relative numbers of "good" and "bad" dates. The trouble with this intellectual-sounding suggestion is this: I *had already considered* such an approach in the opening paragraphs of my 1979 paper, showing that it is unworkable because most discrepant results are not published. I also made it clear, by a citation, that most isotopic-dating work is done on a "non-experimental, nonstatistical basis." In fact, as anyone with even a cursory familiarity with geologic literature is aware, very little isotopic-dating work is experimental in nature. The vast majority of dating results is simply interpreted on a posterioritic basis in the context of the local geology (and uniformitarian presuppositions, of course).

Chapter 2

Overview of this New Book

The topic in question is most commonly called isotopic dating, although some geologists use radiometric dating (e. g., Dickin 1988), or simply radiometry (Gradstein 1985, p. 18). In this book, special emphasis is devoted to those dating methods which have come into fairly widespread use in the last 20 years. These include the FT (fission track), Sm-Nd (samarium-neodymium), and Lu-Hf (lutetium-hafnium) methods. A special chapter each is devoted to the rise and fall of the $^{39}Ar/^{40}Ar$ method, as well as the consequences of single-grain dating of zircons (and related minerals) by the U-Pb method. Other chapters expose the fallacious, propagandistic claims of apologists for isotopic dating. In particular, I demonstrate the fact that isotopic dating methods are not self-checking, nor are discrepancies in any way limited to just a few "malfunctioning watches," as claimed by Dalrymple (1984, p. 76).

Before going any further, I would first like to dispose of some commonly-repeated anti-creationist misconceptions:

Myth: Questioning of such things as isotopic dating and the old earth brings discredit to the Christian faith, and hinders others from accepting the Gospel.

Reality Check: This baseless canard is constantly repeated by compromising evangelicals. But at least they are in good company, as this transparently bogus argument has been repeated by the compromising evangelicals of yore for well over a century. In actuality, compromise with the uniformitarian old-age system has the *precise opposite* effect of keeping the Gospel credible, as noted long ago by William Robert Gordon. He described how unbelievers *actually* react to such compromise:

> Moreover, they are greatly encouraged in their hope of success by the writings of certain Christian geologists, who having adopted their theory of the vast age of the earth, have attempted to force the cosmogony of Moses into harmony with it. Such efforts have not only failed, but have yielded all that infidelity cares to ask for the logical subversion of the Scriptures as the inspired Word of God given to man as his only rule of faith and practice. This advantage bestowed upon modern infidelity was by no means meant; on the contrary, it was intended to take away the infidel's objection to the Bible, arising from his theoretical geology. But it has had the contrary effect, and elicited his contempt instead of his admiration, while he rejoices in the concessions made (Gordon 1878, p. 7).

So the more things change, the more they remain the same. Unbelievers today are not at all impressed by the Scripture-twisting antics of the compromising evangelicals, any more than their 19th-century counterparts had been. And, when one looks at virulent anti-creationist writings, one does not see a flock of converts as a result of the forcing of Scripture to conform to old-age beliefs. To the contrary: All one finds is the exploitation of compromising evangelicals as weapons against true Bible believers, just as had been the case 120 years ago. Thus, then and now, both modernists and compromising evangelicals serve as useful tools of the humanists. *That* is the consequence of currying favor with the humanists and their ideas.

Finally, the canard about the young earth being a stumbling block to acceptance of the Gospel is soundly refuted by the many testimonies of individuals (including scientists) who have been won to the Lord as a result of creation evangelism. Ken Ham (1998) has published many such testimonies. He also tells of many others who would not accept the Gospel until the compromising-evangelical distortions of the Bible (e. g., old-earth beliefs) had been dispelled in their minds, thus allowing them to take the Bible's authority seriously for the first time.

Myth: Scientific creationists are obligated to explain isotopic dating methods before anyone can begin to seriously doubt the validity of these methods.

Reality Check: Creationists are under no such obligation, for the simple reason that the burden of proof is on the uniformitarian and not the creationist. This stems from the fact that it is not creationists who are trying to have it taught as fact that the earth is young: It is uniformitarians who are dogmatically claiming that the great antiquity of the earth is virtually proven fact, and doing it with no small amount of intellectual arrogance. As a result, it is the uniformitarians, not the scientific creationists, who have placed themselves at the mercy of the highest standards of evidence. This fact only serves to magnify the significance of all of the flaws of isotopic dating. Therefore, creationists can point out the fatal flaws

Discover:

- What textbooks and newspapers won't tell you.
- Why discrepancies are common and dating methods are not "self-checking."
- That there is no unequivocal support for an Earth age of 4.5 billion years.
- How geologists often disagree on which dates are "good."
- Why advancements in isotopic dating have only expanded the list of rationalizations for unwelcome dates.
- The steady but obvious retreat of expectations for dating methods.
- How chance alone can explain most agreements between methods.
- And much more!

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