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RESPONSE TO WISE

ROBERT V. GENTRY*

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Abstract

I appreciate the opportunity to respond to Wise's comments. I respond on a paragraph by paragraph basis to the criticism.

*Robert V. Gentry, M.S., Earth Science Associates, P.O. Box 12067, Knoxville, TN 37912-0067.

Pars. 1 and 2.—In these two paragraphs Wise mixes some of his own views with mine. To clarify the issue, I

have made a clear statement of my creation model in A Tentative Creation Model in the appendix.

Pars. 3, 4, and 5.—There is no difficulty in studying polonium halos for anyone who wishes to do so. Joly saw polonium halos and he had no museum specimens to study. Henderson studied polonium halos at length and he had no museum specimens. I have studied them at even greater length without museum numbers with which to refer. The reason that polonium halos have been studied without museum numbers is that they are of worldwide occurrence; they are easy to find. I have reported polonium halos in granites and pegmatites from several continents. Their occurrence is as widespread and pervasive as is the occurrence of those rocks all over the world. University geological museums contain countless thousands of rocks from such locations; so there is no dearth of material to study polonium halos. Moreover, polonium halos do not change their characteristics from one continent to the other so that their study is not confined to a single site or location. If Wise needs material to study polonium halos all he has to do is order biotite specimens from Ward's Natural Science Establishment in Rochester, New York. At any time during the past several years Wise could have availed himself of this material and made as many petrographic sections as he wished to study the rocks.

Pars. 6 and 7.—There is no question that polonium halos in rocks raise some very disturbing issues for conventional uniformitarian geology. However, Wise's assertion that I claim polonium halos are "always found in granites," is patently untrue. In fact, if Wise had carefully read my scientific reports, he would have seen that I specifically note the existence of polonium halos in Precambrian pegmatites (Gentry *et al.,* 1974), fluorite (Gentry, 1973, 1974) and cordierite (Gentry, 1973). What Wise apparently has not understood is that the existence of polonium halos in crystalline rocks served to identify these rocks as the created rocks of this world and that further research will identify even other varieties of rocks as being in this category. In particular, the existence of polonium halos in the biotite at the Fission and Silver Crater Mines serves to identify the host "vein dikes" as also being created rocks, and as already noted, 15 years ago (Gentry, 1973) I published information on the existence of polonium halos in cordierite; so there is no question that at that time I considered the cordierite and its host rock to be among the created rocks. Contrary to Wise's evaluation, this information does not present a difficulty to my creation model. Neither does the inclusion of gneiss as a type of created rock cause a problem as Wise seems to imply. The best that can be said is that it presents a problem for his understanding of my creation model.

In addition, I must note that rhyolite is not granite. Rhyolite and granite have only one thing in common and that is elemental composition. However, granite and rhyolite differ somewhat in mineral composition, quite considerably in mineral grain size, and especially in the presence of polonium halos in one and absence of them in the other.

Par. 8.—In this paragraph Wise first comments on the age sequence of polonium-halo-containing rocks but, interestingly, he does not discuss either the model or the dating method used to arrive at his age sequence. Rather, the entire basis for his conclusions on age sequences is the information in his Table II. Without any disclaimer or discussion of any alternative interpretation of the geological terms in that table, the "accepted age" referred to there seems to be just the conventional geological age determined by uniformitarian geology. In other words, Wise is implicitly using the results of uniformitarian radiometric dating to establish an age sequence of rocks containing polonium halos. However, as I show several times in my book (Gentry, 1988), there is no scientific basis for accepting the crucial assumption of decay rate constancy and without that assumption the conventional ages determined by radioactive methods are meaningless.

Much of the rest of the paragraph is given to various claims about the nature of polonium-halo-bearing rocks but no references are provided to substantiate the interpretation given. Do such references even exist? If so, why were they not provided? I would be happy to respond in print to Wise's claims about polonium-halo-containing rocks if and when he can provide valid documentation for them.

Par. 9.—I have referred to Precambrian granites as basement rocks of the continents to convey the widespread occurrence of polonium halos and also as an illustration of the vast amount of rock which must be identified with the rocks that were created. To say, as Wise does, that some rocks below the earth are of more mafic composition than granites in no way detracts from the evidence pointing to such granites being among Earth's genesis rocks. In this paragraph Wise again makes claims about polonium-halo-containing rocks being younger than "volcanics and even sediments." But I find no documentation for such claims. I would gladly have responded to them if references had been supplied.

Par. 10.—Again Wise erroneously asserts that I associate polonium halos only with granites. And to clarify terminology, I used the term "Precambrian granites" to avoid any possible confusion with a variety of rocks that sometimes are associated with crystalline granite. However, an integral part of my creation model is that granites with polonium halos, of whatever presumed geological age, are created granites. Thus, contrary to Wise's opinion, polonium halos in these other granites do not at all invalidate my creation model.

Par. Il.—Wise recognizes that granite synthesis has not occurred because he states, "And truly, an artificial granite has not yet been produced." Yet he attempts to leave the impression that synthesis is soon to come by quoting various geological reports relating to the synthesis of various single crystals of minerals. The fact is, however, that single crystals of minerals are not pieces of granite; granite, as I have used the term, is a coarse-grained mixture mainly composed of feldspar, quartz, and biotite, and this has not been reproduced in a hand-sized specimen. Thus Wise begs the question when he admits, "though a true granite has not yet been produced in the laboratory, many granitic features have been." At the very best, this is an overstatement because, first, biotite, one of the primary mineral components of granite, has not been synthesized in macroscopic-sized crystals. Secondly whatever minerals have been synthesized in the laboratory do

not contain the polonium halos which are in natural granite, and Wise ignores this tremendous disparity between laboratory synthesis of single minerals and the actual occurrence of granite in nature. Wise is entitled to his belief that a true granite may soon be synthesized in the laboratory, though such a belief is inconsistent with the fact that, when a granite melt cools in the earth, it recrystallizes to rhyolite, not granite.

Wise apparently feels that granite studies over the past few decades bear on the crucial issue concerning polonium radiohalo evidence for creation. Do they? For many years (Gentry, 1979) I have proposed that there is a test whereby it is possible to determine whether the creation or evolutionary view of earth history is correct. This falsification test enables the nonscientist to distinguish real facts from what are simply deductions based on unproven uniformitarian assumptions. Evolution's basic premise is that the earth geologically evolved to its present state over billions of years by the action of known physical laws. A consequence of this premise—technically known as the *uniformitarian principle* — is that all the rocks now on or within the earth formed by natural processes. The evolutionary scenario views granites—a widely distributed rock type that contains polonium halos—as having formed countless thousands of times during the course of earth history. If this is true, then it certainly should be possible to synthesize a small, hand-sized piece of granite or a 10-cm-wide crystal of biotite in a scientific laboratory. Thus, I have invited (Gentry, 1979, 1984, 1986) my scientific colleagues who believe these rocks formed naturally to confirm their view by experimental demonstration. But my nine-year-old invitation (Gentry, 1979) for them to produce such specimens has produced only silence. This is not surprising. *The parentless polonium halos in these rocks provide unique evidence that they did not form by natural processes.*

Par. 12.—There are places where granites (or granodiorites) are surrounded by metamorphosed, fossiliferous-bearing, sedimentary rock. But contrary to Wise's view, such occurrences do not falsify my creation model. Conventional uniformitarian geology teaches that granitic melts have intruded into fossiliferous sedimentary rocks, thereby producing a metamorphic zone. But my explanation of such metamorphism is quite different from that scenario and is based on the previously mentioned fact that, when granite is melted in the earth and subsequently cooled, it recrystallizes to form rhyolite, not granite. My model for explaining metamorphosed, sedimentary rocks adjacent to granites—such as those that occur in the Santa Rita mining district in southeastern New Mexico—is as follows: Sometime during the Flood, movements within the earth could have broken open an underground aqueous reservoir which then contacted an intensely hot magma at considerable depth. That contact could then have produced a superheated fluid loaded with volatile components extracted from the magma. (In this scenario these volatile components would subsequently become the mineralizing agents in producing the ore bodies.) This superheated fluid would in turn have generated tremendous subterranean pressures. Movements within the earth also would have fractured the heretofore unbroken granodiorite basement rock. Once that happened, extremely high pressure from both underground magma and the geothermal fluid would cause the uplift of a huge section of the fractured granodiorite into the overlying sediments. The magma referred to here would cool to form rhyolite and other secondary rocks in the area, whereas the hot geothermal fluid is envisioned as the mineralizing agent for both the uplifted granodiorite as well as the surrounding sedimentary rocks. In such cases the metamorphic zone in the surrounding sedimentary rocks would be produced by heat from the geothermal fluid rather than from a cooling granitic melt.

Par. 13.—Again Wise maintains that granites surrounded by metamorphosed, fossiliferous deposits would invalidate my view that granites are created rocks. And he tacitly assumes the causative agent in producing such metamorphism is heat from a cooling granitic melt, which is contrary to the experimental evidence, namely, for the third time, that a granitic melt cools to form rhyolite, not granite. In response to the previous paragraph I have outlined a scenario whereby metamorphosed, sedimentary rocks can be produced around granites by hot geothermal fluids at the time of granite uplift. Thus, such occurrences are within the framework of my creation model.

Par. 14.—Wise makes a clear, unequivocal statement of fact when he says, "No satisfactory, naturalistic theory has yet been proposed for the origin of the polonium halos." He then rehashes a number of plausibility arguments, all of which I have rebutted in the open scientific literature (Gentry, 1968, 1971, 1973, 1974, 1984, 1986; Gentry *et al.*, 1973, 1974, 1976), in an attempt to deny the validity of his own statement. For example, the insinuation that polonium halos occur only along cracks or conduits is denied by the photographic evidence even in Henderson's reports as well as in my own reports (Gentry, 1967, 1968, 1971, 1973, 1974, 1984; Gentry *et al.*, 1974) and especially in the color photographs in my recent book, *Creation's Tiny Mystery* (Gentry, 1988). In an effort to promote a water-related origin of polonium halos, Wise cites someone else's opinion to the effect that all of the minerals containing polonium halos can be produced hydrothermally in the laboratory. This idea is, of course, a widely held belief of uniformitarian geology. But it lacks experimental confirmation as far as reproducing macroscopic-sized actual crystals are concerned. For example, for many years I have challenged geologists to produce a hand-sized specimen of biotite—one of the more prominent halo-containing minerals that is presumed to be of hydrothermal origin—as a means of verifying that biotite can be produced hydrothermally according to the conventional evolutionary view (Gentry, 1979). Almost a decade has passed, and no evidence exists to indicate such a synthesis has been accomplished. So there is no scientific basis for claiming that natural crystals of biotite are of hydrothermal origin, or more specifically, that all polonium-halo-containing minerals are of hydrothermal origin.

Par. 15.—On another matter, Wise's contention that the search for polonium halos has been biased toward areas where uranium halos are found is untrue. To be sure, Wise heard me describe the occurrence of polonium halos in the distinctly uranium-poor White Moun-

tain (New Hampshire) granites during my technical presentation at the 1986 International Conference on Creationism. For some reason it appears he has overlooked that information in his present evaluation.

Par. 16.—Here it is most important to understand that Wise raises a question about what *does not exist.* On the other hand, my experimental work on radioactive halos deals with what *does exist* and the problems that one encounters in trying to explain these halos on a uniformitarian basis. Wise faults me for not explaining the halos that do not exist. In this case, I see no reason to attempt to explain something that does not exist. Moreover, Wise's association of the other polonium isotopes with primordial polonium is something that is based on uniformitarian views of earth history and in no way discounts the creation of primordial polonium in primordial rocks. In particular, each chemical element in the chart of the nuclides lists both naturally occurring isotopes as well as those which have been identified in nuclear accelerator experiments. Modern astrophysics attributes both the naturally occurring stable and long-lived radioactive isotopes—such as U-238 and Th-232—in this chart with *primordial nuclides* produced in *stellar nucleosynthesis.* Doubtless some chemical elements in stars are produced by nucleosynthetic reactions, but I have yet to see the scientific evidence which justifies assuming that the origin of Earths chemical elements can be traced to stellar nucleosynthesis. Thus, I find no rational basis for accepting the modern astrophysical concept of primordial isotopes.

Par. 17.—Ion microprobe analyses of polonium halo centers have revealed scientific evidence supporting an independent origin for the polonium responsible for halos (Gentry, 1971; Gentry *et al.,* 1974). By way of further explanation, the isotopic composition of lead derived from uranium decay—meaning the Pb-206/Pb-207 ratio—must always be considerably less than the activity ratio for U-238/U-235, which at the present time is 21.8. Since Po-210 halos in coalified wood originated from uranium decay, it was expected that their centers would exhibit Pb-206/Pb-207 ratios consistent with uranium decay, and ion microprobe analyses confirmed this was the case (Gentry *et al.,* 1976). But when the same technique was applied to polonium halos in minerals, I found ratios greater than 22, which is too high to associate with uranium decay (Gentry, 1971). Such isotope ratios identify a new type of lead, which is distinct from the isotopic composition of any type of common or radiogenic lead known heretofore. This is the scientific evidence which uniquely identifies polonium halos in rocks as having originated with "parentless" polonium—polonium that originated independent of uranium daughter products.

These extraordinary lead isotope ratios, when combined with the absence of evidence for secondary transport of uranium daughters (Gentry, 1967; 1968) as well as the evidence for geometric design in the spectacle halo (Gentry *et al.,* 1974), provide a valid scientific basis for associating polonium halos in granites and other rocks with primordial radioactivity.

Conclusion.—A close examination of Wise's paper fails to reveal the "serious geological problems" relative to my creation model and granites being created rocks. Specifically, polonium halos can easily be studied by anyone who has the desire to obtain the minerals containing them. Their widespread and pervasive occurrence in granitic rocks and pegmatites assures scientists all over the world easy access to study the geology in whatever country they are found. The claim that laboratory studies in granitic texture have virtually falsified my theory of created granites is contradicted by experimental evidence from the laboratory of nature which shows that a granite melt cools to form rhyolite, not granite. Hence the idea that granites "metamorphose fossiliferous sediments" is nothing more than a deduction based on the erroneous view that granites formed from a cooling melt. Finally, it is one thing to conclude, as Wise does, that polonium halos "may be uranium- (and possibly thorium-) derived and hydrothermally transported," but it is another thing to virtually ignore, as Wise also does, the published scientific evidence to the contrary.

Readers genuinely desiring pertinent information about my creation model—and not what others speculate about my model—should carefully study my position as stated in the appendix and the discussion of the supporting scientific evidence in my book *Creation's Tiny Mystery* (Gentry, 1988).

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Gentry, Robert V. 1979. Time: measured responses. *EOS Transactions of the American Geophysical Union* 60:474.

———. 1988. Creation's tiny mystery. Second edition. Earth Science Associates. Knoxville, TN 37912-0067.

*The references not cited in this section may be found in Wise's reference list.

APPENDIX

A TENTATIVE CREATION MODEL**

Introduction

This model is based on my interpretation of the Biblical account and scientific evidence; it does not represent the official position of any organization. It elucidates only my views as a creation scientist. Scientists who differ with the assumptions inherent in this model need to publish their own model of earth history. In this way all ideas can be critically tested by the scientific method. I respect the right of any individual to choose that model which fulfills his philosophical and/or scientific view(s) of origins.

Scientific Basis

If the earth was created, then it is axiomatic that created (primordial) rocks must now exist in abundance on the earth; and if there was worldwide Flood, there must now also exist a vast amount of sedimentary rocks resulting from that event. The Precambrian, and by extension the similarly appearing non-Precambrian granites, are identified as part of the primordial rocks of the earth. Evidence which supports the above axiom includes: (i) widespread occurrence of Po halos in Precambrian granites (Gentry, 1967; 1968; 1971; 1974; 1984; Gentry *et al.,* 1973; 1974); (ii) U/Pb ratios in coalified wood (Gentry *et al.,* 1976); (iii) Po-210 halos in coalified wood (Gentry *et al.,* 1976); and (iv) Pb and He retention in zircons (Gentry, 1982a, b).

Postulates and Singularities

This model allows for considerable latitude in the operation of physical laws because I believe the

**References noted in this appendix can be found in Wise's reference list.

Biblical record strongly suggests that the earth came to its present condition through both natural and supernatural processes. The special time periods when supernatural processes were operating on a global scale are called singularities. The Genesis account appears to encompass at least three major singularities: (i) the first six days of creation, consisting of literal 24-hour periods, when the earth was called into existence, (ii) the Fall of man, a time characterized by degenerative changes to the entire earth and life thereon, and (iii) the time of the Flood, characterized by global changes both on the surface and the interior of the earth. A possible fourth singularity would be the division of the earth in the days of Peleg (Gentry, 1984). Accelerated radioactive transformation rates are postulated as being possible within each of these singularities and, in addition, are considered to be a factor in the generation of intense heat within the earth at the time of the Flood. In this model, creation week is considered to have occurred about 6000 years ago and the Flood about 4300 years ago. The uniform action of physical laws *between* singularities is an integral part of this creation model. However, the period of a singularity does not imply complete abandonment of natural laws but rather that there was an added factor at work.

Creation Week Events

A continual series of creative events is envisioned to have occurred throughout the period of Day 1 and quite possibly more throughout Day 3. This scenario includes rapid, sequential creation/formation of different rock types in close proximity and this certainly could have resulted in cross-cutting relationships of either the same or different types of primordial rocks. These different rock types and textures result from rapid crystallization of separate primordial (created) liquids. The appearance of dry land out of a watery environment on Day 3 may have been accompanied by the rapid formation of certain sedimentary rocks, in particular those that geologists classify as Precambrian, which initially would have been free of fossils. Creation week may have included vulcanism and the formation/creation of some rocks which geologists classify as intrusive. Conceivably, there may also have been mixing of different created-rock types.

Flood Events

The global Flood is assumed to have produced tremendous upheavals of the earth's crust. Excepting only newly created matter (or rocks), the period of the Flood was characterized by numerous occurrences of both natural and supernatural formation, cooling, deposition, intrusion, uplift, mixing, erosion, and vulcanism. This model postulates that the bulk of fossil-bearing and sedimentary rocks probably formed during the opening and closing stages of the Flood, with lesser amounts being formed during the long period of subsidence, readjustment, and run-off after the Flood. Since the long-term geological effects of the Flood may have lasted for centuries, we should expect to find evidence of numerous combinations of created rocks, the Flood-related rocks, and the postFlood rocks.

To illustrate, extensive vulcanism during the Flood and postFlood periods could have precipitated the intrusion of volcanic magma into sedimentary formations. This would provide a mechanism whereby the primordial and other rock types, formed during creation week, could have mixed or interacted with Flood-related volcanic and sedimentary material. Consider that, as magma moved upward toward the earth's surface, it could have passed through and melted, or alternatively encapsulated, a variety of rocks, beginning with those created on Day 1 or Day 3, and extending through those formed by volcanic and sedimentary activity during the Flood. When that magma finally solidified, it would have been a composite of all the rocks just mentioned. If the magma temperature was not too high, then the composite rock would have been expected to contain unmelted fragments of many rocks through which the magma had passed.

Summary

It is proposed that most coarse-grained rocks, such as the Precambrian granites and pegmatites, were created via rapid crystallization from primordial liquids of differing compositions. But for reasons stated above, not all rocks with coarse-grained characteristics are necessarily composed of only created rock material. Neither do I consider it impossible to duplicate every type of created rock. The types of created rocks are not restricted except that they did not contain fossils at the time of creation. Granites with Po halos, regardless of their "geological age," are primordial rocks and this tentative model assumes they were created in such a way that they cannot be duplicated by natural process. In contrast, the evolutionary model assumes that the entire earth originated solely by natural processes and, in particular, that granites crystallized from a slowly cooling melt with Po halos forming much later from uranium daughter activity.

Testing the Models

If the evolutionary version of earth history is correct, it should be possible to duplicate natural granite by first synthesizing a granite rock *without* halos, and then demonstrating that *Po halos can be formed within it using uranium daughters.* For years scientists have been challenged to perform this crucial experiment (Gentry, 1979). Could it be the continued failure to duplicate natural granite is because this rock required supernatural power to form?

Materialism

The following quote from a novel published in 1910 illustrates the influence of atheistic materialism on our culture. A medical doctor having been congratulated by a mother for curing her child, offers the following commentary:

> A great surgeon of France centuries ago was accustomed to say of a convalescent patient: 'God cured him; I dressed him.' I do not know whether, if I dared speak for the science of medicine near the close of the nineteenth century, I could say that. That is not the language of science now. If science thanks anything, it thanks other sciences and respects itself. (Allen, 1910, p. 34)

Reference

Allen, James Lane. 1910. The Doctor's Christmas Eve. Macmillan, New York.