

## 5 *Halo Dating*

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### *Gentry's Incursion Into Geology*

Ackerman in *It's A Young World After All* (1993) introduces the Halo Dating subject by saying Robert V. Gentry, his source, is “among the world’s leading experts on radiometric dating....” (*Id.* at 104.) But that appears to be an exaggeration.

According to the byline that accompanies Gentry’s 1968 article in *Creation Research Quarterly*, we read: “Robert V. Gentry is associated with the Institute of Planetary Science, Columbia Union College, Takoma Park, Maryland.”<sup>1</sup>

Ackerman claims that Gentry at some point was “a head researcher in chemistry at the Oak Ridge National Laboratory.” If true, does that qualify Gentry to make findings on Halos to date their origin?

While radiometric dating is a mixture of chemistry and geology, such a background in chemistry alone seems insufficient to prepare Gentry for his research. Geologists are trained on how to take samples and date them. This is where Gentry’s work later was shown by highly qualified geologists to be flawed: in the geology.

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1. See Robert V. Gentry, “One the Invariance of the Decay Constant Over Geological Time,” *Creation Research Science Quarterly* (Sept. 1968) at 83.

*Ackerman's Synopsis of Gentry's Discoveries*

Ackerman says that Gentry was examining coal deposits in the Colorado Plateau thought to be “hundreds of millions of years old” by “evolutionists” when he came across an interesting discovery in some coal. As background, Ackerman explains uranium should become sealed in coal and have its radiometric clock reset at zero as a result of coalification. As the uranium decays thereafter, its radiation should form a halo in the surrounding rock. A clock can be created, Ackerman says, from this halo itself. (*Id.* at 105.)

(This is apparently untrue.)<sup>2</sup> Also, the uranium can provide a radiometric date because it will age from its daughter element of lead. Ackerman then concedes radiometric dating is accurate in this case of uranium: “This ratio [of parent uranium to daughter lead] gives *a fairly precise estimate of how long the decay process has been going on* at the site and thus how old the coal formation is.”

(As we shall realize later, this illustrates that young earth science practitioners will approve radiometric dating when they believe the results support them, but find means to reject it as “based on assumptions” when they anticipate the results contradicts their position. This means their arguments are often based on the fallacy of special pleading.)

By the halo “dating method,” Gentry concluded that the coal formations on the Colorado Plateau were “only a few thousand years old.” Gentry also claimed that the halos in *polonium* (*i.e.*, a chemical in uranium) in the coal in the Colorado Plateau show that they had flattened out while the coal was forming. Gentry claimed that the time to form the coal was therefore “less than twenty-five to fifty years.”

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2. No experts have ever said a clock can be deduced from the halo. It was thought in 1917, as Gentry points out, only that the halo could tell you if the decay rates of a particular mineral had altered over time. But this has itself never apparently been proven true.

Gentry even published his results in *Science* in 1976.<sup>3</sup> Similar articles previously appeared in *Creation Research Society Quarterly*.<sup>4</sup> Secular opponents concede an explanation for why he was published in *Science*—a highly reputable journal: “he is a competent physicist, and his laboratory experiments dealing with the amounts of radiation necessary to produce halos in mica and fluorite are accurate and acceptable to the referees for major journals.”<sup>5</sup>

Gentry concluded that *if scientists are so wrong about the time needed for coalification, then they can be wrong about a lot of other earth processes*. (How significant such a conclusion is to the “age of earth” controversy is disputable, given all the other confirming methods of dating.)

Were these results provable? Gentry, by having his work published in *Science*, was immediately subject to peer review. How did he fair? Not well at all.

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3. Ackerman cites Robert V. Gentry, “Radiohalos in Coalified Wood: New Evidence Relating to the Time of Uranium Introduction and Coalification,” *Science* 194 (Oct. 15, 1976) at 315-17. This is also discussed in Gentry's *Creation's Tiny Mystery* (Knoxville, Tenn.: Earth Science, 1986).
  4. The article was entitled “On the Invariance of the Decay Rate Constant over Geological Time,” *Creation Research Society Quarterly* (Sept. 1968) Vol. 5, at 83 et seq. Interestingly, in this article, Gentry did not argue for a short period of coalification. Rather, he suggested uranium (polonium) halos' variations *point to a varying decay rate*. His conclusion was that there was “no conclusive evidence that isotopic ratios of radioactive decay nuclides represent elapsed time as is usually considered the case.” (*Id.*, at 85). That statement is in fact quite accurate; the evidence is not conclusive, but he never disputes that it is highly probable and persuasive.
  5. See Lorence Collins, *Polonium Halos* (2000).

*Scientists Cross-Check and Falsify Gentry's Claims*

It turns out that there is utterly no proof of halos of any kind in basement (lowest/oldest) rock. Gentry was vague in his paper on the location of his granite crystal samples. So geologist Jeffrey Richard Wakefield contacted Gentry. With Gentry's help, Wakefield actually visited all of Gentry's sample sites. Through a series of phone conversations with Gentry as well as a trip with him to one site, Wakefield pinpointed the exact locations from which all of Gentry's samples were taken. Wakefield discovered that in *every case* Gentry's samples came not from basement granites as he had claimed, but rather from young dikes (igneous rock infusions into vertical fissures) that crosscut older igneous and sedimentary rocks. Either Gentry is a poor geologist (he is in fact only a chemist) or he intentionally deceived his audience. Because his background is really chemistry, this must have been an honest mistake by Gentry. Yet, it was the product of his trying to do original research in a field outside his expertise.<sup>6</sup>

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6. Incidentally, two more geologists, Leroy Odom and William Rink, independently responded to Gentry's polonium-decay hypothesis. They pointed out that there had been three kinds of unexplained halos, and Gentry's falls into one of those categories. One of the three types already had been explained: giant halos. They are the product of hole diffusion — an ultra-slow process. If Gentry's halos are real, then they eventually might be likewise explained. They conclude that Gentry's data, if true, does not "require neither unknown radioactivity nor an abandonment of current concepts of geologic time." Odom & Rink, "Giant Radiation-Induced Color halos in Quartz: A Solution to a Riddle," *Science* 246 (1989) at 107, 109.

*Conclusion*

Gentry is often cited by young earthers. His article was published by *Science*. It was, however, then tested and falsified. Gentry's paper should be an embarrassment. Rather than scold him for his errors, young earthers continue to venerate his writings and statements. We can forgive Gentry. He was a chemist trying to do geology. It is those who continue to tout Gentry's erroneous findings and hence erroneous conclusions who are the ones to fault. The leaders of the young earth movement certainly must know the flaws in Gentry's work. Yet, they persist in touting Gentry's claims. Even so, they do not add up to much. So what's the big deal if coalification took less time than normally assumed? It does not prove a young earth.

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