

DISCUSSION GUIDES

Matt and Tiffany hit the road again to meet with an ER physician named Paul Giem, who has taken on the burden to research dating techniques in the attempt to come up with data and ideas that might support his biblical views on Creation.



Discussion Leader: Dr. Stan Hudson was a geology major at the University of California at Riverside before becoming a Christian. He then shifted his studies to theology, eventually earning a Doctor of Ministry degree at Fuller Theological Seminary. Today he combines both interests, co-hosting the weekly radio program "Sink the Beagle," a light-hearted approach to creationism and evolution issues. He currently pastors two churches in the university towns of Moscow, Idaho and Pullman, Washington.

1 QUESTION:

For Matt it seemed that creationists were ignoring a "big piece" of data when not accepting the standard model of radiometric dating of billions of years. Do you think that creationists should ever ignore data?

ANSWER:

Admitting that there are problems still, questions that remain unanswered, is reasonable in the scientific pursuit of knowledge. That's not the same as ignoring evidence. Matt seems to have confused the two; models are not often given up for the sake of one or two problems, especially when other evidence seems overwhelming.

2 QUESTION:

Ben Clausen, a nuclear physicist, stated that radiometric dating is based upon measuring the differences between what two kinds of isotopes?

ANSWER:

"Parent" and "daughter" isotopes. That is, the relationship between what is assumed to be the original stuff (the parent) and the amount of decayed stuff (the daughter).

DEFINITION:

AGE OF THE EARTH—Most scientists believe the earth to be about 4.5 billion years old, based upon radiometric dating. The Bible records that life was created by a special act of God somewhere between 6,000 and 7,500 years ago, depending upon the ancient manuscripts used. The somewhat ambiguous "and the world was void and without form" of Genesis 1:2 might suggest that the planet itself was created at an earlier time; however, God does not require material to create from, being the Creator of matter itself. And in any case, this older aged rock would not solve fossil dating problems, as layers between fossils are at issue. Some possible suggestions as to why rocks appear old: (1) God made a mature world for Adam and Eve, with plants, animals and even mankind themselves as mature and apparently older; perhaps He made the rocks with apparent age (to increase their usefulness as a resource?), (2) God avoided making rocks that were strongly radioactive as a safety precaution for His creatures or (3) At sometime after their creation (perhaps at the Flood) some unknown process sped up the decay rates of rocks, giving them the false appearance of great age.

DEFINITION:

ISOTOPES—The different forms that elements come in, dependent upon the number of neutrons in the nucleus, affecting weight and stability. Carbon 14 is an isotope of carbon, for example. It is less stable than the more common form of carbon, Carbon 12.

3 QUESTION:

Matt pressed Dr. Giem with “it just seems like creationists are trying to find ways around” radiometric dating. Dr. Giem countered with evidence that coal beds are sometimes dated in just the thousands of years when found sandwiched between layers of rock that “date” to millions of years. In other words, when even using radiometric’s own methods things can become confusing.

According to Dr. Clausen creationists use just this argument to try to disprove radiometric dating. They will point out dozens of places where “dates” come out mixed up, where different dates are found for rocks in a single deposit (especially in volcanic flows). And these are indeed “discordances” (places where data doesn’t make sense!). But he then raises the best question of the program. What was it?

ANSWER:

He asks creationists ‘then why do the *vast majority* of dates line up with the standard model of billions of years?’

4 QUESTION:

Dr. Giem raised the possibility that God at one time sped up the rate of decay, which would account for the “apparent age” of rocks. This would account for a recent discovery of unexpected high amounts of helium in some kinds of rocks; helium, a byproduct of the decay processes of isotopes, might be expected to bounce out of rocks and into the air, if there had been millions of years to do it. This evidence is disputed by scientists, including some creationists. But on the questions of the “speeding up of decay,” why is this a hard one for some scientists to swallow?

ANSWER:

It’s like God cheated and did something outside of natural law, something that scientific measurements couldn’t come up with accurately ...and that’s very frustrating!

5 QUESTION:

When Matt and Tiffany began discussing (arguing?) these issues Tiffany made the statement that “science can’t prove everything.” Is that reasonable?

ANSWER:

If one can accept the limitations of man, it is reasonable. If one has high confidence in man’s ability to discover all of reality, maybe not.

6 QUESTION:

Dr. Giem was content with “taking science as far as it goes,” especially in areas where it could prove things from repeatable and observable experiments. That’s classic science. But he added “let’s not assume that the universe follows our scientific canons as absolutes from which there can be no appeal.” What do you think?

ANSWER:

It all comes down to what your world-view is, your cosmology. Does God exist? Does he establish natural laws? And does He have to follow them? Does He ever do miracles? Also, this question relates to how capable man is in determining reality very accurately. Can science sufficiently explain everything we experience? That gets tougher in the area of spiritual things.

DEFINITION:

RADIOMETRIC DATING—Often cited as the strongest evidence against a recent creation, the method of dating the age of rocks by measuring parent versus daughter isotopes. Many elements in igneous rocks break down over time (from “parent” materials into “daughter” materials) at speeds dependent upon the stability of their isotopes. This decay begins at the rock’s formation. These apparent decay-produced ratios are consistent enough throughout the earth’s geologic column to support a model of age measurement. That model is based upon three assumptions: #1 Rates of decay are constant. #2 The materials have not been contaminated (it’s a “closed system”). #3 The initial ratio between parent and daughter isotopes is known. These assumptions are maybe somewhat challengeable (#2 and #3 especially), but as yet no creationist argument seems adequate.

DEFINITION:

CARBON 14 DATING—A method of dating organic material. It is useful in determining dates in the thousands of years, but not older, since the “half life” of Carbon 14 is only 5730 years, meaning that easily measurable quantities don’t exist, according to standard models, after about 50,000 years. This method also assumes conditions to have remained the same in the world, both in the atmosphere and in the total amount of organic carbon available. The Biblical Flood would have disturbed the carbon content of the atmosphere, and since much carbon material became coal and oil following the Flood, organic materials from before the Flood would give false older readings.

7 QUESTION:

For radiometric dating to work, Dr. Clausen pointed out the three basic assumptions (see glossary term). Of the three assumptions he said that there are times when we can reasonably challenge two of them. Which one does he feel the most difficult to challenge on the basis of science?

ANSWER:

That decay rates ever change. All laboratory attempts at changing decay rates (like with heat, pressure and so on) have failed. We should be somewhat skeptical of dating models where this is used.

8 QUESTION:

When we are talking about radiometric dating, Carbon 14 is often mentioned. However, why is this method not particularly important when we’re talking about millions of years?

ANSWER:

Because Carbon 14 dating is used only on organic materials believed to be *younger* than 50 to 75,000 years of age. This is because Carbon 14’s half life (see glossary terms) is only 5730 years, meaning it decays too fast for there to be any left in layers that are supposedly millions of years old. So, other methods like potassium-argon and uranium-lead are used.



9 QUESTION:

Dr. Clausen did give an example where one could expect errors in potassium-argon dating (the most commonly used method, used on volcanic flows). He mentioned that if the lava flowed underwater water pressure would keep some argon (a gas) in the rocks. This would give a false reading of more “daughter” stuff in the rock...meaning it would read older than it really was. What ramifications would this have for creationists?

ANSWER:

Since creationists believe there were immense volcanic eruptions during the Flood as the earth’s crust was breaking up, it’s very conceivable that huge amounts of lava came out of the earth underwater. Though this is a partial answer, there are still big challenges for creationists.

10 QUESTION:

Matt seemed to question creationists’ views on dating as being “guesswork.” Both he and Tiffany agreed that people need to know the arguments on both sides better and that some study was necessary. However, Tiffany ended with a personal testimony: “Science doesn’t rule my life. My relationship with God is more important to me.” What do you think she was saying? Do you agree with her?

ANSWER:

She may have been saying several things: “Science can’t explain the reality of God in my life.” -OR- “I get tired of hearing evidence against my belief, so I will now end the discussion.” -OR- “I wish I could, but I can’t give scientific laboratory type proof for what I know to be true.” -OR- what other possibilities do you hear? For the kind of person Matt is, the one who seems to demand proof, this answer might not be sufficient...maybe it would even seem denial! But others might relate very well to it.

