
Creation Answers

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Who does this newsletter?

This newsletter is produced by Wayne Spencer on a Quarterly basis. Its purpose is to bring creation research within the reach of Christians and provide up-to-date reliable information on creation issues. Wayne Spencer is a creation author and former teacher who has presented papers at the International Conference on Creationism and has published in various creation publications.

This newsletter is meant to help people plug into creation resources and get informed about creation and evolution. It is provided free of charge on request. Using the free Adobe Acrobat Reader is necessary for viewing the newsletter. There are no restrictions in copying this newsletter or passing it on to others. To request to be placed on the e-mail list, send a request to Wayne at wayne@creationanswers.net.

More information on Wayne Spencer's education and publications can be found on the creationanswers.net web site. You'll also find many other resources. <http://creationanswers.net>

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A Personal Note from Wayne Spencer

I would like to welcome new readers of this newsletter. This issue continues a series on radioactive dating techniques. I would encourage you to download the previous issues in the series from my web site if you have not read them. Creationist scientists have done some excellent original research on radioactive dating techniques. I have tried to summarize it and make it understandable. Anyone who would like more detail or would like to know my sources is welcome to contact me.

I would also like to thank those who have prayed for my job situation. As of March 1st my job at Calyx Software in Dallas became permanent. Though I am still struggling financially, this will improve my situation. It may allow more ministry opportunities since it may allow me to plan for speaking opportunities.

Those of you who live in the Dallas-Fort Worth area should be aware of the local monthly meetings of the DFW Creation Study Group. I send a separate email announcement for that meeting. Anyone who would like to be on my list to get that announcement should email me. I also put information about the next meeting on my website under Meetings and Events, about one week before the meeting. These meetings are meant for high school age and up and they take place on a Saturday, from 2:00 to 4:30 PM. The date varies from one month to another. We have great discussions on both science and Biblical themes.

Wayne Spencer, M.S., Physics

Radioactive Dating and Helium Diffusion - Confirmation of the Biblical Time Scale

In the past two newsletters we have looked at radioactive dating techniques and at reasons their results are not reliable. In this issue we will look at the isochron technique and at new research on Helium diffusion that gives an exciting confirmation of the Biblical age of the Earth.

There are three key assumptions of radioactive dating techniques that have been called into question by young earth creationists. See the Sept. 2004 issue of this newsletter for more details on this. The First of these is that there is a constant decay rate of the radioactive elements. Creationists now have done their own experimental research that calls this assumption into question. The research on Helium diffusion in zircon crystals that follows is one line of evidence to that effect.

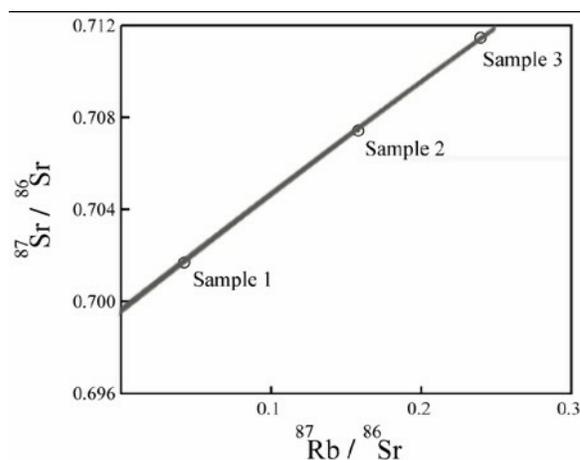
Other major assumptions of radiometric dating are that the sample has been a closed system while the decay occurred and that the initial concentrations of the radioisotopes is known. In real rocks and minerals, the closed system assumption would mean that there was no non-radioactive process that changed the amounts of the radioactive elements while the radioactive decay was taking place. This assumption is seldom completely valid. There are always other processes that "interfere" with the age calculation. Scientists try to account for these other processes. There is a tendency for there to be unaccounted for processes that either take away the parent isotopes or add to the daughter isotopes, making the radiometric age figure turn out too large. The initial concentration assumption has to do with knowing the starting conditions of the mineral that the decay took place in. If the age calculation incorrectly assumes there was none of the radioactive daughter element present when the rock formed, this

will throw off the age result. Daughter elements present when the mineral formed can make the sample seem older than it really is, if it is not accounted for properly in the calculation.

The Isochron Technique

The isochron dating technique was devised as a way to avoid errors caused by the assumptions above not being true. The technique provides what's believed to be a self check of the second and third assumptions above.

In the isochron technique, the concentrations of the radioisotopes are used to calculate certain ratios and these are plotted on a special graph such as the graph below. For this graph, Rubidium-87 (Rb-87) decays into Strontium-87 (Sr-87). Strontium-86 is not radioactive and thus it is used as a reference. If there was no radioactive decay, the line connecting the three samples would



be perfectly horizontal. But as Rb-87 decays into Sr-87, this makes the slope of the line move up as more and more Sr-87 accumulates in the rock. The point where the line through the samples intercepts the vertical axis (0.70) is believed to give the initial concentration of the daughter element, Sr-87. If the points plotted for the samples do not line up on a straight line, this is taken to mean that the samples were not a closed system.

Radiometric dating techniques, other than the Carbon-14 method, can only be used on igneous and metamorphic rocks. They cannot be used in sedimentary rocks. This means radiometric dating methods (other than C-14) are not used to date fossils directly. Sometimes there are contradictory results such as when a piece of wood is buried by a lava flow from a volcanic eruption. The wood is known to be older than the lava flow but the lava flow will date to be millions of years in age but the wood may only date to be thousands of years.

There are also cases where multiple radioactive dating methods are used on similar samples so that their results can be checked against each other. There are also studies in which the individual mineral grains in a rock are dated as well as other minerals from the same rock, so that the two results may be compared. There are sometimes significant disagreements between these different radiometric methods. Creationist geologist Steve Austin has documented examples of such "discordant" results in the Grand Canyon. Samples from the top of the Canyon, from the Uinkaret Plateau dated older by hundreds of millions of years than rock taken from some of the deepest and oldest layers in the Canyon (the Cardenas Basalts and the Diabase Sills). There are also various processes that can cause radiometric dates to plot in a straight line on an isochron graph, though the age figure is known to be impossible because of other evidence. Much has been published by the Institute for Creation Research on this research. The proceedings of the International Conferences on Creationism also include important papers on these topics by Dr. Andrew Snelling or by Doctors Austin and Snelling.

Thus, isochrons may look valid from being beautiful straight lines and the evidence from radiometric dates may sometimes appear to fit evolutionary ages. But creationists are beginning to be able to

explain why the various methods appear to work sometimes and why they do not work in other cases. This involves lot of technical details I will not go into in this newsletter. The bottom line is that no radiometric methods work reliably, with some possible exceptions for Carbon-14 for ages less than about 4,000 years (since Noah's Flood). However, in the light of recent creationist research, it may be possible some day to correct at least some radiometric age calculations. There is evidence of trends in the ages given by the various radioisotopes that are not yet understood. For example alpha decay isotopes give older ages than beta decay isotopes.

Helium Diffusion in Zircons

Creationists from the R.A.T.E. research project have completed some interesting studies that challenge conventional thinking regarding the radioactive decay of Uranium. In 1974, Los Alamos National Laboratory commissioned drill cores to be dug at a site in the Jemez Mountains in New Mexico in an effort to look for geothermal energy sources. In 1982 creationist scientist Robert Gentry published a controversial result in which he measured the amount of Helium retained inside certain crystals from some of these drill cores. The mineral biotite from these samples contains crystals known as zircons. "Zircon" is a shortened name for zirconium silicate. These crystals were radioactive. They contained products from the radioactive decay of Uranium-238. Uranium-Lead dating results done by evolutionist scientists gave values of about 1.5 billion years for the age of the biotite rock from the drill cores. This was consistent with what geologists accept for the age of that rock unit. For every Uranium-238 atom that decays inside one of these zircon crystals, eight Helium atoms are produced (from the alpha particles given off). Now Helium is a pretty small atom and it does not react chemically with other substances, and so it has a tendency to find

its way out. It will escape the crystal and Robert Gentry was the first to notice that the amount of Helium present in the zircons did not agree at all with the very old age that geologists accepted for the crystals. Gentry's measurements were not taken very seriously apparently by the scientific community. But in the past few years, creationists from the R.A.T.E. research project have done further experimental studies that validates Gentry's measurements and the results are an exciting confirmation of Biblical chronology.

The R.A.T.E. team obtained samples from the same drill cores and contracted with a high precision laboratory to measure the Helium diffusion rate from the zircons in the biotite samples. Prior to the R.A.T.E. project, there had been very little interest in measuring Helium diffusion in zircons by the scientific community. In fact, apparently no one had measured it in biotite minerals. Laboratory work was done at two different times for the R.A.T.E. project, with the final results published in the June 2004 issue of the Creation Research Society Quarterly. Following is an excerpt from the Abstract of that paper:

The measured rates resoundingly confirm a numerical prediction we made based on the reported retentions and a young age. Combining rates and retentions gives a helium diffusion age of $6,000 \pm 2,000$ years. This contradicts the uniformitarian age of 1.5 billion years based on nuclear decay products in the same zircons. These data strongly support our hypothesis of episodes of highly accelerated nuclear decay occurring within thousands of years ago. Such accelerations shrink the radioisotopic "billions of years" down to the 6,000-year timescale of the Bible.

These results are very significant. In the uniformitarian or old age view, the diffusion rate of Helium would need to be about 100,000 times slower than the measured values in order to explain how the Helium could still be there after over a billion years. But the young age view predicted diffusion rates that agreed very well with the quantities of Helium. Some scientists from the old age point of view might suggest that there was slower Helium diffusion over billions of years of Earth history until something caused a rapid diffusion several thousand years ago. But, this does not work because in the uniformitarian view of Earth history, the temperature of the minerals would be higher in the past, which would make diffusion even more rapid. In order to slow the diffusion down so the Helium would be retained for 1.5 billion years, the crystals would have to be somehow refrigerated to about -100 degrees Celcius!

The R.A.T.E. results are confirmed by another product of the Uranium decay, which is Lead. Lead is produced by this decay and it also diffuses out of zircon crystals. The diffusion rate of Lead in zircons was measured by Robert Gentry as well. When this is applied to the R.A.T.E. measurements it agrees very nicely with the new data and a 6,000 year age.

Conclusions of the Helium diffusion studies are 1) Gentry's Helium retention result is confirmed and 2) the uniformitarian view of the Helium in these crystals seems to be falsified. In addition, the concept of an accelerated radioactive decay rate in the past seems reasonable for these reasons. First, the radioactive Uranium decay products present in the zircons shows there was definitely a great deal of decay that occurred. Second, the Helium produced by this decay, considering the temperature and conditions in the rock, would diffuse out relatively rapidly. This means a young age of roughly 6,000 years agrees with known straightforward physics about the diffusion of Helium through zircon crystals. The diffusion process has to do with what happens to the

products of the radioactive decay, not with the decay process itself. The 6,000 year figure determined by the R.A.T.E. team does not depend on assumptions about nuclear decay.

I would say this evidence from Helium diffusion is probably the best argument for a young Earth that creationists have. It agrees beautifully with the Bible and it has some very careful research behind it. Thus there are ways of answering challenges from evolutionary science, though we always have more to learn.

Christ's Historical Resurrection

Easter comes and goes and is often less celebrated than other holidays. For some it revolves around special kids activities, "Easter eggs," and a focus on the coming of Spring. But let us not forget that Easter is a celebration of the historical resurrection of Jesus Christ. Christ's resurrection is, of course, a crucial truth to Christianity. If Jesus Christ did not rise from the dead, then he just would not be who he said he was and he would not have power to save today. But because his resurrection was a real event in history, there is a sense in which the resurrection has empowered believers to live a life of victory over sin.

Of course, many have challenged the Bible's teaching on the resurrection. Non-Christian religions take a variety of views of it. Many among the scientific community would not accept the concept of a historical bodily resurrection because they simply reject the possibility of the supernatural. Because the scientific method cannot be used to investigate events of the past, science cannot disprove the resurrection or any other supernatural event in the Bible. As I see it, when God intervenes supernaturally in history, he is superceding natural law, not undoing it. It is much like how the directions of a policeman directing

traffic at a stop light takes precedence over the usual routine law of how the traffic light works. In fact, Scripture teaches that even natural laws depend on God in some way.

Some treat the resurrection as a concept that has symbolic and spiritual meaning but which did not really happen as the New Testament lays out. Many scholars today, even many Bible scholars, do not believe that all the details from the gospels and the New Testament writings of the Apostles are really historically accurate. But if the New Testament is not historically accurate in everything, how can we trust even the spiritual truths? If the historically verifiable information in the Bible is not accurate, how can we count on the information we cannot verify historically? Of course, the experience of the Christian verifies the truth of the New Testament. But it is important to remember that the personal experience of the Christian has its basis in facts of history. It also hinges on the truth that Jesus Christ was a real person who did what the Bible describes. Only someone who was both fully human and fully God could do what Jesus Christ did. Following are some reasons that I think we should believe in Christ's resurrection according to the New Testament.

First of all the documents in the New Testament were written by people who were either eyewitnesses of the events or close associates of eyewitnesses. Luke, though he may not have been an eyewitness, his writings have earned a very strong reputation for factual accuracy among archeologists. Also, if Jesus' disciples had been fabricating a story of Jesus having rose from the dead or had they hidden the body, there were many *hostile witnesses* that could have proven them wrong. At the time the Apostle Paul wrote I Corinthians there were people who had been eyewitnesses of the risen Jesus who were still alive at the time Paul wrote the letter! Also, when Paul spoke before Roman authorities, they also were familiar enough with the facts that the Apostles could not have fooled many people for very long.

Consider also what it would have meant if the Apostles who had been with Jesus actually had lied and made up some sort of resurrection story. They would have known this was a lie and they would have suffered and died terrible deaths (except John) for something they would have *known* was a lie! Why would they do that? The resurrection dramatically changed the lives of Jesus' disciples. They went from staying virtually in hiding to boldly witnessing to many and sometimes being arrested for their testimony.

The various theories put forward to try and explain away the resurrection are easily refuted, even just with a little common sense. The resurrection could not have been merely a spiritual or symbolic idea because even nonbelievers had to deal with the consequences of what had happened. Also, Jesus appeared to a number of different people, both followers and opponents, as well as individuals and groups. Jesus ate and let people touch him. My own father once commented that the claims of the resurrection were hallucinations. But this is just not possible. There were groups of people, including a large group of 500 who saw the risen Jesus. No two people have the same hallucination since it is a problem of a very individual and personal nature.

Some of the best indications of the historical truth of the resurrection comes from facts about the Roman guard. Josh McDowell's books give some very enlightening information about the Roman guard and how it made it impossible for someone to disturb the body. There has been some controversy among Bible scholars about whether the guards at the tomb were Jewish temple guards or Roman guards. There are some pretty good reasons that they must have been Roman guards. The guards at the tomb went to the Jewish priests after Christ had risen (Matthew 28:11-15) because Roman guards who left their post, went to sleep, or in some other way failed to do their duty while on

guard, were executed. This is why the priests bribed the guards to keep them quiet and told them they would keep them from getting in trouble with Pilate. Temple guards were treated similarly for leaving their posts but they would not have needed to worry about the Roman governor.

Matthew 28 also describes the guards fainting from fear when they saw an "Angel of the Lord" sitting on the stone. These were not people easily frightened, but Roman soldiers. It is not known just how many soldiers were there but scholars knowledgeable about Roman practices suggest at least 4 and possibly as many as 16 or 20. It's been said that a Roman guard group was trained to defend a small area of ground against an army and hold it. There is no way Jesus' disciples could have been expected to somehow overpower the Roman guard and take the body. That was exactly why the guard was posted. The Jewish leaders expected that the disciples might have tried that very thing (Matthew 27:62-66).

There are many other interesting aspects of the evidence for the resurrection I will not mention. There are other details regarding the stone that blocked the entrance to the tomb. There are interesting medical arguments regarding when the Roman soldier pierced Jesus side to make sure he was dead. Jesus definitely was crucified and died and he definitely rose from the dead bodily. Jesus predicted his own death and resurrection on multiple occasions, though his disciples did not understand. Later, after the resurrection, the Apostles and New Testament writers emphasized the significance of it. The Apostle Paul sums it up in Acts 17:31:

"For he has set a day when he will judge the world with justice by the man he has appointed. He has given proof of this to all men by raising him from the dead."

Ticklish Evolution

The web site ABCnews.com reported on March 31st regarding research at Bowling Green State University, in Ohio. (See <http://abcnews.go.com/Technology/story?id=626264&page=1>) The subtitle on the article said, "Understanding what makes rats laugh is shedding light on the evolution of 'Ha-Ha.'" There is significant scientific and medical interest in human laughter. At Bowling Green, researchers found that rats in their laboratory emitted very strong chirps when students tickled them with their fingers. However these chirps were high in the ultrasonic frequencies, about 5 times higher than the human hearing range. Researcher Jaak Panksepp was quoted in the article saying, "Clearly, laughter harks back to much deeper emotional recesses of our animalian past." The article is implying human beings laugh because we evolved from lower animals that do something similar.

Thus, according to evolution, there was some type of primitive mammal that lived about 75 million years ago which both humans and rats evolved from. Evolutionists believe the earliest mammals were small creatures, some of them similar to rats, that lived during the time of the dinosaurs. There are many complex changes required for reptiles to evolve into mammals, as evolution suggests. There has long been a lack of fossil evidence for these changes.

Some animals do have some kind of response similar to laughter. The ABC news article says that chimpanzees and dogs both make sounds that scientists think is like laughter.

Laughter is actually something that demonstrates how unique it is to be human. Evolutionists like to point out similarities between humans and animals, but the significance of the differences between humans and animals is obscured by evolutionary thinking. For instance, chimps cannot make many of the complicated

sounds we humans make when they laugh. The "ha-ha" sound requires chopping the sound off sharply at the end, which is something chimpanzees cannot do. Chimpanzees are limited in the type of sounds they can make. They have been trained to speak a few simple words but they cannot make an original sentence because they can't comprehend syntax. The ABC news article also mentions studies of human laughter done by psychologist Jo-Anne Bachorowski at Vanderbilt University, in Nashville, Tennessee. She is quoted saying, "What seems to be special about humans is the variety of laughter sounds we produce and how we seem to alter that sound, depending on the social situation."

The ABC news article points out that the high pitched nature of the sounds made by the rats makes them able to avoid being heard by predator. This is probably correct. High frequency sounds would be reflected easily off of small objects, so even grass could help in protecting a rat. I think this should be looked at as intelligent design, where God has provided for the good of the rats. We live in a fallen world, not Earth as it was originally created, and all of nature has been affected by mankind's sin. But God has made animals able to adapt in a fallen world.

It is interesting that even rats can enjoy humans tickling and touching them. Rats are usually considered a pest and in the wild they can carry disease. But they are raised as pets by some. God has created animals to live on the same planet with humans and so he has designed animals for the enjoyment of us humans (1 Timothy 6:17). So, it is not surprising that there would be some similarities like laughter between rats and humans. The facts about rats and their laughter does not argue for evolution, rather it shows the goodness of God and that he has designed everything on Earth for our benefit.