# Critical analysis of article "21 Reasons to Believe the Earth is Young" by Jeff Miller

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## Introduction

The article by Dr. Jeff Miller can be accessed at the following link:. http://apologeticspress.org/APContent.aspx?category=9&article=5641 and is an article published by Apologetic Press, v. 39, n.1, 2018.

The problems start with the Article in Brief in the boxed paragraph, and with the very first sentence. The Bible does not give an age of the Earth of 6,000 to 10,000 years, or even imply – this is added to Scripture by Dr. Miller and other young-Earth creationists. R. C. Sproul was one of evangelicalism's outstanding theologians, and he stated point blank at the Legionier Conference panel discussion that he does not know how old the Earth is, and the Bible does not inform us. When there has been some apparent conflict, either the theologians or the scientists are wrong, because God is the Author of the Bible and His handiwork is in general revelation. In the days of Copernicus and Galileo, the theologians were wrong. Today we do not know of anyone who believes that the Earth is the center of the universe.

> *Article In Brief...*
>
> **The Bible implies that the Earth is around 6,000-10,000 years old, while the conventional belief held by many is that the Earth is 4.5 billion years old. Is the Bible wrong about the age of the Earth? Abundant evidence exists from the disciplines of paleontology, archaeology, geology, astrophysics, and geophysics which supports the biblical time frame, while refuting deep time.**

The last sentence of this "Article In Brief" is boldly false. There is almost no credible evidence from paleontology, geology, astrophysics, or geophysics that refutes deep time.

*Dr. Miller states:*

*"The age of the Earth, according to naturalists and old-Earth advocates, is 4.5 billion years. Young-Earth creationists contend that the Earth is on the order of thousands, not billions of years old. Is there evidence to support the young-Earth creationist's premise?"*

His first sentence should read more correctly: "The age of the Earth, according to naturalists and old-Earth creationists is 4.6 billion years. Among Christians, virtually all Christian geologists and the majority of theologians and lay people recognize that the Earth is ancient."

Below are the twenty-one topics that Dr. Miller discusses and in which he believes that he has presented evidence that shows that the Earth is young (6,000 to 10,000 years old) and not millions or billions of years old as is asserted by conventional geologists − both Christians and naturalists. Each item that he lists is followed by **Comments** that indicates errors that he has made in his reasoning or in his evidence that he believes exist to support his Flood model and that the Bible is a true science text.

# Bible

## #1: Bible Teaching

He claims that:

*"If the Bible is the inspired Word of God, then whatever it teaches can be known to be true—including what it teaches about the age of the Earth. The evidence indicates that the Bible is in fact God's Word. Simple addition of the genealogies in Genesis 5 reveals that from Creation to the Flood was 1,656 years, give or take a few years. The genealogies of Genesis 11, which do not use precisely the same terminology as that of Genesis account for roughly 400 to 5,000 years, ending with the birth of Abram. From Abram to Christ is roughly 2,000 years, and from Christ to present day is roughly 2,000 years. Therefore, the age of the Earth is 6,000-10,000 years."*

**Comment**:

Yes, the Bible is the inspired Word of God, but the interpretation of this word does not necessarily have to be as Dr. Jeff Miller suggests. We are baffled about what Ph.D. that Dr. Jeff Miller holds because he seems to have difficulty reading Genesis 1 and 5. He claims that the genealogy in Genesis 5 reveals years from Creation to the Flood, but the text actually reads: "This is the book of the generations of Adam. When God created man, he made him in the likeness of God. Male and female he created them, and he blessed them and name the Man when they were created." In Genesis 5:32, the text refers to Noah. So, Dr. Miller should write that the genealogy in Genesis 5 was from Adam to Noah. Then referring to Genesis 1, Adam was created in Genesis 1:26 on the 6th day of creation. The Creation event *ex nihilo* happened in Genesis 1:1, long before Genesis 1:26.

The Old Testament is also a record of how the Hebrew people viewed God, and this view progressively changed through their history. The author(s) of Genesis used the understanding of science that these people had during that time and in the culture in which they lived. Jesus understood the knowledge that the Hebrews had concerning science and used it in his own teachings in that He also supported the existence of the Noah's Flood (Luke 17:27). But He would have known that this Flood was local and not worldwide. See: **Yes, Noah's Flood May Have Happened, But Not Over the Whole Earth** RNCSE25.5-6cdt (csun.edu) Jesus could not have used the knowledge of modern science that we now have in his speaking to His disciples because His disciples would surely think Him to be crazy if He told them what we know now.

Also, Miller makes the assumption that the Bible represents all of human history, but it leaves out the histories of the Romans, Egyptians, Assyrians, Chinese, New Zealand Māori's, American Indians, whatever. Therefore, his model of a young age is false from its start.

**#2: Polystrate Fossils**

He points out that:

*"Perhaps the most widely used argument for a millions-of-years-old Earth historically has been the rock layers of the geologic column. It would take millions of years for the thousands of meters of material beneath us to accumulate and lithify—or so the argument goes. Is that true? A polystrate fossil is a single fossil that spans more than one geologic stratum. Many polystrate tree trunk fossils have been discovered, as well as a baleen whale, swamp plants called calamites, and catfish.[9] Polystrate fossils prove that both the rock layers of the geologic column and the surfaces between them do not require millions of years of slow and gradual accumulation and lithification. After all, how could a tree escape its inevitable decay while sticking out of the ground for millions of years with its roots dead and lithified, while it waited to be slowly covered with sediment? Polystrate fossils provide evidence that the rock strata have*

*formed rapidly—fast enough to preserve organic materials before their decay."*

**Comment:**

The following link shows a polystrate tree trunk. https://www.google.com/imgres?imgurl=http://i.imgur.com/TkUfxOb.jpg&imgrefurl=https://www.reddit.com/r/geology/comments/3g4umu/polystrate_fossils_proves_evolutionists_wrong_or/&h=2117&w=2729&tbnid=DHDaW2jDADO_2M:&q=polystrate+trees&tbnh=155&tbnw=200&usg=AI4_-kScxDCBozgYn0oqX1UikMTzw82GMw&vet=12ahUKEwiQ1NbG1dDfAhUnwVQKHYMqBHQQ_B0wGXoECAIQBg..i&docid=ZYugkWyXMJ2YEM&itg=1&sa=X&ved=2ahUKEwiQ1NbG1dDfAhUnwVQKHYMqBHQQ_B0wGXoECAIQBg

These trees are not like modern trees. Instead, they are ancient lycopods that commonly grow in swamps. Swamps are mostly anaerobic and acidic such that bacteria that normally might consume the wood would not likely be present to destroy the wood. Moreover, the burial of the trees need not be slow through millions of years because catastrophic events could happen to bury the trunks rapidly at different levels. Trees that are buried in muds are also commonly preserved for very long periods of time because the muds prevent oxygen from reaching the wood to convert the carbon into carbon dioxide. New trees can grow on top of the deposited mud and repeat this sequential cycle several times for repeated storms in just a few years. Examination of tree rings in the fossil trees in some polystrate tree locations would likely show total growth time of perhaps 200 years for repeated storms that brought in the mud at different levels. Nevertheless, the age of the formation in w0hich the polystrate tree fossils occur could be millions of years while a local, isolated, short-time-event happened to produce the layers that contained the tree fossils.

The following link shows a polystrate baleen whale discovered in a vertical position in a quarry where diatomaceous earth was being mined.
http://www.creationism.org/books/ackerman/AckermanYoungWorldChap09.htm

This whale fossil is actually parallel to the bedding, and the diatomaceous beds have been tilted up to nearly a vertical position to give the appearance of polystrate fossil standing on end when the dead whale really was lying horizontally on the ocean floor when it died. That is, the whale was not buried suddenly standing on its tail. Moreover, the whale bones are composed of calcium phosphate, which is relatively insoluble in oceanic water, and the bones could lie there for thousands of years without disappearing while they are being buried slowly in diatomaceous earth, settling on top of the bones.

See also: **The Whale Fossil in Diatomite, Lompoc, California, Fossils in Chalk, and Varved Sediments – Not Evidence for Catastrophic Deposition** Nr89Lompoc.pdf 0(csun.edu)

The following link shows a polystrate calamites https://books.google.com/books?id=XoqS074d5dgC&pg=PA218&lpg=PA218&dq=polystrate+calamites&source=bl&ots=KADl4sJFgD&sig=IFon9kBLkYLfPfpvgL4sQe0M1wM&hl=en&sa=X&ved=2ahUKEwj4xPKb2NDfAhUIKHwKHSk9CrkQ6AEwCHoECAQQAQ#v=onepage&q=polystrate%20calamites&f=false

Calamites are hollow plants similar to modern horse tails but grew to heights as much as 66 feet. The same arguments apply to the calamites as to the discussion of the lycopods above.

The following link shows an image of supposed polystrate catfish. http://creationwiki.org/Green_River_Formation

Because the bones of the catfish are composed of calcium phosphate, and the lake water in which annual varves were deposited to form the Green River Formation was likely rich in dissolved calcium ions, and because calcium phosphate is relatively insoluble in the first place, there is no reason for the fish bones to dissolve and disappear. On that basis, annual deposition of the varves could slowly bury the bones of the fish to produce a fossil that is actually polystrate. The organic proteins in the flesh of the catfish, however, would likely have decayed and disappeared, and it is only the bones that are preserved.

**#3: DNA in "Ancient" Bacteria Support a Young Earth**

Under this third topic he reports:

*"In 2000, a bacterium was discovered that is thought to be from the Permian Period of Earth's history—250 million years ago. The problem is that, according to geomicrobiologist of the University of Bristol John Parkes, "[a]ll the laws of chemistry tell you that complex molecules in the spores should have degraded to very simple compounds such as carbon dioxide" in that amount of time, and yet the bacterium's DNA was still intact. Further, the "Lazarus" bacterium actually revived in spite of its supposed great age. Not only was the bacterium revived, but analysis of its DNA indicated that the bacterium is similar to modern bacteria—it had not evolved in "250 million years." Critics verified that the DNA of the bacterium does in fact match that of modern bacteria, but respond that "unless it can be shown that [the bacterium] evolves 5 to 10 times more slowly than other bacteria," the researchers' claims should be rejected. So according to critics, the evidence does not match the "theoretical expectations for ancient DNA" predicted by the evolutionary model. Therefore, the bacterium cannot be ancient regardless of the evidence[3] Another plausible option: the bacterium is not 250 million years old."*

## Comment

However, the laws of chemistry apply to the decay of the bacterium only if oxygen and water are available to cause the decay to produce carbon dioxide. The fact that this bacterium was found in a rock that likely prevented water or oxygen coming in contact with the bacterium means that it could be preserved for millions of years in a rock of Permian age.

## #4: Human Population Statistics

Miller says:

*"Evolutionists argue that humans (i.e., the genus homo) have been on the Earth for roughly two to three million years. Using statistics, one can arrive at an estimate for how many people would be predicted to be on the Earth at different points in history. For example, accounting for factors such as war, disease, and famine, and assuming humans have been on the planet for only one million, rather than two to three million, years, we find that there should be 102,000 people on the planet today. There are, however, not even 1010 people on the Earth. In fact, if three-feet-tall humans with narrow shoulders were squeezed into the Universe like sardines, only 1082 people could fit into the entire Universe. It would take 101,918 (minus one) other Universes like ours to house that many humans.*

*It might be tempting to argue that the Earth could only sustain roughly 50 billion people, resource-wise, and therefore, all humans above that number would die off. If that were the case, however, there should be evidence that the Earth's resource capacity had been met many times in the past in the form of billions upon billions of hominid fossils. Hominid fossils, however, are acknowledged to be "hard to come by." In fact, "meager evidence" exists to attempt to substantiate the origin of* *the entire genus homo. Even after over a century of searching for homo fossils, one evolutionary scientist admitted several years ago, "The fossils that decorate our family tree are so scarce that there are still more scientists than specimens. The remarkable fact is that all the physical evidence we have for human evolution can still be placed, with room to spare, inside a single coffin. Is belief in an old Earth reasonable or irrational? Ironically, if our calculations are adjusted based on the predictions of the biblical model, roughly 4,350 years ago a Flood ensued that wiped out man from the face of the Earth. If the planet then began to be repopulated by six people (namely the sons of Noah and their wives), statistics show that there should be roughly 6.7 to 8.1 billion people on the planet today. As of today, the U.S. Census Bureau documents that the world's population is 7.5 billion people."*

**Comment**

It is hard to follow Dr. Miller's arguments in this section. Somehow, he comes up with 1,010 people on the Earth one million years ago. Moreover, it does not make any sense to say that 1,082 people could fit into the entire Universe. What Dr. Miller says seems to be total nonsense. He pooh-poohs the fact that so few hominoid fossils have been found as if that should mean that very few hominoids ever lived. That is nonsense. To make a fossil requires special conditions of burial that rarely occurs, and most animals that die on the Earth's surface never are turned into fossils because of weathering and oxidation of the flesh and bones. See this link. **Fossilization, Evolution, and Intelligent Design** Nr86Fossilization.pdf (csun.edu) It might take 10,000 animals or more to live before one is ever converted into a fossil. Even then, if the fossils were ever formed, they still may remain buried and not discoverable or have been eroded away before they are ever discovered. Furthermore, erosion commonly scatters bones, so that rarely is a complete skeleton found. In some places, all that is found is part of skull, arm, leg, or finger.

He suggests that Noah's flood wiped out a very small human population that increased in abundance by the procreation of Noah's family to the present population. But the absence of humanoid fossils is not an indication of human evolution over great lengths of time or their relative abundance.

Recent population studies show that in modern times in 1800 the world's human population was about 1.5 billion and that the present population growth has resulted in a population of 7.7 billion. https://en.wikipedia.org/wiki/World_population But this growth in population is in a time of modern medicine and when agricultural farming has provided food for such growth. There is no scientific evidence that a worldwide flood wiped out human population. See: **Stokes' Law, Burrows, and an Ordovician Ice Age − Why Noah's Worldwide Flood Never Happened and Why the Earth is More Than 6,000 to 10,000 Years Old** Nr54Stokes.pdf (csun.edu)) Moreover, when C-14 dating and other dating methods show that human fossils have dates older than 6,000 to 10,000 years, then Dr. Miller's arguments do not have any truth. The accuracy of C-14 dating is reported below in item **#5**.

In this topic **#4** he argues that statistics show that there "should be$10^{2,000}$ people on the planet today." All this shows is that statistics cannot be trusted. He also points out that

*"The fossils that decorate our family tree are so scarce that there are still more scientists than specimens. The remarkable fact is that all the physical evidence we have for human evolution can still be placed, with room to spare, inside a single coffin."*

The ages of humanoid evolution are indicated in this link. **Grand Apologetics – Errors in Science and Christian Guidance** Nr93Grand.pdf (csun.edu)

**#5: Carbon-14 in "Ancient" Fossils and Materials**

Miller says:

*"At current rates, it takes 5,730 years for half of the radioactive element carbon-14 (C-14), from an organic sample like a bone or piece of wood, to break down into its daughter element, nitrogen-14. With such a "short" half-life, after 57,300 years (10 half-lives), less than 0.1% of the original C-14 atoms are left in any specimen. Current technology does not allow scientists to detect C-14 in specimens thought to be older than 60-100 thousand years in age—all of the measurable carbon-14 is gone. If C-14 is detected in any uncontaminated specimen,*

*therefore, the specimen cannot be older than 100,000 years (assuming, as evolutionists do, a constant nuclear decay rate of C-14 into nitrogen-14—an assumption which would not hold in the biblical Flood scenario). The discovery of C-14 in fossils that are believed to be 10's to 100's of millions of years old is, predictably, shocking to those who accept the conventional dating scheme and its underlying techniques. No matter how much care is taken to ensure that the specimens have not been contaminated, the fossils still reveal the presence of C-14. Fossilized wood from the Cenozoic era (up to 65 million years old, conventionally), fossilized wood, dinosaur fossils, and ammonite shells from the Mesozoic era (66-252 million years old, conventionally), and fossilized wood, reptiles, and sponges from the Paleozoic era (252-541 million years old) have been discovered with C-14 present. Similarly, coal from the Paleozoic era (thought to be 40-320 million years old), and even diamonds thought to be billions of years old, have yielded C-14 upon examination.*[22] *It is notable that regardless of where the specimens are found in the geologic column, the C-14 ages all fall within the range of 10-60 thousand years old (again, assuming a constant nuclear decay rate). While one might predict that deeper in the strata would correspond to an older age, the depth in the strata does not appear to correlate to the measured age of the specimen, supporting the creationist contention that the entire fossil record and geologic column from the Paleozoic up into the Cenozoic era likely formed during the single year of the biblical Flood. The geologic* *column and fossil record are not a record of life through time, but of death during the Flood a few millennia ago."*

## Comment

Dr. Miller does not seem to understand that the supposed presence of C-14 in trace amounts in ancient fossils, coal, and diamonds is not because of the real existence of this radioactive isotope in ancient fossils, coal, or diamonds that was produced from N-14 in an ancient atmosphere but because of the impossibility of eliminating trace contamination of modern C-14 in the laboratories where the analyses are made. The accuracy of C-14 dating is thoroughly demonstrated in a recent publication by Davidson and Wolgemuth. See the following link. **Testing and Verifying Old Age Evidence: Lake Suigetsu Varves, Tree Rings, and Carbon-14** Nr53Carbon.pdf (csun.edu) Moreover, scientific evidence in this publication clearly shows that varves in Lake Suigetsu in Japan are as much as 50,000 years old, and, therefore, the Earth cannot be 6,000 to 10,000 years old as Dr. Miller claims in his model.

It seems to us that Dr. Miller has never seen this carbon-14 data, and does not want to, because it does not fit his view of the Earth. "The heart cannot rejoice in what the mind rejects as false." (C. S. Lewis)

## #6: Soft Tissue/Blood Vessels in Dinosaur Fossils

Miller says:

*"The last uncontested dinosaur fossil is found in the Cretaceous period of the geologic column, below the K-Pg boundary that marks a mysterious extinction event that wiped out some 70% of the planet's species. The dinosaur era (i.e., the Mesozoic) extends from roughly 252 million years ago to the K-Pg boundary, roughly 65-66 million years ago according to the evolutionary timescale. Obviously, no flesh could conceivably survive 100,000 years without decay, much less one million years, much less 65 million years, much less 200 million years. As of 2005, however, many dinosaur fossils have been "cracked open" and studied, only to find collagen and blood vessels with red blood cells intact, original proteins, and soft, stretchy, flexible tissue. The list has grown to include T-rex, hadrosaur, mosasaur, triceratops, thescelosaurus, psittacosaurus, archaeopteryx, and seismosaur fossils. While certain sterile conditions could conceivably preserve organic remains for hundreds or thousands of years, the fossils being studied were not discovered in sterile, laboratory environments, but rather harsh environments like the mid-western U.S., with large temperature differentials, erratic weather, and climate conditions that accelerate decay. No reasonable explanation has been offered, and yet the evidence has continued to mount.[25] The most plausible explanation is that the geologic strata that host the dinosaurs do not date to 66+ million years ago, but rather, to a few thousand years ago."*

**Comment**

Yes, it is true that soft protein tissue has been found in dinosaur bones. For example, https://www.ncbi.nlm.nih.gov/pubmed/23414624 But protein tissue has been found in many kinds of animals throughout geologic history, including humans and mammoths that are just a few thousands of years old and more than 6,000 to 10,000 years old. Even DNA contents can be determined in them. But it is fiction that such protein will decay with time. If that were possible, we as humans would be having trouble with our own bodily proteins decaying, and we could not survive. The proteins can last a long time where the bones have not been "cracked open" to allow water, oxygen, or bacteria to enter that would destroy the proteins by common chemical processes. In many places the bones are mineralized so that they are sealed and pores are closed through which any fluids, oxygen, or bacteria could migrate, and, therefore, the proteins can last for an extremely long time.

Basically, Dr. Miller is on a false track to consider the passage of time. The breakdown of tissue from animals is not even a dating method. Geologists interpret the passage of time as "relative time" or "absolute time." Relative time is observing that sedimentation occurs with older rocks on the bottom and younger rocks on top. So, in the Grand Canyon, the oldest rocks are in the inner gorge, and the youngest up on the rim with Grand Canyon Village. Absolute time is a method of counting some known process that can provide the passage of a certain number of years. These are the well-established radiometric dating methods of long half-life isotopes and also the well-established radio carbon method. As shown in the Lake Suigetsu paper, geologists count tree rings and sedimentary varves. In other locations, geologists count layers of annual snowfall in the Greenland ice cores back to 100,000 years; and layers of ice cores on Mt. Sajama in Bolivia back to 25,000 years.

## #7: Human/Dinosaur Co-existence

Miller says:

*"According to the evolutionary, old-Earth timeline, dinosaurs went extinct some 65 to 66 million years ago. Modern-day mammals and many other living organisms did not yet exist, since they are not found in the strata that house the dinosaurs. Humans (i.e., the genus homo) only arrived on the scene two to three million years ago according to that paradigm. No human, therefore, ever saw a dinosaur. If, however, evidence was discovered that proves humans and dinosaurs in fact co-existed in the recent past, then the evolutionary timeline telescopes down millions of years and the geologic strata in which the dinosaurs are found are shown to represent a time period in the not-too-distant past. Sure enough, physical, historical, and biblical evidences are available to substantiate the co-existence of humans and dinosaurs in the recent past."*

**Comment**

The evidence provided by Dr. Miller is ancient carved statues and paintings. See: **http://apologeticspress.org/apcontent.aspx?category=9&article=2416** This evidence is a bit flimsy in that bones of hominoids or humans have never been found in the same sedimentary layers with dinosaur bones. Surely, if both lived at the same time, there would be stronger evidence that this coexistence occurred, and more than wishful thinking to support a Flood model. Moreover, tracks of walking humans have never been found with abundant dinosaur trackways. See: **Stokes' Law, Burrows, and an Ordovician Ice Age − Why Noah's Worldwide Flood Never Happened and Why the Earth is More Than 6,000 to 10,000 Years Old** Nr54Stokes.pdf (csun.edu)

## Geology

### #8: Tightly Folded Rock Strata

Miller says:

*"If the rock layers of the geologic column represent millions of years of slow accumulation, lithification, and erosion, one would expect the layers beneath the surface layer to be "brittle," as rock layers are today. Plate movement would, therefore, result in the fracturing of those rock layers, rather than bending them—rocks do not bend, but rather, break. In several places on the Earth, however, rock layers have been*

*discovered that are bent and folded at radical angles without fracturing (e.g., the Tapeats Sandstone and Muav Limestone of the Grand Canyon). These thick layers of sediment that eventually lithified—representing millions of years of time, conventionally—must have been laid down rapidly and had not yet had enough time to lithify before being bent by the rapid plate movement predicted to occur during the Flood.”*

**Comment**

Dr. Miller does not seem to understand how rocks behave when hot and under confining pressure when long periods of time are involved, particularly time lasting much more than one year of the supposed Flood. For example, I have observed glass rods that were placed on floor beams in the attic of a Chemistry Building for storage and later use. The attic was hot during summers. When finally, someone remembered that the rods were there after 20 years and went to retrieve them, the rods had slowly flowed under the influence of gravity to lose their straight shapes and had sagged and draped over the floor beams. Although glass is normally quite brittle, it did not behave brittly under the hot conditions and when long time was available for slow flowage to occur. On a similar basis, quartz sand crystals in the Tapeats sandstone and calcite crystals in the Muav Limestone in the Grand Canyon, when subjected to high temperature (say 200 to 300ºC) that occur in deeply buried rocks, can recrystallize and flow plastically to bend in tight folds without breaking. This is a natural geologic rock process, and Dr. Miller's model hypothesis has no merit.

All of his reasoning and belief that rocks cannot bend without fracturing are shown to be false for the Tapeats Sandstone mentioned above. See: **Critical Analysis of Snelling's Model for the Folding and Origin of the Tapeats Sandstone, Grand Canyon, Arizona, and Postscript** Nr80Tapeats.pdf (csun.edu)

**#9: Rapid "Slow" Processes**

Miller says:

*"Any old-Earth/evolutionary dating technique relies on the uniformitarian assumption: whatever processes we witness occurring today must be used to explain the past. If petrifying a tree, forming oil, carving a canyon, transforming the parent isotopes of a radioactive rock into their daughter elements, or moving a continent several miles would take millions of years at the lithification, transformation, erosion, decay, and "drift" rates we see today, then the Earth must be at least millions of years old. If, however, each of these processes are shown to occur rapidly under catastrophic conditions (as predicted by the young-Earth biblical model), then those processes cannot be used to prove an old Earth. Sure enough, as creationists have predicted would be the case, each of these processes has been empirically verified as occurring rapidly under catastrophic conditions like those of the biblical Flood model. Petrification has been found to be able to occur in mere months to a few*

*years under catastrophic conditions. Oil has been shown to form in hundreds to thousands of years. The rapid carving of canyons has been verified to occur under catastrophic conditions as well. Studies have verified that the nuclear decay rates of radioactive materials can be accelerated under catastrophic conditions, and evidence for the rapid movement in the past of the plates upon which the continents reside has been verified as well. If each of the chronometers that are said to prove "old" ages of the Earth is contradicted by the evidence, then where is the evidence of an old Earth?"*

**Comment**

In any arguments dealing with science, it only takes one fact to ruin a hypothesis. If Dr. Miller claims to be a creation *scientist* he cannot choose data that seem to fit his model and ignore any data that do not. Good science is not done that way. Thus, if one of his supposed arguments for the Earth being young in age, such as the rapid moving of plates, is shown to be wrong, then his whole thesis is wrong. For example, see the evidence supplied by the rates of deposition of radiolarian fossils on the Pacific Ocean floor that clearly indicate that plate tectonics was extremely slow (2 to 10 cm per year). **Stokes' Law, Burrows, and an Ordovician Ice Age − Why Noah's Worldwide Flood Never Happened and Why the Earth is More Than 6,000 to 10,000 Years Old** Nr54Stokes.pdf (csun.edu) Moreover, rapid formation of ice to form glaciers that eroded sandstone beds in the Sahara Desert area to form parallel grooves and striations cannot have happened during the Ordovician Period of 2 or 3 days, which would be about the length of time for Ordovician layers to be formed in a one-year Flood. See: **Stokes' Law, Burrows, and an Ordovician Ice Age − Why Noah's Worldwide Flood Never Happened and Why the Earth is More Than 6,000 to 10,000 Years Old** Nr54Stokes.pdf (csun.edu)

Miller gives many examples of how geologic processes have operated at catastrophic rates (many of which are false like suggesting such things as rapid plate tectonics and that nuclear decay rates of radioactive materials can be accelerated under catastrophic conditions). But he does not seem to realize that the uniformitarianism model has been discarded by conventional geologists more than 100 years ago when many examples of catastrophic deposition of sediment have been found, like the 100 feet of layered ash deposited after the explosive eruption of Mt. St. Helens in 1988. The claim that great thicknesses of clay minerals that are said to be deposited quickly by the rushing waters of Noah's flood and consolidated to become shale layers is completely refuted when in some places layers of volcanic ash are interlayered with clay mineral layers in the shale formations. Rushing water would have mixed the clay minerals with air-born settling ash particles, and, therefore, the shale formations cannot have formed by catastrophic rapid deposition. Nevertheless, geologists are still using the uniformitarianism model to explain what happens in some places where slow deposition of sediments or creations of sedimentary structures (such as ripple marks) are clearly justified. The refutation of the rapid plate tectonics model is given at this link.

**Baumgardner's Tsunami and Rapid Plate Tectonics Model** Nr88Baum.pdf (csun.edu) The discussion about the origin of oil is given at this link. **Understanding the natural ancient origin of oil versus a biblical Genesis Flood origin of oil** Nr57Oil.pdf (csun.edu)

## #10: Amount of Salt in the Sea

Miller says;

*"Ocean water is salty. Each year, hundreds of millions of tons of sodium are added to the oceans and only about 27% of it is removed by other processes, leaving an annual accumulation of 336 million tons of sodium. Starting with a zero-sodium content in the sea and using the old-Earth assumption of uniformitarianism, the current concentration of sodium in the ocean would be reached in only 42 million years. According to the U.S. National Oceanic and Atmospheric Administration, however, the ocean is 3.8 billion years old. The response to this fact, as must be the case in other examples in this list, would obviously be that accumulation and/or dissemination rates must have been different in the past. The average salt accumulation, however, would have to be over 90 times slower than present rates in order to accommodate the alleged age of the ocean. This conjecture simply does not hold up under scrutiny and, even if it did, it would merely prove the creationist contention that uniformitarianism is not a reliable assumption. Present processes are not the key to understanding the past and, therefore, no old-age dating technique can be trusted, since they*

*all rely on uniformitarianism. Since the Flood happened, catastrophism, not uniformitarianism, is a more reasonable assumption in interpreting physical evidence. Intimately tied to catastrophism are rapid processes and, therefore, young ages."*

**Comment**

Salt in the sea has nothing at all to do with the age of the Earth. Such a concept was abandoned over 100 years ago. The amount of salt is simply the amount of time for river input to completely replace the amount of salt in the ocean, and is known by geochemists as the "residence time." For sodium, this is 72 million years, for potassium, 16 million years, for silicon, 20,000 years, and for iron, 140 years.

Here again, Dr. Miller assumes that uniformitarianism is what conventional geologists rely on when determining how much salt is in the oceans, and that is not the case. The amount of salt in oceanic water is dependent upon the very large size of the chlorine ion and where this ion came from progressively through time. The salt abundance in the oceans does not have anything to do with the current rate at which sodium is being added to the oceans because sodium is not the only place where its ion affects the concentration of salt in the oceans. Great quantities of the sodium ion are incorporated in clay minerals which settle out of the oceanic waters, and, therefore, the time in which the current concentration of salt (or sodium) in these waters is reached is not in 42 million years. Actually, the ocean is 3.8 billion years old and likely older because of re-cycling.

See: **Time to Accumulate Chloride Ions in the World's Oceans** RNCSE25.5-6cdt (csun.edu)

## #11: Amount of Sediment on the Sea Floor

Miller says:

*"As water and wind scour the continents each year, 20 billion tons of material is estimated to be deposited in the oceans. As the tectonic plates of the Earth move, subduction occurs, with one plate slowly diving under another towards the mantle. One billion tons of material is estimated to be removed from the sea floor each year from that process, leaving 19 billion tons of sediment accumulating each year on the ocean floor. On average, the sediment thickness on the ocean floor is 1,500 feet. Based on the current rate of sediment deposition, however (i.e., assuming uniformitarianism once again), the sediment on the ocean floor would accumulate in only a small fraction of the alleged 3.8 billion year age of the ocean (i.e., 0.5% or 19 million years). The average annual sediment accumulation would have to be 197 times smaller to match an ocean age of 3.8 billion years. The amount of sediment on the sea floor simply does not support a billions-of-years-old ocean, but fits well with a young Earth when the accelerated erosion rates during and immediately after the Flood are accounted for."*

**Comment**

Again Dr. Miller assumes that deposition is the same rate throughout geologic time and that is not true. Current rates are not necessarily the same as in the past because higher mountain elevations exist now than existed during many times in the past when continental areas were nearly flat with only very low elevations. Moreover, he ignores the many times through the Precambrian Era in which sediment has been deeply buried and metamorphosed and re-cycled. He has no idea where the sediment came from during the time of the Flood, and the evidence is clear that the source of the sediment and the rate of its deposition involved millions of years. See: **Stokes' Law, Burrows, and an Ordovician Ice Age − Why Noah's Worldwide Flood Never Happened and Why the Earth is More Than 6,000 to 10,000 Years Old** Nr54Stokes.pdf (csun.edu)

## #12: Lack of Erosion Evidence Between Strata

Miller says:

*"When making a multi-layer cake, the adjoining surface between layers is smooth. If you made your cake outside over several weeks, waiting several days between new layers and leaving the cake open to the elements in the meantime, the surface of each layer would exhibit the indicators of time—decay, loss of cake from scavengers, erosion from rain water, etc. Similarly, if geologic strata are formed over millions of years, the surface between adjoining layers would not be smooth, but would exhibit proof of time passing in the form of,*

*for instance, erosional and depositional surfaces. However, the layers, by in large (e.g., at the Grand Canyon), display smooth contact surfaces—indicating rapid deposition without enough time for erosion. Those surfaces which show evidence of erosion match the type of erosion that would be predicted if the lower surface had not yet lithified when a rapid erosion event occurred above the surface, prior to further rapid deposition. Bottom line: the Grand Canyon exhibits evidence of a young Earth."*

**Comment**

Dr. Miller's arguments seem to be logical, but he still has not considered all the facts that are involved to produce the sediment (crystals of calcite, quartz grains, and clay particles) that was supposedly transported to the Grand Canyon by water rushing there at supposed different speeds in his Flood model to produce the Redwall Limestone, Kaibab Limestone, Tapeats Sandstone, Coconino Sandstone, Esplande Sandstone, Navajo Sandstone, and several shale formations. See: **Stokes' Law, Burrows, and an Ordovician Ice Age − Why Noah's Worldwide Flood Never Happened and Why the Earth is More Than 6,000 to 10,000 Years Old** Nr54Stokes.pdf (csun.edu) For example, caves occur in the Redwall limestone that could not have resulted from a time in which the limestone had not lithified and prior to further rapid deposition. Caves do not form in unlithified rock, and the limestone must have been above the water surface for a long time, more than a year, for large caves to form from surface waters (rain) dripping down through cracks in the limestone. Furthermore, to produce mammillary coatings on their walls of these caves takes much more time than perhaps two weeks when the Redwall limestone was deposited within the time of the one-year Flood. **Stokes' Law, Burrows, and an Ordovician Ice Age − Why Noah's Worldwide Flood Never Happened and Why the Earth is More Than 6,000 to 10,000 Years Old** [Nr54Stokes.pdf (csun.edu)]

**#13: Helium in Zircon Crystals**

Miller says:

*"Zircon crystals are considered to be some of the oldest minerals on Earth—thought to be billions of years old. They are very hard and resistant to deterioration, and are also able to preserve their contents well, making them safer from contamination. Within zircon crystals, a portion of the zirconium atoms are replaced by uranium while the crystals grow. As radioactive uranium-238 decays into its daughter element, lead-206, alpha particles are released that combine with nearby electrons. Helium is subsequently formed, which can then be detected in zircon crystals. While zircon crystals are able to preserve their contents well, helium is known to behave as a "slippery" material. Helium atoms are small and are in constant motion as gas particles. They are, therefore, hard to contain, and they diffuse quickly. Upon examination of zircon crystals that are thought to be 1.5 billion years old, however, scientists have discovered the presence of unusually high*

*concentrations of helium. If the crystals were billions of years old, the helium should have been diffused from the crystals and released into the atmosphere, since high concentrations of helium can only be sustained, theoretically, for a few thousand years without significant diffusion. The presence of high concentrations of helium illustrates the fact that at some point(s) in the relatively recent past, the nuclear decay rate of uranium-238 was accelerated, producing larger amounts of helium that have not yet had time to diffuse. If radioactive decay rates were accelerated at some point in the past (e.g., during the Flood), then radioactive materials will appear deceptively old, while actually being relatively young."*

***Comment***

Dr. Miller seems to have ignored an article by Kevin R. Henke in which he shows that studies of helium diffusion asserted to have occurred in the manner described by young-Earth creationists are flawed and that there is no evidence that radioactive decay rates were accelerated at some point in the past or even during the Flood. Furthermore, helium is continuously produced in the zircons by uranium-238, uranium-235, and by the thorium-232 decay chains. See: **Humphreys's Young Earth Helium Diffusion "Dates"** RNCSE25.5-6cdt (csun.edu)

**#14: "Orphan" Radiohalos**

Miller says:

*"As a radioactive atom of uranium decays into polonium within a solid crystalline material, alpha particles are released and "halos" form, marking the different stages of nuclear decay. Parentless radiohalos, however, are found in many granitic rocks, implying accelerated nuclear decay in the past and a young age for the Earth."*

**Comment**

Dr. Miller does not seem to know anything about studies by Lorence and Barbara Collins that show that "orphan" Po-halos have a natural origin involving millions of years of time and that their origins do not require accelerated nuclear decay but have their normal rates of decay. See: **Origin of Polonium Halos** RNCSE25.5-6cdt (csun.edu) **Radiohalos—Solving the Mystery of the Missing Bullets − Origin of Po halos Revisited** Nr69Radiohalos.pdf (csun.edu)

## #15: Clastic Dikes

Miller says:

*"In sedimentary rock strata, open fractures often exist, and in some cases, other sedimentary material is injected into those cracks at a later time, filling them with a different type of sedimentary rock. These are called clastic dikes. The Ute Pass fault, west of Colorado Springs, for example, exhibits over 200 sandstone dikes, some of which are miles in length. The dikes are comprised of Cambrian Sawatch sandstone (allegedly 500 million years old) that injected rock from the Cretaceous period (allegedly 65-66 million years old).[44] Is it reasonable to presume that 500-million-year-old sediment remained unlithified for over*

*400 million years while Ordovician, Silurian, Devonian, Carboniferous, Permian, Triassic, Jurassic, and Cretaceous strata were laid down on top of it before intruding into the Cretaceous strata? Or is it more reasonable to infer that the layers of the geologic column from the Cambrian to the Cretaceous were laid down rapidly on top of one another during a global, aqueous catastrophe before they had lithified? Then, during the rapid uplift of the Rocky Mountains later in the Flood, the Cambrian Sawatch material was injected through the overlying layers forming the clastic dikes of the Ute Pass. Bottom line: the geologic column was formed rapidly—the Earth is young."*

**Comment**

Some Paleozoic marine sandstones have high porosity, are saturated with water, and poorly cemented. On that basis, several conditions likely explain how the clastic dikes formed west of Colorado Springs. (1) The unconsolidated sand in the Cambrian Sawatch Sandstone was loose and highly plastic. (2) The sandstone probably had high water content. (3) The sandstone lacked any (or little) cementation. And, (4) the overlying strata were subjected to tensional forces that created open fractures where adjacent rocks were pulled apart to produce the Ute Pass Fault. Under these conditions, the basal sand in the Sawatch Sandstone, because of the weight-pressure of the overlying strata, rose upward through the fractures to form the clastic dikes. This uprising flow is similar to those places where salt domes or diapirs are formed when salt beds rise plastically through overlying rocks. Therefore, a natural geologic process is more likely the explanation for the origin of the clastic dikes rather than what Dr. Miller proposes, and the geologic column did not necessarily form rapidly.

## #16: Faint Young Sun Paradox

Miller says:

*"As the hydrogen within the Sun fuses into helium, the Sun gradually increases in temperature. Calculations show that (at current rates) 3.5 billion years ago, the Sun would have been 25% dimmer and would have heated the Earth less, dropping Earth's temperature some 31°F. Earth would have been below freezing! According to contemporary thinking, however, Earth, initially molten, was hotter, not colder, prior to 3.5 billion years ago, and was gradually cooling, not heating up[6] Not only is there no evidence that Earth was ever frozen, but if it had been frozen 3.5 billion years ago and beyond, according to evolutionists, life could not emerge 3.5-4 billion years ago since it relies on liquid water."*

## Comment

Yes, the Earth was gradually cooling from the time in which it was once perhaps totally molten, but as it was cooling, radioactive decay of uranium, thorium, and other radioactive elements kept it hot. Since the Earth is ~4.6 billion years old and the half-life of radioactive U-238 is 4.5 billion years, presently half of the original U-238 remains, and as this uranium was decaying, energy was released to heat the Earth. Therefore, it was initially not below freezing. However, Dr. Miller does not seem to be aware of the evidence that the Earth was once a snowball Earth. See: **Glacial tillites, geologic history, and biblical scientific accuracy** Nr40tillites.pdf (csun.edu) Yes, of course, life cannot evolve when the Earth's surface is covered with snow and ice, but eventually emerging volcanoes provided the heat necessary to melt this ice cover and allow evolution of life to occur.

**#17: Rapid Decay Rate of Earth's Magnetic Field**

Miller says:

*"Scientists have been measuring the strength of the Earth's magnetic field with precision since 1835. The magnetic field is decaying at an exponential rate with a half-life of roughly 1,100 years. By implication, when we follow the exponential function back in history, doubling the Earth's magnetic field intensity every 1,100 years, we reach a point 30,000 years ago when the Earth's magnetic field strength would have been comparable to that of a neutron star, creating immense heat that would have prohibited life from existing and possibly even compromised the internal structure of the Earth. The Earth cannot be millions of years old."*

**Comment**

Dr. Miller assumes that the magnetic field decay rate stays the same at the same exponential rate through time. The fact is that Dr. Miller does not even have enough math background to see that the decline rate of the strength of the Earth's magnetic field is not even governed by an exponential decay equation represented by half-life. Perhaps he has never examined the data himself. The decay rate of the Earth's magnetic field seems to be dependent upon the rotation of the Earth's core, and many factors could affect its rotation. The assumption cannot be made that the rate of decay remains the same. Shifting plates and shifting masses as mountains are eroded to move sediment into basins affect how the Earth spins and how these changes might modify how the core rotates. Moreover, there is ample evidence that the magnetic field has reversed polarity many, many times throughout geologic history without life being destroyed on Earth because of supposed heat generated if the magnetic field were projected back in time in the way that Dr. Miller speculates. His argument is really fraudulent.

## #18: Lunar Recession Rate

Miller says:

*"The Moon is presently moving away from the Earth at a rate of approximately 4 cm per year. The recession rate is not linear. As the Moon moves further from the Earth, it recedes slower. Based on the equation that describes the Moon's recession rate, scientists can calculate where the Moon would have been compared to the Earth at different times in history.*

*For example, 6,000 years ago, the Moon would have been 750 feet closer to the Earth than it is today—resulting in little effect on the Earth. If, however, the Moon has the contemporary age of 4.5 billion years old, there is a significant problem, because 1.55 billion years ago the Moon would have been touching the Earth. It would be physically impossible, therefore, for the Moon to be older than 1.55 billion years old based on the known recession rate of the Moon. In response, those who wish to maintain the contemporary belief in deep time must argue that present recession rates did not hold in the past. In so doing, however, they abandon uniformitarian thinking (i.e., "the present is the key to the past") which undergirds every deep time dating technique. They are, therefore, once again admitting that every evolutionary dating technique is suspect and does not prove an old Earth."*

**Comment**

It is true that the recession rate of the Moon and its gravitational attraction between the Earth and the Moon creates annual growth rings on bacterially deposited stromatolite such that 1000 million years ago the annual year was 435 days long. https://studfiles.net/preview/4597102/page:19/ Today, our year has 365 days. Therefore, it is clear that the rotation rate of the Earth has slowed down through time. Dr. Miller's calculation that the Moon would have been touching the Earth 1.55 billion years ago when convention says that the Earth is 4.5 billion years old, however, is not necessarily true. Generally, most scientists agree that the Earth-Moon system resulted from a glancing impact of a Mars sized object that broke some of the outer part of the Earth away and the broken parts collected into a mass that became the Moon that orbited the Earth. This appears to be a reasonable explanation because the Earth has an iron core, but the Moon does not. https://www.psi.edu/epo/moon/moon.html Thus, this mass glanced-off by the impact never stayed in touch with the Earth but rotated as a separate mass around it at some distance away from the Earth. Therefore, Dr. Miller's calculation simply has no merit. The starting distance for the slowing of the recession rate began when that first orbiting distance was first established following the collision.

## #19: Atmospheric Helium Content

Miller says:

*"Helium is gradually accumulating in the Earth's atmosphere as radioactive isotopes beneath the Earth's surface decay, emitting alpha particles that attract electrons and form helium. The amount of helium in the atmosphere has been measured, the rate at which helium is introduced in the atmosphere has been measured, and the theoretical rate of helium release to space has been calculated as well. Using the typical old-Earth assumption of uniformity over time, it is easy to calculate an upper limit on the age of the atmosphere. The atmosphere can be no older than two million years—as opposed to the alleged age of 4.5 billion years."*

**Comment**

It is quite strange that Dr. Miller uses this item as a reason why the Earth is young (6,000 to 10,000 years), when he says that the "atmosphere can be no older than two million years." If he agrees with that value, as he seems to, then he is already admitting that the Earth is older than 6,000 to 10,000 years. Therefore, this #19 statement cannot be an argument that he can use that the Earth is young.

Nevertheless, two million years for the age of the Earth's atmosphere cannot be estimated by simple calculations. The Earth is ~4.6 billion years old while the half-life of U-238 is ~4.5 billion years, the half-life of U-235 is 704 million years, and the half-life of Th-232 is 14 billion years. This means that at the time of the Earth's formation there was double the U-238 than today, more than ~16 times the U-235, and ~20 percent more Th-232.

Dr. Miller does acknowledge that helium escapes into space from the upper atmosphere. Because the two lightest elements, hydrogen and helium, have adequate escape velocity, they escape the Earth's gravitational field and escape from the Earth into space. So today, the amount of helium in the atmosphere is the balance of helium added to the atmosphere from the radioactive decay of uranium and thorium upon degassing from the Earth, less the amount that escaped into space. Therefore, there was not a limit in the amount of helium in the Earth's atmosphere that would have made the present atmosphere have an age of two million years.  That is, the amount of helium was increasing with time and not decreasing with time with greater age toward the past.  Because of this observation, there must have been plenty of helium available (continuously being created) through time for the amount of helium that exists now in the Earth's atmosphere which would agree with the Earth being 4.5 billion years old.  Moreover, Dr. Miller seems to ignore in item #19 the fact that he wants to promote accelerated decay rates of U-238 and Th-232 in the past, particularly during the time of the Flood.  If that were true, then even more amounts of helium would likely still be in the Earth's atmosphere since 4,350 years ago when the Flood occurred, and that is not the case.

**#20: Spiral Galaxies**

Miller says:

*"Earth is located in the Milky Way Galaxy—a spiral galaxy. According to the Big Bang model, galaxies began forming within a billion years after the Big Bang, making many of them over 12 billion years old. Of all of the galaxies that scientists have observed, some 77 percent of them are spiral galaxies.  The oldest spiral galaxy is thought to be roughly 11 billion years old.*[54] *If you have ever sprinkled cinnamon on a hot, foamy drink and then stirred the drink with a straw or stick, you will notice the formation of the characteristic spiral galaxy shape. You may also notice that the portion of the spiral that is closer to the center rotates faster than the portion of the spiral*

*that is close to the edge of the cup. That "differential rotation" causes the arms of the spiral to begin blurring closer to the center of the spiral over time. After a few rotations, the center of the spiral is no longer recognizable. Similarly, spiral galaxies are spinning slowly. If spiral galaxies are as old as is claimed by secular cosmologists, after a few hundred million years the arms of the spirals should no longer be recognizable—and yet many of them are. Space.com admits: "The exact mechanism for the formation of the spiral arms continues to puzzle scientists. If they were permanent features of the galaxy, they would soon wind up tightly and disappear in less than a billion years." Apparently, the observational evidence does not harmonize with the deep time proposition of the Big Bang model."*

**Comment**

True, the apparent nearly equal turning of the spiral arms in spiral galaxies in inner parts and outer parts is puzzling to astronomers, but they postulate that dense black matter with great mass is what makes this possible. The black matter (although not yet seen) must exist because the galaxies and stars account for only about 5 percent of mass in the universe, and the dark matter is as much as 86 percent. Moreover, Dr. Miller does not seem to realize that our sun is a second-generation star that resulted from the gathering together of elements (dust) created by a prior super nova explosion. Such a powerful explosion is the only way to produce heavy elements, such as gold and uranium.

Normal fusion processes that occur during a star's evolution can only produce lighter elements up to the element iron (atomic number 26). In each step in forming an element of higher atomic number, additional protons and neutrons are put into the atom's nucleus. Each step generates energy according to Einstein's equation $E=mc^2$. However, when iron is formed, its nucleus is so tightly packed with protons and neutrons that it is not easy to form elements of higher atomic number. Instead of releasing energy, additional energy is required to force more protons and neutrons into the nucleus and this energy comes from a super nova explosion. Such an explosion is the only way that our Sun and the Earth can have uranium and gold atoms. Surely, the Creator did not make all of these processes to occur during the first three days of the Genesis Week by nearly instantaneous creation just to fool us into thinking that the universe is old when it really happened in less than 3 days in Dr. Miller's young-Earth model. In my experience, God does not set out to fool us. Instead, He uses natural laws in all of his processes of creation (laws which He also created), and they would not be laws if they were not dependable and predictable as to how they work. Thus, the Bible is not a science text, and Genesis 1 was written to give a theological message about the existence of one God and not many gods (sun, moon, star, planets, night, and water) that early pagans worshiped and were afraid of. As a Presbyterian theologian (Conrad Hyers) suggests, those gods were bad and out to get them, but the author of Genesis says that they were all good and that He made them, which is a very good theological point.

## #21: Comet Contradiction

Miller says:

*"The solar system is comprised of hundreds of thousands of objects that are orbiting the Sun. Over 3,000 of those objects are comets. Comets are balls of ice and dirt moving through space in elliptical orbits around the Sun. They are believed to be "leftovers from the material that initially formed the solar system about 4.6 billion years ago." As comets in their orbit move close to the Sun, solar winds and radiation from the Sun "blow" material from the comet, creating the characteristic tail we observe. Since material is removed from a comet with each cycle around the Sun, obviously the comet will eventually disintegrate—completely sublimating. The typical lifespan of a comet is 10,000 years. How, then, can the solar system be 4.6 billion years old if thousands of comets—thought to have formed when the solar system formed—are still orbiting the Sun? Scientists speculate the existence of a source for new comets that lies outside of the solar system, but no observational evidence has substantiated that claim. The biblical model, of course, provides a plausible explanation that harmonizes with the evidence: the solar system is less than 10,000 years old."*

## Comment

It may be true that a comet has a theoretical lifespan of just 10,000 years. But that does not mean that what comets that have been observed by humans in recent years are the only ones that ever existed or that later in time more comets will be created perhaps when the mass of Jupiter disturbs some icy object in outer regions of our solar system, causing this object to fall toward the sun as a comet that moves in an elliptical orbit. Some of these comets might have an orbit that would intersect the Earth and add water to the oceans. Dr. Miller seems to forget that meteorite impacts, like comets, have been colliding with the Earth for eons and have hit Precambrian, Paleozoic, Mesozoic, and Cenozoic rocks through time. There are 188 confirmed impact craters on Earth so far. https://www.sciencedaily.com/releases/2015/06/150630080204.htm If many or most meteorites collided with the Earth during biblical times and particularly during the one year of Noah's Flood, why are these impacts not mentioned in the Bible because Noah would certainly have seen brilliant flashes of light and hear the noise of explosions when they hit the ground? Some of them could have hit the oceans and violently rocked the ark by tsunami waves that would have been created by the impacts. If Dr. Miller can speculate with little supporting evidence, the above speculations have just as much merit.

## Summary

It is abundantly clear that God has left plenty of evidence in general revelation that gives us some good answers at this point in the 21st century that the universe and Earth are ancient. And it does not take rocket science to count tree rings to 14,000 years and recognize that the Earth is older than 10,000 years as claimed by Dr. Jeff Miller. Why would Christians think that God the Creator who has existed from eternity past and who will exist forever into the future is only permitted by young-Earth creationists to use 6,000 years to make all of creation?

Of course, atheists just love people like Dr. Jeff Miller who distort science beyond recognition. He makes the Christian worldview and God the creator as nonsensical, and certainly not a source of Truth − not worth giving allegiance to that type of prankster.

Finally, Dr. Jeff Miller has numerous examples of rock features created by the supposed worldwide (global) Noah's flood, but abundant scientific evidence shows that Noah's flood was never global. Therefore, much of his arguments in items **#2 Polystrate Fossls, #7 Human/Dinosaur Coexistence**, and **#8 Tightly Folded Rock Strata** for the Earth having a young age has virtually no support. See:

**Twenty-one Reasons Noah's Worldwide Flood Never Happened** Nr38Reasons.pdf (csun.edu)

**Response to Ken Ham and YouTube Comments by Andrew Snelling** Nr42Response.pdf (csun.edu)

**Biological Reasons Young-Earth Creationists' Worldwide Flood Never Happened** Nr45Biological.pdf (csun.edu)

**Understanding Noah's Flood Story** Nr94Moses.pdf (csun.edu)

Furthermore, there are many kinds of evidence that show that the Earth cannot be 6,000 to 10,000 years which are given at the following links.

**When Was Grand Canyon Carved— Millions of Years Ago or Thousands of Years Ago? How Do We Know?** GrandCanyon.pdf (csun.edu)

**A Christian Geologist Explains Why the Earth Cannot Be 6,000 Years Old** Nr74Christian.pdf (csun.edu)

**Making scientific sense in today's world** Nr85Sense.pdf (csun.edu)

**Grand Apologetics – Errors in Science and Christian Guidance** Nr93Grand.pdf (csun.edu)