

# **THE CREATION WARS**

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# CHAPTER 3: OLD EARTH GEOLOGICAL AND ARCHAEOLOGICAL ASSUMPTIONS

## A. CREATION FROM AN OLD EARTH PERSPECTIVE

The old earth community sees the world in a very different way than the young earth community. An example of an old earth perspective can be seen in Philip Christensen's discussion of the planet Mars. Christensen contrasted the amount of geological evidence available for Mars with the amount of geological evidence available for his own region of western Arizona. Christensen wrote,

The rocks of western Arizona, where I work, reveal one of the most tangled histories on Earth. Layers of carbonate limestones, silty mudstones, quartz sand and solidified lava show that within the past 600 million years, this area was a warm, shallow sea, then a muddy swamp, then a vast desert of shimmering hot dunes, then a glacial ice sheet, then a shallow sea once again. Erupting volcanoes formed islands like Japan, which in turn got shoved 100 miles onto the continent along massive faults, tilting the rock layers on edge and cooking them to create marble and quartzite. Uplift and erosion at last produced the desert landscape we see today.<sup>1</sup>

This interpretation of the geological evidence is far more complex than interpretations sometimes offered by flood geologists. While complexity is not the same thing as accuracy, the claims made here cry out for very careful analysis of the evidence behind them.

In his article "Fundamentalism and the Fundamentals of Geology," J. R. Van de Fliert argued that current proponents of flood geology misunderstand the geological evidence because they are simply unaware of the history of the field. Van de Fliert found it astonishing that Witcomb and Morris wrote *The Genesis Flood* without taking into account the long history of struggle between geology and theology. He argued that Witcomb and Morris wrote as if they had discovered the idea that the flood was responsible for the earth's fossiliferous strata. Van de Fliert noted that this suggestion was common in the early days of geological study, and he argued that it may have been a respectable theory at that time. Van de Fliert argued that while this perspective was once defended, it was proven false by the geological evidence as the science grew. Van de Fliert argued that the history of geological study should be considered part of the truth that God has revealed to people in the middle of the twentieth century. He argued that Witcomb and Morris made the same mistakes that others had made centuries earlier because Witcomb and Morris did not understand the history of the field. Van de Fliert argued that Witcomb and Morris were not really benefiting Christians who believed that the Holy Scriptures were reliable because they were the Word of God but who did not understand the geological evidence. Van de Fliert wrote,

The so-called scientific foundation which they want to lay under the Christian's faith can be easily shown by unbelievers to be no more than loose sand. They could have known it too, if

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<sup>1</sup> Philip R. Christensen, "The Many Faces of Mars," *Scientific American* 293 (2005): 32-9.

they had simply made a *serious* study of the history of the (largely man-made) problems between the Bible and geology.<sup>2</sup>

Writing from an Evangelical perspective, Davis Young discussed the evidence for an old earth. After discussing the history of the creation science movement, Young concluded,

The speculations of modern creationism, like those of seventeenth century diluvialism, know no bounds. While seventeenth and eighteenth century cosmogonists can be pardoned as children of their times who had little empirical data to constrain the bounds of speculation, current scientific creationist ideas are puzzling in view of the abundance of empirical data that invalidate them. Although today's literalism presents a semblance of scientific sophistication, it has largely ignored the vast wealth of empirical geological data that have come to light during the past 300 years that rule out a global deluge and a recent creation. There is no way that a literalistic approach to Genesis 1-11 can be sustained without appealing to miracle at every point at which scientific data conflict with a literal rendering of the biblical text.<sup>3</sup>

Young's point is that young earth arguments are too often speculative, and the speculations are often refuted by evidence that is now easily available.

A great deal of evidence has been offered to support an old earth model. Three typical arguments may be worth noting. One argument is drawn from ancient tree rings. Since a new tree ring is normally formed every year, tree rings can be counted back into the past. The width of tree rings changes from year to year based on environmental factors. This makes it possible to identify the same span of years in tree trunks of different ages. By putting together sets of ancient tree trunks with overlapping ring patterns, it is possible to construct tree ring ladders into the past. Two such patterns are commonly used to construct "calibration curves" for radiocarbon dating. The bristle cone pine tree ring ladder stretches back in history further than the 6,000 year span expected by some young earth positions. The tree rings in the oldest surviving bristle cone pine tree can be counted back to 2726 BC. This would be before Noah's flood if the Garden of Eden were dated around 4004 BC.<sup>4</sup> Another argument for an old earth comes from a form of single celled algae that grows in Lake Suigetsu in Japan. Each year, the algae die and sink to the bottom. On the bottom, the algae form a thin white layer that is covered by dark clay sediments during the rest of the year. Roughly 45,000 annual layers have been counted on the bottom of the lake.<sup>5</sup> Another old earth argument is that radioactive elements with a half life over 80 million years occur naturally while radioactive elements with a half life lower than 80 million years do

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<sup>2</sup> Van de Fliert, "Fundamentalism and the Fundamentals of Geology," 13-4.

<sup>3</sup> Davis A. Young, "Scripture in the Hands of Geologists (Part One)," *Westminster Theological Journal* 49 (1987): 31.

<sup>4</sup> "18 Indicators of an Old Earth (About 4.5 Billion Years Old)," <http://www.religioustolerance.org>.

<sup>5</sup> "18 Indicators of an Old Earth (About 4.5 Billion Years Old)," <http://www.religioustolerance.org>.

not exist in nature in an amount that can be measured. This suggests that the earth is old enough for these shorter half life elements to have disappeared by radioactive decay.<sup>6</sup>

The young earth community can always respond to arguments like this with an appeal to creation. God could have created the universe with light already stretching from distant stars to the earth, with fossils already in the rocks, with tree rings already in the trees, with decayed radioactive elements already in the rocks, and so forth. Almost any evidence for an old earth can be countered with the claim that perhaps God made it that way. Arguments from creation like this sound forceful to young earth supporters who see them as alternatives to the "world system" with its inherent rebellion against God. Old earth supporters see these arguments as highly questionable because they make reasoned and evidential debate impossible.<sup>7</sup>

It is not overly difficult to fault the young earth community for interpreting the evidence in a highly questionable manner. However, old earth interpretations of the evidence can also be questioned. The uncertainty with old earth perspectives begins with the basic historical structure used to interpret the geological and archaeological evidence. Writing from an old earth perspective, T. C. Mitchell pointed out in 1959 that the basic structure of human history was largely established through speculation. Mitchell noted that in the 19<sup>th</sup> century, C. J. Thompson developed a system for classifying the archaeological materials in his museum. He divided them into stone, bronze, and iron, and then he suggested that these three represented distinct chronological ages. Mitchell noted that this system was adopted by Sven Nilsson who treated them as evolutionary stages in the development of human culture. Then in 1865, John Lubbock invented the names Paleolithic and Neolithic for the periods of chipped and polished stone. This became the basis for the modern scheme of dividing human history into Paleolithic, Mesolithic, Neolithic, Chalcolithic, Bronze Age, and Iron Age cultures. Mitchell wrote,

There is no doubt that this hypothesis of the development of human culture from ancient times provides a framework into which the actual archaeological remains fit remarkable well, but this should not be allowed to obscure the fact that it is based on the speculations outlined above. There are many gaps still in the archaeological record, and in no one place is a continuous sequence of occupation known from the very earliest times. These gaps are obscured by the nature of the hypothesis which lends itself to deceptive generalisations (sic.) where there is no material evidence to cite.<sup>8</sup>

Mitchell warned that the broad structure usually given to early human history may or may not be accurate, and that it is at heart speculation. It is a speculation that fits the evidence remarkably well, but it is still a speculation. Specific artifacts can be interpreted in light of the broader structure given to history, and such interpretations might be incorrect.<sup>9</sup> Mitchell also noted

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<sup>6</sup> 18 Indicators of an "Old Earth" (About 4.5 Billion Years Old), <http://www.religioustolerance.org>.

One of the better Evangelical responses to the "mature earth creation" position was offered by Davis Young in his book, *Creation and the Flood: An Alternative to Flood Geology and Theistic Evolution*, (Grand Rapids: Baker Book House, 1977), 43-80.

<sup>8</sup> T. C. Mitchell, "Archaeology and Genesis i-xi," *Faith and Thought* 91 (1959): 31.

While the archaeological evidence does often fit this scheme, it does not always do so. An example of a problematic site may be Zawi Chemi Shanidar near the Shanidar cave. This open air site

human remains have only been found in their original settlement deposits during and after the last glacial period. Human artifacts from before that time "are often of more doubtful date."<sup>10</sup>

One of the more serious problems with old earth interpretations revolves around the age of the human race. When did men first appear on earth? If that question is decided only on the basis of the geological evidence, the answer normally has been that *homo sapiens* have been on earth for a very long time. While agriculture and civilization first appeared between 9000 and 8000 BC, quite a bit of evidence has been marshaled to argue that *homo sapiens* were present long before that time. The evidence has normally been interpreted to prove that Neanderthal men alone lived between 200,000 and 40,000 BC.<sup>11</sup> While they had rather massive bones, Neanderthals were human. They had a culture.<sup>12</sup> A number of articles have claimed human occupation of the Near East before any reasonable date for the Garden of Eden. For example, Loy and Hardy claimed that blood residue on tools in Israel's Taban cave should be dated at 90,000 BC.<sup>13</sup> Such studies have led some Christians to move the Garden of Eden back in history to 50,000 BC or even earlier.<sup>14</sup> Unfortunately, the earlier that the Garden of Eden is dated, the harder the text becomes to reconcile with the archaeological evidence. The Genesis account claims that agriculture and metal working were present in the generation after Adam. These things did not appear in the archaeological record until after 8000 BC. So how could Adam be moved back many thousands of years earlier? It may be fair to suspend judgment about the evidence for the antiquity of the human race until further evidence is found and until the existing evidence is better understood.

## **B. FLOOD GEOLOGY IN A YOUNG AND OLD EARTH PERSPECTIVE**

One of the more popular explanations for Noah's flood has been a belief in large underground deposits of water that broke forth at the flood.<sup>15</sup> Perhaps the earliest version of this explanation was proposed by Thomas Burnet in 1681. Davis Young discussed his position. He noted that Burnet thought that a great subterranean abyss of water had been incorporated into the earth at its formation. As the sun's heat warmed the earth, this water expanded, cracked the

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contains an occupation level radiocarbon dated at 8,920 BC plus or minus 300 years. One problem with this site is that it contains flaked stone tools typical of sites that archaeologists attribute to the much earlier Lower Paleolithic period. For a discussion of this site, see Roger Matthews, *Subartu IV: The Early Prehistory of Mesopotamia 500,000 to 4,500 BC*, (Turnhout: Brepols, 2000), 33. If flaked stone tools were still in use after 9000 BC, it may be very hazardous to date any site on the basis of the type of stone tools that appear in it.

<sup>10</sup> Mitchell, "Archaeology and Genesis i-xi," 33.

<sup>11</sup> Matthews, *The Early Prehistory of Mesopotamia 500,000 to 4,500 BC*, 21.

The young earth community argues instead that Neanderthals and other primates are recent descendants of Adam. See for example, Daniel Shaw, "Fossil Man: Ancestor or Descendant of Adam?" *Creation Research Society Quarterly* 6 (1970): 172-81.

T. H. Loy and B. L. Hardy, "Blood Residue Analysis of 90,000-Year-Old Stone Tools from Tabun Cave, Israel," *Antiquity* 66 (1992): 24-35.

James O. Buswell III, "Genesis, the Neolithic Age, and the Antiquity of Adam," *Faith and Thought* 96 (1967): 3-23.

<sup>15</sup> Brown Jr. "In the Beginning...", 68-71.

earth's crust, and finally broke through to the surface.<sup>16</sup> At the end of the flood, this water poured into the oceans and eventually back down into the underworld abyss. Burnet argued that this view of the flood could be justified by Psalm 104:5-9. This Psalm claimed that God established the earth on its foundations. He covered the earth with the deep. The waters stood above the mountains, but they fled at His rebuke. The mountains rose and the valleys sank. Then God established a boundary for the waters so that they could not return to cover the earth once more. It is fair to argue that this passage probably spoke about the creation instead of the flood. So Burnet's argument seems rather weak. Already in 1681, Burnet and Robert Hooke debated at length whether the fossil record could have been created by the flood.<sup>17</sup> That debate has continued in various ways down to the present time. For example, Walter Brown claimed in 1989 that fossils all over the world show evidence for rapid burial. He argued that fossilized jellyfish show details of their soft bodies that did not decay. So they had to be buried rapidly instead of being buried over a long period of time.<sup>18</sup> This would seem to be a very weak argument. Either the ash from a volcanic eruption or a landslide could have buried such fossils almost immediately without an appeal to a global flood.

Davis Young argued that the intellectual descendants of Thomas Burnet have formed the modern creation science movement. Young argued that among current creation scientists there were a number of engineers, chemists, physicists, and biologists.<sup>19</sup> Young argued that the creation science movement contained rather few people who are trained in geology. Young argued that geological evidence was devastating to flood geology. Young discussed D. Russell Humphreys as an example of a physicist who defended flood geology. Humphreys claimed that the earth's interior contained a great deal of water under pressure. Humphreys claimed that this idea was not a guess, but was an idea with the "highest reliability" because it was the teaching of Scripture. Humphreys argued that Genesis 1:2 and II Peter 3:5-6 stressed the importance of water in creation. Peter claimed that the earth had been formed out of water and by water. Humphreys claimed that this meant that God formed the nuclei of heavy elements by fusing the nuclei of hydrogen and oxygen atoms. Humphreys argued that there was a lot of surplus water within the earth after this process. He claimed that rivers of Eden flowed as this underground water was forced out of the earth's surface. Another approach to the flood problem was suggested by David W. Unfred. He suggested that an ice asteroid struck the earth and caused Noah's flood. This asteroid impact tilted the earth's axis and caused a displacement of the ocean's waters along with substantial erosion and sedimentation.<sup>20</sup> These positions are at best speculation, and they certainly do not rise to the level of "highest reliability" as has been claimed.

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Since the sun's heat is unlikely to warm water that is deep underground, another version of this theory has suggested that radioactive elements did not decay until after Adam's fall. Then fission reactions deep within the earth slowly generated enough heat to make the underground waters expand and eventually broke out explosively on the surface. This explanation was based on a rather odd assumption. Why would radioactive decay be a consequence of Adam's fall?

<sup>17</sup> Young, "Scripture in the Hands of Geologists (Part One)," 7-9.

<sup>18</sup> Brown, *"In the Beginning..."*, 4.

<sup>19</sup> Henry Morris is a hydraulic engineer. Walter T. Brown Jr. has a Ph.D. in engineering. Duane Gish is a biochemist.

<sup>20</sup> Young, "Scripture in the Hands of Geologists (Part One)," 25-9.

Daniel Wonderly approached old earth geology from a perspective similar to that of Davis Young. Wonderly discussed young earth suggestions for ways that limestone could have been formed through flood geology. He noted one popular suggestion that the limestone deposits could have formed rapidly by chemical precipitation from seawater during the Flood. Wonderly argued that creationists who suggest this model are unfamiliar with the nature of limestone. Wonderly noted that limestone is almost completely made up of biogenic material that would not have been the mud assumed by many flood geologists. (It is important to realize that limestone is not compacted mud, and that limestone layers could not have been formed by compacting mud. Limestone is calcium carbonate that must either have precipitated from water or have been deposited by plants and animals that absorbed it from water.) Wonderly also noted that the vast quality of limestone in rock formations could not have precipitated from seawater no matter how supersaturated it was with  $\text{CaCO}_3$ . There is simply too much limestone for that to be possible. In many parts of the world, the limestone layers are at least as thick as the depth of water that would have covered the land at the flood. Beyond that, the flood water would have been quite turbulent and there would not have been time for sediment to settle in quiet waters during the flood. The nature of the limestone column is also inconsistent with a flood deposit. Layers of shale, sandstone, siltstone, and conglomerates are often found between limestone layers that would be very hard to explain with flood geology. The thickest limestone layers are often found at the bottom of the sedimentary layers, and they are sometimes covered by up to several miles of non-carbonates.

Wonderly noted that Morris claimed that nothing less than massive precipitation seems adequate for the great limestone deposits in the geologic column. Wonderly responded that Morris was clearly unaware of several things like: the actual size and makeup of the limestone deposits, the chemical processes that produce limestone deposits, the fact that currently observed sedimentation rates in areas like the Bahaman banks can explain adequately the earth's limestone deposits, and the fact that biogenic components are found in most limestone formations.<sup>21</sup>

Wonderly noted that some flood geology authors have suggested that the flood could have transported shells onto the land which were then hardened into limestone. However, that will hardly work. The Appalachian Mountains have an average limestone depth of over 5,000 feet. Limestone layers east of the Rocky Mountains average 900 feet thick everywhere. There simply could not have been enough shells to create this much limestone. Any shells washed onto the land by the Flood would also have been mixed with other materials and would not have been deposited in a uniform way across the surface of the land. Beyond that, limestone layers often demonstrate the growth *in situ* of marine organisms that secrete calcium carbonate very slowly. When these structures can be identified in limestone, the rock could not have been formed rapidly. Wonderly argued that Morris is unaware that such stromatolites, algal mats, and reefs have been identified very frequently in limestone deposits, and when found they are in their natural growth positions. They are not turned over or jumbled as a flood deposit would be.<sup>22</sup>

Perhaps the most serious problem with flood geology is the nature of the fossils found in the earth's limestone layers. If limestone was formed by Noah's flood, the fossils in the rock layers

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<sup>21</sup>

Wonderly, *Neglect of Geological Data: Sedimentary Strata Compared with Young-Earth Creationist Writings*, 43-4.

<sup>22</sup>

Wonderly, *Neglect of Geological Data: Sedimentary Strata Compared with Young-Earth Creationist Writings*, 44-6.

should be jumbled up and disorganized. Many of the animals alive today should be found at every level of the fossil record. There should be cows, sheep, elephants, chickens, horses, and many other contemporary animals scattered throughout the earth's limestone layers. Instead, very few animals alive today are represented in the fossil record, and very few of the animals in the fossil record are alive today. Beyond that, most animals found at the lower levels of the fossil record are not found at higher levels. Most animals found near the top of the fossil record are not found in lower limestone layers. If flood geology were correct, this would not be true. By and large, young earth authors deny this. They argue that specific exceptions found in the fossil record proved that the limestone layers actually were all formed at the same time. Whether that claim can be substantiated is questionable.

It is also fair to ask if flood geology could even be Scriptural. Genesis 2:14 claimed that the Tigris and Euphrates rivers flowed either "out of" or "into" the Garden of Eden depending on how the Hebrew is understood. The Tigris and Euphrates rivers flowed through the mountains north of Mesopotamia for the first third of their course. After traveling through Mesopotamia, the rivers joined near the Persian Gulf shore. This has led to proposed locations for Eden either in the mountains north of Mesopotamia or in the Persian Gulf. Ezekiel 28:13-14 described Eden as the holy mountain of God. If this passage is allowed to shed light on the Genesis text, it suggests that Eden was located in the limestone and dolomite mountains north of Mesopotamia.<sup>23</sup> The problem for flood geology is that these mountains were made of limestone and they stood on top of a thick layer of limestone. The question then becomes how could the Tigris and Euphrates rivers have flowed from Eden if the limestone beneath the bed of these rivers had not yet been formed? This has led a number of authors to claim that flood geology directly contradicted the Genesis text.<sup>24</sup> Young earth authors have often suggested that people who lived after the flood may have named the current Tigris and Euphrates rivers after the original rivers of Eden. However, that is at least as questionable a hermeneutic as suggesting that the "days" of Genesis 1 must have referred to something other than 24 hour days in order to meet the needs of an assumed view of history. Moses and the wilderness generation would have assumed that the current Tigris and Euphrates rivers flowed out of Eden.

A key part of the young earth and flood geology discussion has been a belief in a "firmament" above the earth that may have produced the waters of Noah's flood. This "firmament" was described in Genesis 1:8-20, Daniel 12:3, and perhaps Psalm 19:1. It is often assumed that this "firmament" would have given Adam's descendants a much longer life as it shielded the earth from the full force of the sun's radiation. Walter Brown discussed the problems with this perspective. He noted that a "firmament" of ice could only have remained above the earth if it was in orbit. Otherwise the earth's gravity would have made it fall to the earth. To remain in orbit, this ice firmament would have had to be traveling at least 17,000 miles an hour. Any speed slower than that would have caused it to fall out of orbit. Brown noted that re-entry from orbit would have caused a great deal of friction heat. A band of ice 40 feet thick would have generated  $4.29 \times 10^{26}$  calories of heat. This would have been enough to raise the

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A southern location for Eden can also be defended. The name Eden may mean "steppe" or "plain." Whether a mountain garden can be located on a plain is problematic. See the discussion of the name Eden in A. R. Millard, "The Etymology of Eden," *Vetus Testamentum* 34 (1984): 103-05.

<sup>24</sup> John C. Munday Jr. "Eden's Geography Erodes Flood Geology," *The Westminster Theological Journal* 58 (1996): 123-54.

atmosphere's average temperature by 10,000 degrees. Beyond that, an ice canopy would have prevented starlight from passing through it. So the stars could not be seen. Enough of the sun's light would have been filtered out to prevent tropical plants from growing, and tropical plants appear in the coal deposits that are thought to have been formed by the flood.<sup>25</sup>

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Walter T. Brown Jr. "Did a Water Canopy Surround the Earth and Contribute to the Flood?" (Phoenix: Walter T. Brown, 1992). The notion of an icy firmament is actually far more difficult than this. To remain in orbit, the ice dome must have been traveling at orbital speed. Yet that would only have been true of ice at the equator. Ice above the poles would not have been moving fast at all. So gravity would immediately have pulled down the dome. The collapse of the dome from the poles to the equator may not have generated the levels of heat suggested by Brown, but it would have required a continual miracle to keep such a dome in the sky. Beyond that, a 40 foot thick ice dome would actually have blocked so much light that the earth would have been frozen everywhere. Confirmation of this can be seen by measuring the amount of light that passes through 40 foot thick ice packs in glaciers.