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## Deep Time: Boiled-Out or Baked-In?

By Dave Greear

“Deep time” is the underlying assumption behind the modern cosmological “Big-Bang Theory” and everything that flows from it in the modern scientific establishment, including geology with its millions of years of earth-history, and the modern biological theory of evolution that requires, we are told, millions of years to form life as we know it. Dr. Don DeYoung in his book *Thousands not Billions* defines “deep time” thus:

Deep time refers to time scales which are much larger than those by which we define our lives. It should be remembered, however, that the existence of billions of years of history is not a certainty. Deep time is a major “icon” or symbol of evolution, a presumption...<sup>1</sup>

If it is, in fact, a presumption, then by definition it is not an established fact. That is a major difference. It would be the difference between something being “baked-in” as opposed to “boiled-out” in a cooking environment (Fig.1). According to the *Free Dictionary*, to “boil-out” is to “remove or separate something in liquid by boiling.”<sup>2</sup> In other words, the boiling brings out what is there, such as adding a tea bag to boiling water. The boiling water does not create the tea flavor, but rather brings out what is already there, what is obviously and objectively true (the tea flavor). With “deep time” that would mean that pure empirical, unbiased scientific experimentation and observation force us to the conclusion of “millions of years.” In contrast, according to *Wiktionary*, something that is “baked-in” is “inseparably included” or “built in.”<sup>3</sup> In cooking that would mean, for instance, that once the chocolate is added to the cake batter and it is baked-in, there is no separating it back out! With the concept of “deep time” that would mean that millions of years is absolutely assumed from the start of the processes used to determine the age of the earth. So, our question becomes, “Is deep time ‘boiled-out’ as objective evidence from



Figure 1. Baked-in versus boiled-out

empirical scientific investigation or is it ‘baked-in’ to modern scientific disciplines as an *a priori* assumption?” A second question is also in order. When it comes to the Genesis text, many modern evangelical scholars insist that millions of years are right there in the text! Is that insistence “baked-in” to their starting assumptions or is it “boiled-out” from careful exegesis of the text? The purpose of this article will be to address these two questions.

### Deep Time and Scripture

Let’s begin with the second question. Are millions of years “baked-in” or “boiled-out” of modern evangelical interpretations of the Genesis text that reject the idea of creation in six literal days? It is very significant to note that God seems to clearly define His terms in the text of Genesis 1. It’s as if He is expecting future confusion over their meaning! The term “day” (יָמִים), as used throughout the chapter, is there defined as either the period of light as opposed to the period of darkness or the period consisting of both light and darkness. The final phrase of verse 5 literally reads, “...an evening was and a morning was—day one.”

Unfortunately, in spite of the clarity of these definitions, many modern scholars try to argue that these days need not be literal. One can’t help but wonder if their primary motivation is to find a way to insert millions of years of time into the Biblical chronology and thus harmonize the

<sup>1</sup> DeYoung D (2005) *Thousands...Not Billions*, Master Books Green Forest, AR, 13

<sup>2</sup> The Free Dictionary, <<https://idioms.thefreedictionary.com/boiled+out>> Accessed 2021 Jul 14

<sup>3</sup> Wiktionary, <<https://en.wiktionary.org/wiki/baked-in>> Accessed 2001 Jul 14

Bible with a secular, old-earth timeframe. Theologian Bruce Waltke in his commentary on Genesis admits,

The days of creation may also pose difficulties for a strict historical account. Contemporary scientists almost unanimously discount the possibility of creation in one week, and we cannot summarily discount the evidence of the earth sciences. General revelation in creation, as well as the special revelation of Scripture, is also the voice of God. We live in a “universe,” and all truth speaks with one voice.<sup>4</sup>

There are different variations of this non-literal approach to Genesis 1, including the “Day-Age Theory,” “Progressive Creationism,” the “Gap Theory,” and the “Framework Hypothesis,” but they all, in essence, are trying to squeeze millions of years into Genesis 1.<sup>5</sup> However, the Hebrew text simply does not allow for these interpretations. Consider the following:

1. Although יום may sometimes be correctly translated as “time” in a general sense (A good example of this is the “day of the Lord” which refers to the *time* of His coming in judgment, not a literal day), the vast majority of the times it occurs in the Old Testament יום refers to literal 24-hour days.
2. The last three days are clearly controlled by the sun, and they are described in the same language as the first three days. This is a strong argument that the first six days were all equal in length and therefore 24-hour days.
3. Nowhere in the Old Testament does the word “evening” mean anything other than a literal evening.<sup>6</sup>
4. Nowhere in the Old Testament does the word “morning” mean anything other than a literal morning.<sup>6</sup>
5. When combined with a number or ordinal (as in “day one” or “the second day”) the word יום never means anything other than a literal 24-hour day (This construction occurs over 100 times in the books of

Moses alone<sup>7</sup> and over 350 times in the entire Old Testament outside of Genesis 1).<sup>8</sup>

The late Dr. James Barr, a former Oxford University Hebrew scholar, made the following admission about the creation account in Genesis,

So far as I know, there is no professor of Hebrew or Old Testament at any world-class university who does not believe that the writer(s) of Genesis 1–11 intended to convey to their readers the ideas that (a) creation took place in a series of six days which were the same as the days of 24 hours we now experience...<sup>9</sup>

This admission is significant since the author obviously (from his unwillingness even to recognize the Mosaic authorship of Genesis) did not personally believe in a literal six-day creation. Some opponents of the young-earth creation position have criticized the use of this quote since Dr. Barr did not believe in Biblical inerrancy. However, in more recent times, other world-class Hebrew scholars have reinforced Barr’s statement. Current Regius Professor of Hebrew at Oxford, Hugh Williamson, stated in email correspondence,

So far as the days of Genesis 1 are concerned, I am sure that Professor Barr was correct...I have not met any Hebrew professors who had the slightest doubt about this.<sup>10</sup>

Peter Williams, the current warden of the Tyndale House, a residential research library outside of Cambridge University, states,

Although the Young Universe Creationist position is not widely held within secular academia, the position—that the author of Genesis 1 maintained that the world was created in six literal days—is nearly universally held.<sup>11</sup>

It seems that an interesting phenomenon exists regarding the interpretation of “days” in Genesis 1. The most conservative and the most liberal of Christian scholars (who would not otherwise agree in much of anything) are in agreement against evangelicals who would want to compromise the Genesis text to allow for millions of years.

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<sup>4</sup> Waltke BK, Fredricks CJ (2001) *Genesis: A Commentary*, Zondervan, Grand Rapids, MI, 77

<sup>5</sup> See Sarfati J (2004) *Refuting Compromise*, Master Books Green Forest, AR, 67–105 for an excellent assessment of the meaning of the days of creation and a critique of these old-earth positions.

<sup>6</sup> Sarfati J, 81

<sup>7</sup> Morris HM (1991) *The Beginning of the World: A Scientific Study of Genesis 1–11*, Master Books, El Cajon, CA, 25

<sup>8</sup> Sarfati J, 73–74.

<sup>9</sup> Barr J, letter to David Watson, 1984, as quoted in Ham K, Sarfati J, Wieland C (2000) *The Revised & Expanded Answers Book*, Master Books, Green Forest, AR, 38

<sup>10</sup> Williamson H, email to Jud Davis, January 7, 2011, as quoted in Davis J (2012) 24 hours: Plain as day. *Answers* 7(2):68

<sup>11</sup> Williams P (2008) No agony before Adam. Paper given at University of Aberdeen, December 17, 2008, 1 as quoted in Davis J, 69

The liberal scholars, who feel no need to defend the inspiration or authority of the Bible, see clearly that the author of Genesis 1 intended to convey a creation of six literal days. They believe that author was mistaken, but that is irrelevant to our discussion. When they look honestly at the Hebrew text without any preconceived idea that they have to find room for millions of years, they come out with six literal days. This certainly suggests that something other than a pure reading of the Genesis text influences many evangelical scholars in their interpretation of the Genesis account.

### ***Deep Time and Science***

Now let's turn to the age of the earth estimates in the modern scientific community. Is "deep time" baked-in or boiled-out of the processes used to give estimates of the age of the earth? Consider that the evolutionist must have billions of years to account for the supposed "geological ages" and to provide the time that is allegedly needed for biological evolution to occur. Therefore, he must assume that the earth is very old, and all evidence will be interpreted in this light. This *a priori* assumption explains, for instance, why he will date sedimentary rocks (which cannot be dated using radiometric methods) using "index fossils" found in the rocks, and then turn around and date the fossils by the ages of the rocks in which they are found (a great example of circular reasoning):

It cannot be denied that from a strictly philosophical standpoint geologists are here arguing in a circle. The succession of organisms has been determined by a study of their remains embedded in the rocks, and the relative ages of the rocks are determined by the remains of organisms that they contain.<sup>12</sup>

It is very important to note that there are actually no independent, stand-alone, methods for dating the age of the earth that give ages of billions of years. Each and every one of these methods, in some way or another, assumes an ancient age for the earth to start with, and evidence is interpreted to fit this starting assumption. Scientists cannot actually determine an exact age of the earth, anyway, by any method. They can, however, examine certain natural processes (such as radiometric dating of igneous rocks where the amount of "parent" and "daughter" elements from a radioactive decay process are measured and used to calculate an age) which will yield "apparent ages" for the earth. However, these methods

are far from infallible. Evolutionary biologist William Stansfield admitted,

It is obvious that radiometric techniques may not be the absolute dating methods that they claimed to be. Age estimates on a given geological stratum by different radiometric methods are often quite different (sometimes by hundreds of millions of years). There is no absolutely reliable long-term radiological "clock." The uncertainties inherent in radiometric dating are disturbing to geologists and evolutionists...<sup>13</sup>

The main problem with most of these methods is that they must necessarily start with three arbitrary assumptions.<sup>14</sup> They are:

1. The process used must always have operated at the same rate at which it functions today.
2. The system in which the process operates must always have functioned as a "closed system" throughout history with nothing being added to the system from without or lost from the system to the outside world.
3. The initial condition of the various components of the system, when it first began to function at a constant rate in a closed system, must be known.

Unfortunately, these assumptions are not easily satisfied, and are, in fact, impossible to verify. Therefore, radiometric dates are very unreliable, often contradicting themselves. In practice, when a scientist dates a rock using uranium-lead dating, for instance, he might assume that there was initially no lead in the rock, that the half-life of uranium has never changed, and that no lead or uranium has ever been lost from the rock other than by radioactive decay. These assumptions are all in line with an initial assumption of an ancient earth. The scientist will, in fact, calculate an apparent age of the rock, but that apparent age is a reliable estimate of the true age only if all three assumptions are valid.

Creationists, however, have good reason to believe that all three assumptions may be invalid in regard to radiometric techniques. Radioactive decay rates, once thought to be absolutely constant, have been shown to change in the

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<sup>12</sup> Rastall RH (1949) *Geology. Encyclopedia Britannica*, vol. 10, s.v., 168, as quoted by Morris HM (1997) *That Their Words May Be Used Against Them*, Institute for Creation Research, San Diego, CA, 246

<sup>13</sup> Stansfield WD (1997) *The Science of Evolution*, Macmillan, New York, NY, 84

<sup>14</sup> Morris HM (1984) *The Biblical Basis for Modern Science*, Baker Book House, Grand Rapids, MI, 261

laboratory under the right conditions.<sup>15,16</sup> Creation scientists working with the RATE (*Radioisotopes and the Age of The Earth*) group also argue that evidence exists for more rapid decay rates in the past. They point to studies that were conducted on granite rocks obtained from a New Mexico bore hole. The rocks were dated to be 1.5 billion years old using radiometric dating.<sup>17</sup> These granite rocks contain zircon crystals (chemical formula of ZrSiO<sub>4</sub>). Many of these crystals contain concentrations of uranium-238 atoms which decay to lead-206 through a series of steps in which eight alpha particles (equivalent to helium atoms) are released. Helium atoms are very difficult to confine and should over time leak out of the granites. Therefore, if the granite rocks are really 1.5 billion years old there should have been no traces of helium left in the zircon crystals. "To everyone's surprise, however, large amounts of helium have been found trapped inside the zircons."<sup>17</sup>

The RATE team then formed a hypothesis:

the large amount of helium existing in the zircons might be the result of an episode of accelerated nuclear decay that occurred just thousands of years ago.<sup>18</sup>

To test this hypothesis, they began to conduct a series of experiments designed to measure the rate of helium diffusion in zircon crystals at various temperatures. Their final conclusion was that

based on the measured helium retention, statistical analysis gives an estimated age for the zircons of 6000+/-2000 years.<sup>19</sup>

This fits beautifully with a Biblical time-scale.

The second assumption, of no addition or loss of parent or daughter element over time, is very unlikely to be true, since there is no such thing as a "closed system" in the real world.

It is almost inconceivable that any material could remain a closed system for a billion years of

fracturing, folding, solvent action, and other such phenomena.<sup>20</sup>

The final assumption is probably the least likely to be valid. Many radiometric techniques assume that most, if not all, of the daughter element in a given rock is a result of radiometric decay, and that little to none of the daughter element was initially present. Therefore, this third assumption will often cause apparent ages to be much higher than the actual age of the rock in question. This is why igneous rocks from recent (formed in historic times) lava flows usually show ancient radiometric ages. One of many examples of this phenomena is Mount St. Helens, in Washington state, where a lava dome formed from a series of eruptions and lava flows between 1980 and 1986. Rock from the lava dome was dated by a secular lab using the potassium-argon method. Dates ranging from 0.34 million to 2.8 million years were obtained.<sup>21</sup>

Furthermore, dates that are not in the right ballpark of the expected date based on evolutionary bias are thrown out as contaminated samples or discarded for whatever other reason is convenient. Evolutionist and geologist Richard L. Mauger admits,

In general dates in the "correct ball park" are assumed to be correct and are published, but those in disagreement with other data are seldom published nor are discrepancies fully explained.<sup>22</sup>

There are actually hundreds of natural processes, however, other than radiometric dating, that can be used as "clocks" to estimate the age of the earth. The vast majority of these give relatively young ages (less than billions of years—sometimes thousands and sometimes millions) in spite of the three assumptions listed above that would normally tend to give a higher apparent age.<sup>23</sup> Each of these methods actually only give maximum ages. In other words, the actual age could be much less. Examples of these methods include the decay of the earth's magnetic field,<sup>24</sup> the amount of helium in the earth's atmosphere,<sup>25</sup> carbon-14 in unexpected places

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<sup>15</sup> Walker T (2000) Radioactive decay rate depends on chemical environment. *Creation Ex Nihilo Technical Journal* 14(1):4-5

<sup>16</sup> Woodmorappe J (2001) Billion-fold acceleration of radioactivity demonstrated in laboratory. *TJ (The In-Depth Journal of Creation)* 15(2):4-6

<sup>17</sup> DeYoung D, 68

<sup>18</sup> *Ibid.*, 71

<sup>19</sup> *Ibid.*, 76

<sup>20</sup> Morris HM, 266

<sup>21</sup> Swenson K (2001) Radio-dating in rubble, *Creation Ex Nihilo* 23(3):23-25

<sup>22</sup> Mauger RL (1977) K-Ar ages of biotites from tuffs in Eocene rocks of the Green River, Washakie, and Uinta Basins, Utah, Wyoming, and Colorado. *Contributions to Geology* (University of Wyoming) 15(1):37 as quoted in Snelling A, ed. (1990) *The Revised Quote Book*, Creation Science Foundation Ltd., Brisbane, 22

<sup>23</sup> See Morris JD (2007) *The Young Earth*, Master Books Green Forest, AR or Ackerman PD (1986) *It's A Young World After All*, Baker Book House, Grand Rapids, MI for information on these and several other evidences for a young earth.

<sup>24</sup> Morris JD, 79-83

<sup>25</sup> *Ibid.*, 87-89

(such as ancient fossils, coal, and even diamonds),<sup>26,27,28</sup> the presence of soft tissue and proteins that should only last thousands of years in several dinosaur and other ancient fossils,<sup>29</sup> the amount of salt in the oceans,<sup>30</sup> and the existence of short-period comets,<sup>31</sup> to name but a few. The vast majority of these methods (Fig. 2) give relatively young ages.

In conclusion, Bible-believing creationists need not be intimidated by the concept of “deep time” since there is absolutely no objective evidence that the Biblical text teaches it or that scientific evidence demands it. Millions of years are baked-in not boiled-out! 



Figure 2

## COMING EVENTS

**TASC Zoom Meeting, Thursday, August 12, 7:00 pm EDT**

“Three of the Hardest-to-Refute Lines of Evidence for a Young Earth Interpretation”

Explanations for dinosaur soft tissue, unracemized left-handed amino acids, and carbon-14 are needed to understand the true age of the geologic column. Dr. Jeff Gift will lead us in a discussion of the implications of the most recent evidences for (1) significant amounts of short-lived carbon-14 in diamonds, dinosaur fossils, natural gas, and coal, (2) mostly left-handed amino acids (not yet decayed to a 50/50 right/left ratio) in chert and dinosaur eggshells, and (3) blood vessels, cells, and *Tyrannosaurus rex* and hadrosaur DNA in dinosaur soft tissue fossils.

Join Zoom Meeting

<https://us02web.zoom.us/j/4430308956>

Meeting ID: 443 030 8956

Find your local number:

<https://us02web.zoom.us/j/kcJUMoJN6j>

<sup>26</sup> DeYoung D, 48–58

<sup>27</sup> Gift J (2015) Carbon-14 in dinosaur bones challenges evolution theory and supports Genesis flood account. <<https://www.tasc-creationscience.org/article/carbon-14-dinosaur-bones-challenges-evolution-theory-and-supports-genesis-flood-account>> Accessed 2021 Jul 19

<sup>28</sup> Plaisted D (2017) Carbon 14 dating of fossils. <<https://www.tasc-creationscience.org/article/carbon-14-dating-fossils>> Accessed 2021 Jul 19

<sup>29</sup> Anderson K (2016) *Echoes of the Jurassic*, CRS books, Chino Valley, AR

<sup>30</sup> Morris JD, 89–91

<sup>31</sup> Williams A, Hartnett J (2005) *Dismantling the Big Bang: God's Universe Rediscovered*, Master Books, Green Forest, AR, 198