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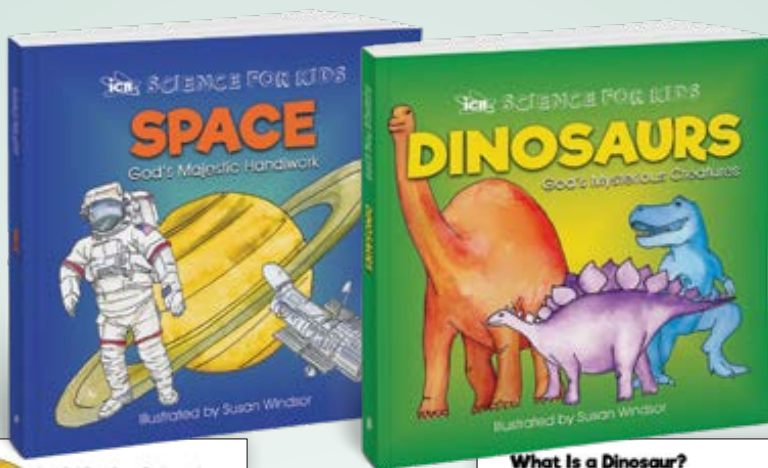
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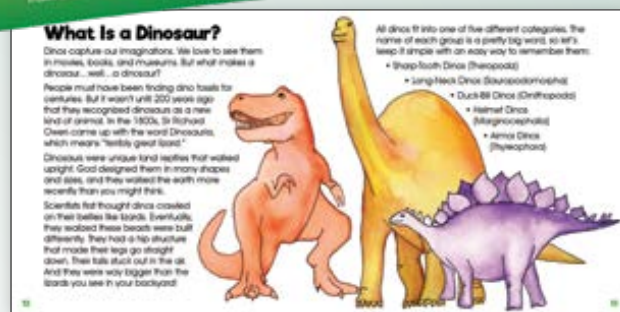
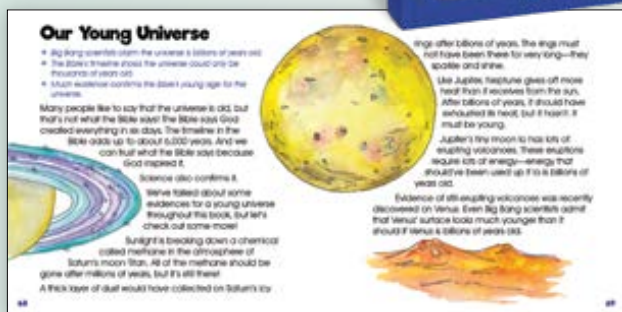
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Front cover image: Green flying frog, *Rhacophorus reinwardtii*



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Great Expectations

In January, we often review our goals with great expectations for the year ahead. It helps to reflect on where we've been and how far we've come. We want to rejoice in God's goodness to us during 2017 as we anticipate His even greater work in 2018. You are our partners in this ministry, and we couldn't spread God's creation truth without you. Let's take some time to reflect on all He accomplished through us together in the past year.

ICR took some giant steps in 2017. We began construction on the ICR Discovery Center for Science and Earth History in April and ended the year with the completion of the foundation and structural steel of the new construction. We also completed the interior framing of the existing structure renovation. This long-planned project is gradually taking shape, and we couldn't be more thrilled.

ICR scientists conducted research at our Dallas facilities and presented their findings in meetings across the country. Each month in 2017, we detailed some of their results and conclusions in *Acts & Facts*, which now reaches well over 250,000 readers. *Days of Praise*, our most widely distributed publication, reached almost 400,000 readers last quarter. We also provided up-to-date creation science news each week at ICR.org. Watch for our upcoming new website format—we hope you will enjoy the fresh presentation of the content you've trusted for decades. The articles, technical papers, devotionals, event updates, videos, podcasts, store connection, and other information will still be available to help you share and learn about God's creation and the accuracy and authority of His Word.

We published several new resources to educate believers and help them reach others with creation truth. *The Universe: A Journey Through God's Grand Design* is a four-episode DVD series with an accompanying viewer guide. Our book publications included *Henry M. Morris: Father of Modern Creationism*, *Places to Walk: Glorious Liberty of the Children of God*, and *Twenty Evolutionary Blunders: Dangers and Difficulties of Darwinian Thinking*. We designed them to equip both our general and more scholarly audiences. We also released the first two books in our Science for Kids series—*Dinosaurs: God's Mysterious Creatures* and *Space: God's Majestic Handiwork*. Watch for more entries in this series in 2018.

We began offering digital downloads—you can purchase ebooks as well as videos at ICR.org/store. Our online *That's a Fact* videos have over 12 million lifetime views, and our radio programs reached hundreds of stations throughout the country. New people connected with us on a variety of social media platforms, and our followers continue to interact with us and other creation advocates each day! Our Facebook ([facebook.com/ICRscience](https://www.facebook.com/ICRscience)) following grew to over 147,000. You can also follow us on Twitter (@ICRscience), Instagram (@ICRscience), Pinterest ([pinterest.com/ICRscience](https://www.pinterest.com/ICRscience)), LinkedIn, and Google+.

You helped us raise funds

for the construction of the ICR Discovery Center. Together we met a \$4-million matching gift challenge. We still need around \$10 million to complete the interior, but many of you regularly send financial support to help finalize the exhibits as well as provide for ICR's ongoing operations.

We also received thousands of letters and emails from friends all over the world, telling stories of personal salvation, strengthened faith, and encouraged spirits. These statistics are not mere numbers—they reflect individual hearts and minds touched by the truth of God's Word. We thank God for all of the many milestones we reached this past year. Together, let's renew our resolve to hold fast to what is true. Let's remain faithful to the good work He has called us to do. We can't wait to see all 2018 holds!

Jayme Durant

Jayme Durant
EXECUTIVE EDITOR



ITCHING EARS

HENRY M. MORRIS III, D. MIN.



article highlights

- People today too often hear only what they want to hear. The Bible says many will believe in crafty fables rather than the truth of God's Word.
- False teachers use convoluted methods to mislead people, but believers are to listen only to Jesus, our Creator and Savior.

The Bible contains abundant warnings against following false teaching. All of them foretell awful consequences for those who don't test what they hear against the inerrant words of God. There is one warning in 2 Timothy, however, that uses a somewhat humorous metaphor.

For the time will come when they will not endure sound doctrine, but according to their own desires, because they have itching ears, they will heap up for themselves teachers; and they will turn their ears away from the truth, and be turned aside to fables. (2 Timothy 4:3-4)

Every doctor will tell you not to scratch inside your ears. They know it is dangerous. *You* know it is dangerous. Yet we all (including doctors) scratch our ears when they itch. That's what the apostle Paul has in mind about false doctrine. The craving starts as a little tickle—some small idea that sounds good or appeals to our humor of the moment. If we ignore the tickle and pay attention to the words of God, the itch will go away. But scratch just a little bit and it begins to consume us. The more we pay attention to the itch, the more it controls us.

Professional Jargon

People who wish to mislead or confuse others have many techniques at their disposal. The use of specialized terms to cloak meaning is a favorite human trick. Every profession has terminology that keeps out the uninitiated. The military loves its lingo-laden verbs; the government loves its acronyms. Technical descriptions sometimes assume the reader or listener has a complete and comprehensive knowledge of the genre (my favorite is the computer manual), and the "secret" knowledge of the universe is certainly not confined to the mystics!

One cannot eliminate all specialized terms, but it is possible to communicate without using language only specialists understand—unless one wants to show off or intimidate. In the theological world, this is often done by either spouting terms that only theologians know or falling back on the grand old standard of the biblical languages.

The effect is to dominate the conversation with a specialized awareness that forces the listener to give up or acquiesce to the intellectual prowess of the theologian.

In the conflict between science and theology, those who disagree with what the Bible says will often resort to the "I'm right since I am a scientist" argument. Their books are loaded with technical terms—few of which are explained for the layman—giving the impression that the Bible's words and the biblical context must be understood in light of science. Essentially, one is faced with believing the writer of the book or the Writer of *the Book*.

Obfuscation

Another misleading tactic is using terminology that gives an impression but doesn't really communicate. Obfuscation is the technique of making the simple complex and the apparent bewildering. It darkens the light, muddies the clean, and confuses the obvious.

The obfuscator's goal is to divert the reader from a clear understanding of the issue. Solomon was said to be one of the wis-

est men God ever blessed. Check out what he had to say about the proper way to deal with information.

And moreover, because the Preacher was wise, he still taught the people knowledge; yes, he pondered and sought out and set in order many proverbs. The Preacher sought to find acceptable words; and what was written was upright—words of truth. The words of the wise are like goads, and the words of scholars are like well-driven nails, given by one Shepherd. (Ecclesiastes 12:9-11)

Obfuscators don't follow the formula that Solomon speaks of.

Obfuscation is the technique of making the simple complex and the apparent bewildering. It darkens the light, muddies the clean, and confuses the obvious.

Intimidation

This technique is used a lot. Those with advanced education—especially from certain schools—often strut their degrees as though they were a pedigree of perfection. Most folks are more enamored by the

secrets people know than they are with the *things* they know. Namedroppers, book quoters, jargon users, prestige vendors, and obfuscators all use the “juice” of specialized knowledge or connections, and their listeners generally drink it up as fast as they can pour it out.

This powerful and subtle lever can tip an opinion to one side or another. The right school is often more important than the intellectual performance. The better the education, it is assumed, the better the knowledge. And the better the knowledge, the more correct the conclusion. These beliefs are only half-truths, but they are embraced as though they were whole truth.

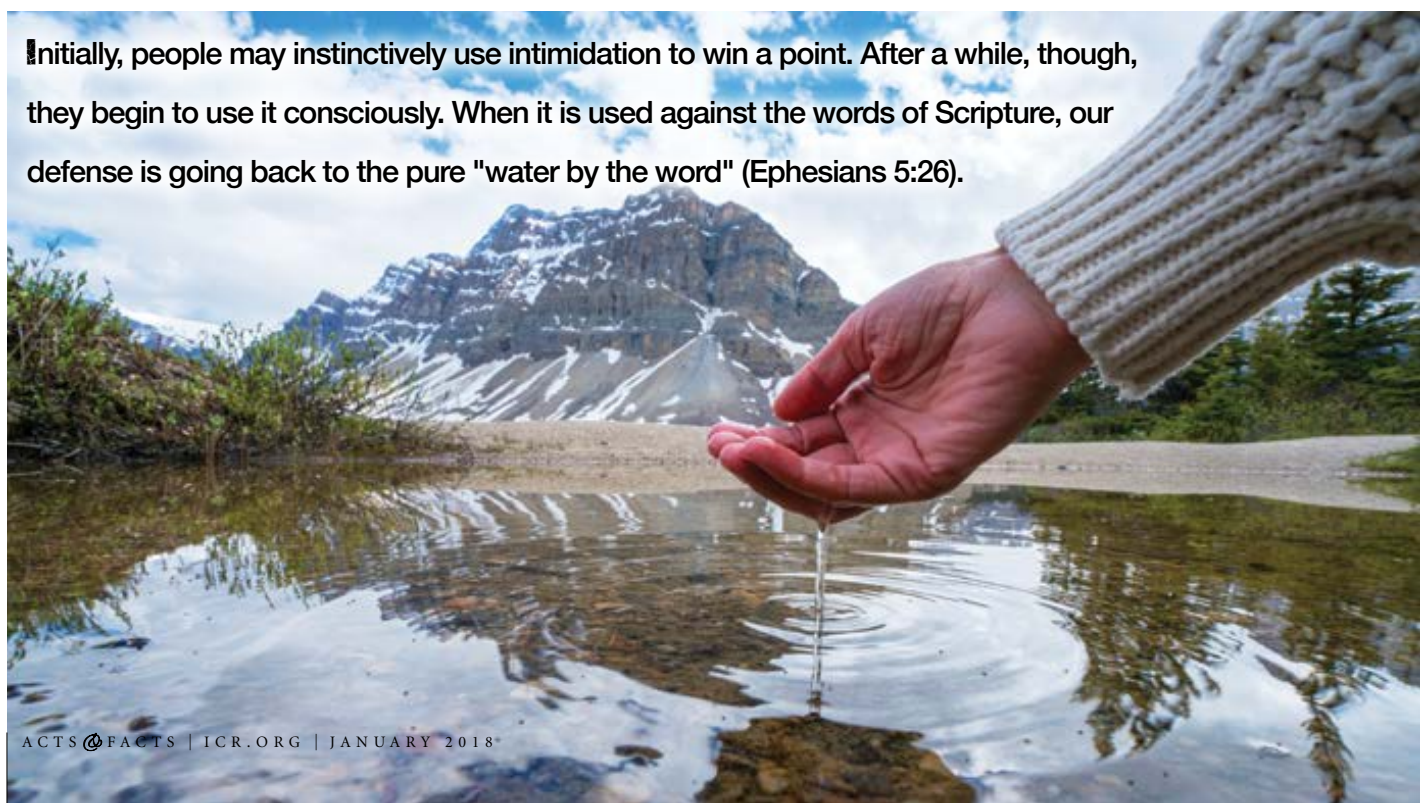
Intimidation is used to gain advantage over others. Two issues to be aware of: one, we are usually taught this technique by watching others rather than learning it as a system; and two, we can hone this skill just like practicing the piano. Initially, people may instinctively use intimidation to win a point. After a while, though, they begin to use it consciously. When it is used against the words of Scripture, our defense is going back to the pure “water by the word” (Ephesians 5:26).

The Symposium of Similarity

Much of the early church's formal doctrine was debated in councils composed of key church pastors and leaders. Their work was documented in many cases and provided the material from which modern orthodox creeds were developed. A few of the early writers, however, were the source of serious heresy, leading to error and confusion among the churches.

One of the most significant problems in the process was the extension of authority from council to council, compounding any errors from era to era. An early council would establish the creed that would be formally used among like-minded churches. The creed would be based on Scripture but would be composed of carefully worded summaries about scriptural teaching. The next council would take the previous creed and debate the precision of the wording. Their recorded proceedings (usually far more voluminous than the creed itself) would be used by the next council to extrapolate further nuances. Thus, Scripture (A) would be summarized into (B), which would be refined into (C), which then became (D), and (E), and so on. Each iteration would move further and further away from

Initially, people may instinctively use intimidation to win a point. After a while, though, they begin to use it consciously. When it is used against the words of Scripture, our defense is going back to the pure “water by the word” (Ephesians 5:26).



the direct words of God and deeper and deeper into the words of men.

The process became one of comparison of views—something of a democratic analysis of statistical norms—seeking to summarize the summaries and opine on the opinions. Splits and splinter groups were common, and various monastic movements with theological axes to grind popped up. That part is history.

What is not usually understood, however, is that a method was sanctioned by church leadership that is still in practice in

We need to be aware of the techniques the Enemy uses to distract us from the truths of God and His Word. When someone tries to tickle your ears with unsound or misleading doctrine, don't scratch.

seminaries and Bible colleges. Students are encouraged to research the writings of previous experts as much or more than they are encouraged to use biblical exegesis. Graduate degrees of all kinds are built upon the work of earlier scholars rather than original analysis or documentation of new ideas. There is a rather cute saying reflecting this: “If you quote one person extensively, that is plagiarism. If you quote many sources extensively, that is scholarship.”

What that cliché recognizes is that our educational process encourages this kind of behavior. Moreover, it builds an atmosphere of synergism—a symposium of similarity. The more we can cite those who agree with our perspective, the more we can expect the majority to approve it. If we can find enough scholars to support our view, many readers will not even check our references—let alone the truth or error of our proposition.

This verification of argument by others is especially effective among people who respect the long line of tradition handed down by the “fathers” (1 Peter 1:18). In a democratic society we often say, “The ma-

majority rules.” So it is among those who oppose the words of God. The argument works this way: most people do not believe the Bible should be taken literally. That is verified by many writers of church history. It is also verified by a majority of scholars. Therefore, it is taken for granted that people who do not believe in the accuracy of the Bible’s history and precepts are right and those people who do are just plain ignorant and probably afraid of the scholarship of others.

The technique works. Most people are impressed with a long line of supporters.

Sometimes that can mean the principle they espouse is accurate. Often, however (especially when it comes to the eternal truths of Scripture), they are merely following the “broad way” down into destruction (Matthew 7:13). Jesus once warned His followers that believers should be wary when “all men speak well” of us (Luke 6:26). Paul noted he would rather let “God be true” and all other men “a liar” than yield the truth of God to the majority disbelief of the rest of the world (Romans 3:4).

You Just Don't Get It!

Another obstructive technique is the timeless adolescent cry insisting that the other person just doesn't understand or cannot possibly conceive of the reality involved. Ignorant of the big picture and completely convinced that everybody else is wrong, the adolescent defines the world and limits examples to prove that what they perceive is completely justified.

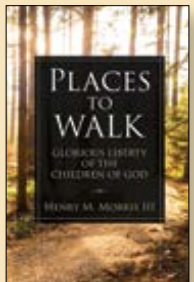
A companion argument is “You are totally out of it! All my friends are doing it.” The argument is strictly emotional, of course, and is performed because the teenagers in question are being forced into a behavior they don't want. “Everybody” they know rejects the “old” and “disconnected” values of the parent. They can't see why the parent can't see what they want to see, and they don't want to see what the parent sees.

The same thing happens to adults, especially in debates over the meaning and purpose of life. The majority of people believe that science—not the Bible—provides the answers and assume that anyone who thinks differently “just doesn't get it.” Stated so simply, it is fairly easy to see the blasphemy behind the argument. But when it is woven into thousands of technical and obfuscating words, the argument is harder to spot. What is this really saying?

- Man's mind is superior to God's mind.
- Science, although wrong in the past, is now right.
- God had to accommodate Himself to the ignorance of past history.
- Words mean what we define them to mean.
- Science now knows what words should mean.
- Young-earth scientists and Bible literalists are ignorant.
- Non-scientists cannot understand the Bible without help from scientists.

Jesus warned His followers of false teachers who would come and attempt “to deceive, if possible, even the elect” (Mark 13:22). We need to be aware of the techniques the Enemy uses to distract us from the truths of God and His Word. When someone tries to tickle your ears with unsound or misleading doctrine, don't scratch. Keep your eyes fixed on Jesus, your heart and mind grounded on Scripture, and “contend earnestly for the faith which was once for all delivered to the saints” (Jude 1:3). ☞

Dr. Morris is Chief Executive Officer of the Institute for Creation Research. He holds four earned degrees, including a D.Min. from Luther Rice Seminary and an MBA from Pepperdine University.



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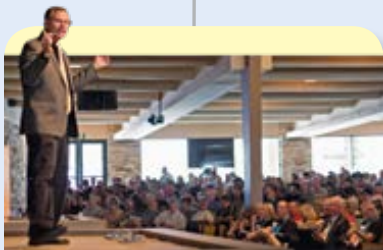
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Wrapping Up Seafloor Sediment Research

article highlights

- Many scientists use the Milankovitch ice age theory to claim that thick polar ice sheets and deep seafloor sediments are very old.
- A closer examination shows that the science used to support this claim doesn't add up.

Regular *Acts & Facts* readers know I have long studied the methods uniformitarian scientists use to assign ages to the deep ice cores of Greenland and Antarctica. Although Bible skeptics claim these cores present an unanswerable argument for an old earth, creation scientists can plausibly account for the excessive ages secular scientists assign to them.¹⁻³

Ages for the ice cores are usually tied to the ages uniformitarian scientists assign to deep seafloor sediments. Those ages, in turn, are assigned by the astronomical (or Milankovitch) ice age theory,⁴ which claims ice ages are paced by slow, gradual shifts in Earth's orbital motions that cause subtle changes in the way sunlight falls on Earth. Most secular scientists believe the astronomical theory is correct because of the well-known 1976 paper "Variations in the Earth's Orbit: Pacemaker of the Ice Ages."⁵

Early in my investigation of these claims, I realized the Pacemaker results depend on an age assignment of 700,000 years for the most recent reversal of Earth's magnetic field.⁶ Secular scientists used this reversal, located at a depth of 1200 cm within a western Pacific sediment core, to assign ages to the two sediment cores used in the Pacemaker analysis. Yet, secular scientists now claim that the age of this reversal is 780,000 years!⁷ After replicating the original results, I re-did the Pacemaker calculations taking the new reversal age into account. This revision significantly weakened the argument for an astronomical influence on climate.⁸ My recent *Acts & Facts* articles show how you can confirm these results yourself.^{9,10}

However, secular scientists have made other revisions to the data. For instance, the newest versions of the data sets used in the Pacemaker paper are a little different from the 1976 versions. Also, secular scientists now claim the depth of the magnetic reversal within the Pacific core was actually 1170 cm rather than 1200 cm.¹¹

Although it's very unlikely, there is a slim possibility these changes could cancel each other out so that results of the Pacemaker analysis are again in agreement with Milankovitch expectations. For this reason, I am in the process of re-doing the calcu-

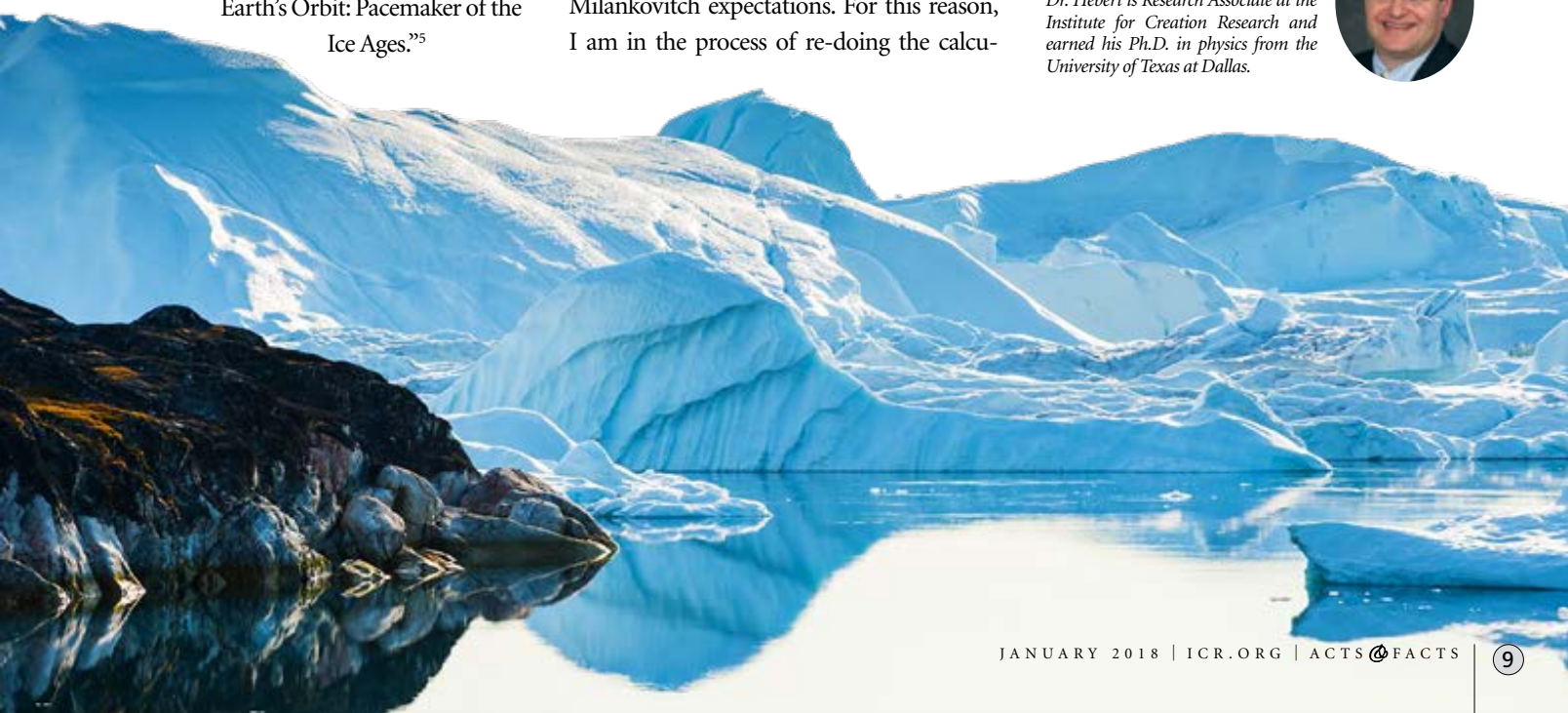
lations after taking *all* the changes into account, as well as possible distortions within the two sediment cores used in the Pacemaker analysis. Preliminary findings suggest the results will not be kind to the Milankovitch theory.

My work on this particular project has been very fruitful, resulting in the toppling of an iconic old-earth argument. ICR supporters, thank you for your generous giving that make this research possible. ☞

References

1. Hebert, J. 2014. Ice Cores, Seafloor Sediments, and the Age of the Earth, Part 1. *Acts & Facts*. 43 (6): 12-14.
2. Hebert, J. 2014. Ice Cores, Seafloor Sediments, and the Age of the Earth, Part 2. *Acts & Facts*. 43 (7):0 12-14.
3. Hebert, J. 2015. Thick Ice Sheets: How Old Are They Really? *Acts & Facts*. 44 (6): 15.
4. Hebert, J. 2016. Deep Core Dating and Circular Reasoning. *Acts & Facts*. 45 (3): 9-11.
5. Hays, J. D., J. Imbrie, and N. J. Shackleton. 1976. Variations in the Earth's Orbit: Pacemaker of the Ice Ages. *Science*. 194 (4270): 1121-1132.
6. Shackleton, N. J. and N. D. Opdyke. 1973. Oxygen isotope and palaeomagnetic stratigraphy of equatorial Pacific core V28-238: oxygen isotope temperatures and ice volumes on a 10⁵ and 10⁶ year scale. *Quaternary Research*. 3 (1): 39-55.
7. Shackleton, N. J., A. Berger, and W. R. Peltier. 1990. An Alternative Astronomical Calibration of the Lower Pleistocene Timescale Based on ODP Site 677. *Transactions of the Royal Society of Edinburgh: Earth Sciences*. 81 (4): 251-261.
8. Hebert, J. 2016. Revisiting an Iconic Argument for Milankovitch Climate Forcing: Should the "Pacemaker of the Ice Ages" Paper Be Retracted? Part 3. *Answers Research Journal*. 9: 229-255.
9. Hebert, J. 2017. Testing Old-Earth Climate Claims, Part 1. *Acts & Facts*. 46 (11): 10-13.
10. Hebert, J. 2017. Testing Old-Earth Climate Claims, Part 2. *Acts & Facts*. 46 (12): 10-13.
11. Prell, W. L. et al. 1986. Graphic Correlation of Oxygen Isotope Stratigraphy: Application to the Late Quaternary. *Paleoceanography*. 1 (2): 137-162.

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Stellar Nucleosynthesis: Where Did Heavy Elements Come From?

article highlights

- According to secular models, all the chemical elements on Earth were made in stars and brought here billions of years ago. But heavy elements like iron, gold, and uranium can't be made in even the hottest known stars.
- The elements were created and placed on Earth by God's design.

Radiation from pulsar PSR B1509-58, a rapidly spinning neutron star, makes nearby gases glow gold (image from the Chandra X-ray observatory) and illuminates the rest of the nebula in blue and red (image from WISE: Wide-field Infrared Survey Explorer).

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Why should we be concerned about where heavy elements—those with a proton number greater than 26—came from? The answer points to two opposing paradigms in the story of origins. The first paradigm is based on random chance events in which nature somehow creates and sustains itself, and the second is based on an *ex nihilo* (out of nothing) creation that is consistent with the biblical narrative.

In the September 2017 issue of *Acts & Facts*, we looked at the question of the origin of the elements in our solar system and universe.¹ We learned that elements heavier than ⁵⁶Fe cannot be pro-

duced in stars like our sun because nuclear fusion reactions for elements above ⁵⁶Fe become endothermic—i.e., the surrounding medium must supply energy to the reaction for it to occur.

Not Enough Energy

In order for two ⁵⁶Fe nuclei to fuse, one of the nuclei must have an energy of at least 91 MeV (megaelectron volts) in order to overcome the coulomb barrier² between them. For the nuclear reaction to occur at all, a mass/energy deficit³ of approximately 44 MeV must be supplied to the reaction (⁵⁶Fe + ⁵⁶Fe → ¹¹²Te) by the containing

medium.⁴ Now, 91 MeV corresponds to a star temperature of approximately 1.06×10^{12} °K (kelvin), and 44 MeV corresponds to a star temperature of approximately 5.1×10^{11} °K. The hottest stars measured to date are the blue hypergiants such as Eta Carinae with temperatures in the neighborhood of 4×10^4 °K, approximately seven orders of magnitude less than the energy required for such fusion reactions to occur.

The hottest known place in the universe occurs in the searing gas surrounding a swarm of galaxies in the constellation Virgo.⁵ This gas reaches an amazing 3×10^8 °K, still three orders of magnitude *too cold* for nuclear fusion above ⁵⁶Fe. Clearly, it is not possible for the heavy elements to form in known stable stars and nebula. So, how do mainstream scientists explain the existence of heavy elements?

In searching for other possible “heavy element factories,” mainstream science first focused on exploding supernovas. Wikipedia claims that supernovas can expel material at velocities of up to 3×10^7 m/sec, or about 10% the speed of light.⁶ A paper on this claim is cited in reference 7, but no direct evidence supporting it was found.⁷ The primary nuclei present in the supernova debris would be lighter elements such as hydrogen and helium. If the claimed velocity of the expanding material is based on either of these elements, then the temperature of the expanding supernova debris would be on the order of 2×10^{11} °K. That is still not enough to fuel the fusion of two ⁵⁶Fe nuclei but is enough to question the apparent contradiction with the searing gas cited in reference 5. It’s also interesting that the observation of supernova debris from SN1987A only revealed approximately 1.3% of the ⁵⁶Co expected to be present in the supernova ejecta.⁸ Perhaps this is evidence of why only ⁵⁶Fe and

lighter elements are routinely observed in such debris.¹

Neutron Capture Models

So, mainstream science is still faced with the conundrum of where the heavy elements came from. The supernova explosion model is shaky at best and really doesn’t appear to fit the observable data. In order to solve this puzzle, secular science turned to stepwise direct nuclear reactions.^{9,10} Since proton capture is unlikely due to the coulomb barrier (about 9 MeV), the most probable sequence for producing heavy elements would be consecutive neutron capture reactions followed by positron nuclear decay when the sequence reaches an unstable isotope. The models for this process are called the *s-process* and the *r-process* depending on whether the process proceeds slowly or rapidly.

Three obvious problems with these models are:

1. Sequential nuclear reactions on the same nucleus become increasingly improbable in a large aggregation of target particles.
2. As pointed out in reference 1, there is no way to observationally determine whether any heavy nuclei observed are primordial (i.e., original) or manufactured later.
3. Where do all the neutrons needed for these two methods come from?

Finally, how are any of the heavy nuclei produced by these hypothesized methods distributed around the universe?

Recent observation of the collision of two neutron stars in the NGC4998 galaxy¹¹ has offered hope of answering the question of where all the neutrons necessary for the r-process to function as hypothesized may come from. The discovery has been sensationalized¹²



Central neutron star at the heart of the Crab Nebula.

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Supernova iPTF14his

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to the point that one author states astronomers have observed “50 Earth masses’ worth of silver, 100 Earth masses of gold, and 500 Earth masses of platinum” forged by this event.¹³ How these masses were observed and measured is unstated. Were the strong absorption lines between 300 and 400 nm observed for silver and gold (see Figure 1)? If so, how were they converted to a mass for the silver and gold? The actual mechanism for making these elements also remains unclear. In collisions that produce as much energy as those involving two colliding neutron stars, where are the emission lines for the gold isotopes ¹⁹⁵Au (98.85 keV), ¹⁹⁶Au (355.684 keV), or ¹⁹⁸Au (411.802 keV)? Observation of these lines is certainly an experimental possibility since the two primary emission lines for ⁵⁶Co have been observed in the ejecta from SN1987A.⁸ So, observers should also see evidence for gold (Au), silver (Ag), and platinum (Pt) in the x-ray and gamma ray spectra of the collision debris. In neutron stars, the neutrons are typically in a 10 to 1 ratio with protons and electrons—so where do the elemental nuclei, which are just as necessary for the r-process as neutrons, come from? And the ubiquitous question remains, how much was already there and how much formed from the collision?

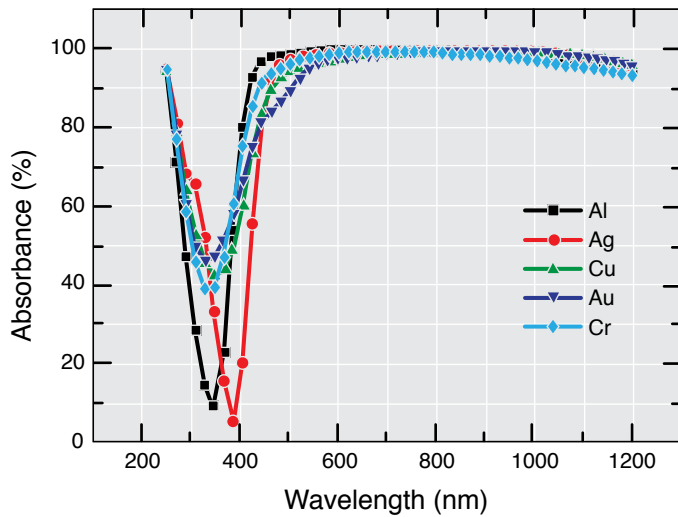


Figure 1. Graph showing the strong atomic absorption lines for silver (Ag) and gold (Au).

It is also stated in reference 13 that the two neutron stars smashed into each other at one-third the speed of light (about 1×10^8 m/sec). If they are traveling at that speed, then the temperature of their outer layers should be approximately 7×10^{11} °K. The average observed temperature for a stable neutron star is approximately 10^6 °K, but it is hypothesized that temperatures inside a newly formed neutron star can reach 10^{11} to 10^{12} °K.¹⁴ Can we conclude that the neutron stars that collided are newly formed, or are the various speculations and hypotheses mistaken?

What is the actual observational evidence for the elemental makeup of neutron stars? Neutron stars are known to be small (on the order of 20 kilometers in diameter), extremely dense (it is esti-

mated that a single teaspoonful would weigh a billion tons), rapidly rotating objects (about 43,000 revolutions/minute) with very intense magnetic fields (between 10^8 and 10^{15} times the strength of Earth’s magnetic field). Particle accelerators on Earth have reached 4×10^{12} °K during the collision of gold nuclei. Yet, there has never been any evidence of fusion occurring at these energies. In fact, at these energies the gold nuclei invariably split apart in a process called *spallation*—the opposite of fusion.

Too Many Unanswered Questions

The secular explanations for the origin of heavy elements have taken many turns over the years, from being produced in exploding supernovas to being produced in colliding neutron stars. All these explanations rely on extremely improbable events happening at incomprehensibly high energies over mind-numbing time frames—in essence, the energy, matter, random chance paradigm. On the other hand, a paradigm based on the biblical narrative rests on a universe purposefully designed by a Creator in which Earth was created four days before the sun, moon, and stars (Genesis 1:1-2, 14-16). Thus, any paradigm based on the veracity of this account does not allow for any elements on Earth to have come from stars.

In the biblical narrative, human beings were fashioned from the dust of the earth (Genesis 2:7), not from star dust. It takes more faith to believe in the sensationalized views of the secular world than to accept the perfectly rational proposition that the universe was created by the hand of God out of nothing. ✎

References

1. Cupps, V. R. 2017. Did Heavy Elements Come from Supernovas? *Acts & Facts*. 46 (9): 9.
2. Coulomb barrier: When two or more similarly charged particles approach each other, there is a repulsive force between them that grows in strength as they get closer. In order for a reaction to occur, the kinetic energy of at least one must be great enough to place the particles within a distance where they can interact. In this particular instance, they must approach each other to within the range of the strong nuclear force.
3. Mass/energy deficit: When a nuclear reaction occurs, the mass/energy of the initial reactants must be equal to the mass/energy of the product reactants. If the mass/energy of the initial reactants is less than the mass/energy of the product reactants, then a mass/energy deficit exists that must be supplied by the medium in which the reaction occurs.
4. Clayton, D. D. 1983. *Principles of Stellar Evolution and Nucleosynthesis*. Chicago: University of Chicago Press, 321
5. Ota, N. 2009. Hottest Gas in the Universe Discovered by SUZAKU. Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency. Posted on isas.jaxa.jp.
6. Supernova. Posted on Wikipedia, last updated November 11, 2017.
7. Heger, A. et. al. 2003. How Massive Single Stars End Their Life. *Astrophysical Journal*. 591 (1): 288-300.
8. Matz, S. M. et. al. 1988. Gamma-ray line emission from SN1987A. *Nature*. 331 (6155): 416-418.
9. Direct nuclear reactions: These are generally defined as nuclear reactions that involve the transfer or capture of one nuclear species, such as a proton, neutron, deuteron, triton, or alpha particle, on a target nucleus, such as ⁵⁶Fe. For example, the nuclear reactions ⁵⁶Fe(n,γ)⁵⁷Fe, ⁵⁶Fe(p,n)⁵⁶Co, and ⁵⁶Fe(α,n)⁵⁹Ni are all categorized as direct nuclear reactions.
10. Clayton, *Principles of Stellar Evolution*, 516-606.
11. Castelvécchi, D. 2017. Stellar crash delivers thrills. *Nature*. 550: 309-310.
12. Emspak, Jesse. Neutron-Star Collision Reveals Origin of Gold, Astronomers Say. *LiveScience*. Posted on livescience.com October 17, 2017, accessed November 15, 2017.
13. Mosher, D. Astronomers detected 100 Earths’ worth of gold being forged in space—here’s how much it’s worth. *Business Insider*. Posted on businessinsider.com October 16, 2017, accessed November 15, 2017.
14. Miller, M. C. 2007. Introduction to neutron stars. University of Maryland. Posted on astro.umd.edu, accessed November 15, 2017.

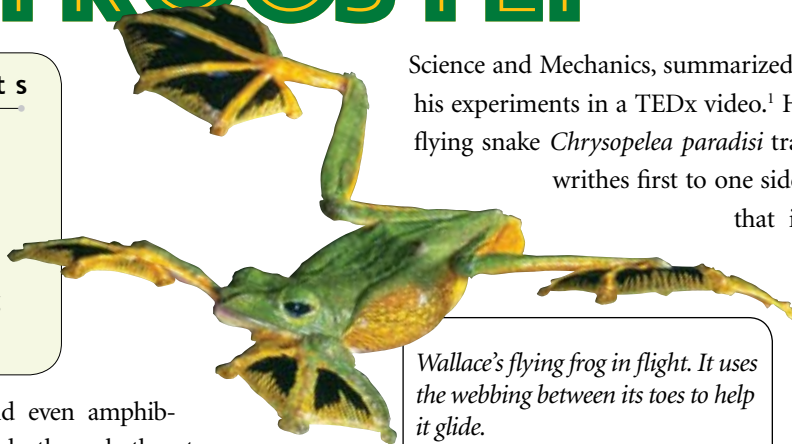
Dr. Cupps is Research Associate at the Institute for Creation Research and earned his Ph.D. in nuclear physics at Indiana University-Bloomington. He spent time at the Los Alamos National Laboratory before taking a position as Radiation Physicist at Fermi National Accelerator Laboratory, where he directed a radiochemical analysis laboratory from 1988 to 2011. He is a published researcher with 73 publications.



WHEN FROGS FLY

article highlights

- We all know birds, bats, and many insects can fly.
- Some frogs, snakes, and other normally earthbound creatures are also designed to glide through the air, demonstrating God's endless creativity.



Wallace's flying frog in flight. It uses the webbing between its toes to help it glide.

Mammals, reptiles, and even amphibians can actually glide through the atmosphere. God's inventive engineering has equipped these unexpected animals for aerial travel. The fantastic designs of more familiar flyers like falcons and fruit bats should not fail to inspire, but each newfound aeronautical wonder in the living world offers a fresh example of God's creativity.

Consider the so-called flying frogs. In Malaysia, the golden tree frog knows how to spread its arms and legs to control its descent from high in a jungle tree. Southeast of Malaysia, the Java flying frog uses webbed feet to resist air, slowing its descent even more. Indonesian jungles also host Wallace's flying frog, *Rhacophorus nigropalmatus*. Huge webbing between its toes and its aerodynamically flattened body allow it to glide at about a 45-degree angle.



A downside to having longer toes and extra webbing is that these features don't help with crawling or hopping. Therefore, each of these frogs strikes a unique balance between carrying the extra flesh needed to slow an airborne descent and having more nimble limbs to increase creeping agility. Thus, the Lord deserves praise for inventing the general concept of gliding frogs, plus credit for crafting different gliding grades that enable various tree frogs to fit and fill diverse jungle niches.

Not only do frogs sail, but certain snakes from parts of India can expertly glide through the air. Jake Socha, a flying-snake expert at Virginia Tech's Department of Engineering



The flying snake flattens its body and glides through the air using a swimming motion.

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Science and Mechanics, summarized the major results from his experiments in a TEDx video.¹ He found that when the flying snake *Chrysopelea paradisi* travels through the air, it writhes first to one side and then the other so

that its average body position is symmetrical when gliding in a straight line. It can also control tight turns by whipping its body around in midair. Without these

skills, the animal would tilt sideways and tumble down. The snake also rotates and flattens its many ribs, "turning its entire body into a wing." Socha said, "This snake shape is able to generate a similar amount of lift to an engineered aerofoil. Not bad for a snake."¹ Of course, snakes don't engineer their own features any more than airplanes do. Our brilliant Creator, not the snake, deserves all the credit.

When it glides through the air, the flying gecko *Ptychozoon kuhli* extends thin skin fringes that wrap around the lizard's sides. Plus, its skin comes camouflaged to mimic tree bark. With its standard gecko toe pads' microscopic fibers coated with superhydrophobic (water-repelling) lipids that "glue" them to almost any surface, these lizards pack plenty of purposeful design into a tiny package.²

Borneo's flying lizard *Draco cornutus* glides the farthest of all these creatures. It extends unique ribs that suspend skin webbing, like a retractable hang glider. It lives its whole life in Indonesian treetops, can shift its skin color from brown to green in active camouflage, and eats ants. If it lived in Peru, it might even eat gliding ants. Select species of tropical ants like *Cephalotes atratus* forage among treetops and can opt for a shortcut back to the trunk below by just jumping into the air!³ They recognize their tree trunk target, aim for it, and land expertly.

The Lord Jesus gets the credit for carefully crafting each of these gliding creatures because "by Him all things were created that are in heaven and that are on earth." We honor Him because "all things were created through Him and for Him."⁴ ✨

References

1. Socha, J. Snakes that fly—really. TEDx Virginia Tech. Posted on youtube.com December 6, 2012, accessed August 31, 2017.
2. Hsu, P. Y. et al. 2012. Direct evidence of phospholipids in gecko footprints and spatula-substrate contact interface detected using surface-sensitive spectroscopy. *Journal of the Royal Society Interface*. 9 (69): 657-664.
3. Yanoviak, S. P., R. Dudley, and M. Kaspari. 2005. Directed aerial descent in canopy ants. *Nature*. 433 (7026): 624-626.
4. Colossians 1:16.

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Cretaceous-Paleogene Boundary Shenanigans

J E F F R E Y P . T O M K I N S , P H . D . , A N D T I M C L A R E Y , P H . D .

Evolution’s speculative story is filled with fanciful tales explaining natural phenomena that are actually best explained by the Bible’s narrative of history. Huge graveyards of fossilized plants and animals are found the world over in water-deposited sandstone, limestone, and shale rocks. Clearly, this is evidence of the global catastrophic deluge recorded in Genesis. To counter this, evolutionists concoct stories based on multiple extinction events to explain changes in the fossils found in strata.

One tale is that a huge asteroid slammed into Earth, selectively killing off the dinosaurs while somehow allowing more delicate mammals, birds, insects, fish, and plants to survive. Dinosaurs and many marine reptiles were mysteriously killed en masse and fossilized while many other animals lived. Evolutionists coincide this improbable extinction with the junction of two hypothetical evolutionary geological periods, the Cretaceous and the Paleogene—also called the K-Pg boundary.

But even by evolutionary standards, all is not well in Darwinland. A new paper has built evolutionary trees from huge DNA data sets for a wide array of mammals.¹ The authors tried to determine if the evolution of animal groups, particularly placental mammals, took place before or after the K-Pg boundary. Much disagreement abounds on this question. Some evolutionists claim the origin of placental mammals occurred before the boundary, and others believe it happened mostly afterward. The fossil evidence seems to support a post-K-Pg scenario,² while many DNA studies of living mammals (calibrated by fossil dates) indicate a pre-K-Pg origin.³⁻⁷ The conflicting results of genetic vs. paleontological studies in evolution are common and a source of evolutionary contention.^{8,9}

article highlights

- Many scientists believe a mass extinction event wiped out the dinosaurs.
- They’ve assigned this event to the juncture of rock layers called the K-Pg boundary.
- These strata and the fossils they contain are better explained by the global Flood of Noah’s day.

The new study attempts to resolve the issue. The researchers used huge DNA data sets and new statistical data-smoothing techniques to help corral unruly genes and other DNA sequences that don’t behave according to evolutionary assumptions. The authors of the paper state, “Placental mammals underwent a continuous radiation across the K-Pg boundary without apparent interruption by the mass extinction,” and “the K-Pg catastrophe evidently played a limited role in placental diversification.”¹¹ Amazing—the selective extinction properties of the asteroid impact story get even more incredible!

While evolutionists continue squabbling, ICR research based on a biblical Flood framework is making significant strides. Global Flood megasequences as determined from vast oil well and geological outcrop (exposed rock) data sets reveal that the K-Pg mystery can be deciphered in a better way.¹⁰ These studies show that the major rock layers covering the continents were laid down in a catastrophic ebb-and-flow model. The K-Pg boundary is found close to one of these ebb-and-flow depositional events. It lies near the boundary of the Tejas and Zuni Megasequences that represent the final two sedimentary packages deposited during the Flood. This offers a more satisfactory explanation of the sequence of fossils based on the ecological zonation of the pre-Flood world.¹¹

There are no real extinction events in the rock record, only the last appearance of organisms as they were encapsulated by the tsunami-like floodwaters. Again, the Bible offers the best framework for scientific discovery because it depicts an accurate rendering of life and Earth history that better fits what we observe in the real world. ✎

References

1. Liu, L. et al. 2017. Genomic evidence reveals a radiation of placental mammals uninterrupted by the KPg boundary. *Proceedings of the National Academy of Sciences*. 114 (35): E7282-E7290.
2. Archibald, J. D. and D. H. Deutschman. 2001. Quantitative Analysis of the Timing of the Origin and Diversification of Extant Placental Orders. *Journal of Mammalian Evolution*. 8 (2): 107-124.
3. dos Reis, M., P. C. J. Donoghue, and Z. Yang. 2014. Neither phylogenomic nor palaeontological data support a Palaeogene origin of placental mammals. *Biology Letters*. 10 (1): 20131003.
4. Meredith, R. W. et al. 2011. Impacts of the Cretaceous Terrestrial Revolution and KPg Extinction on Mammal Diversification. *Science*. 334 (6055): 521-524.
5. Bininda-Emonds, O. R. P. et al. 2007. The delayed rise of present-day mammals. *Nature*. 446 (7135): 507-512.
6. dos Reis, M. et al. 2012. Phylogenomic datasets provide both precision and accuracy in estimating the timescale of placental mammal phylogeny. *Proceedings of the Royal Society B*. 279 (1742): 3491-3500.
7. Springer, M. S. et al. 2003. Placental mammal diversification and the Cretaceous-Tertiary boundary. *Proceedings of the National Academy of Science*. 100 (3): 1056-1061.
8. Tomkins, J. P. and J. Bergman. 2015. Evolutionary molecular genetic clocks—a perpetual exercise in futility and failure. *Journal of Creation*. 29 (2): 26-35.
9. Tomkins, J. P. 2017. Evolutionary Clock Futility. *Acts & Facts*. 46 (3): 16.
10. Clarey, T. 2015. Grappling with Megasequences. *Acts & Facts*. 44 (4): 18-19.
11. Clarey, T. 2015. Dinosaur Fossils in Late-Flood Rocks. *Acts & Facts*. 44 (2): 16.



Complex Cretaceous-Paleogene clay layer (gray) in the Geulhemmer-groeve tunnels near Geulhem, the Netherlands. Finger is on the actual K-Pg boundary.

Dr. Tomkins is Director of Life Sciences and Dr. Clarey is Research Associate at the Institute for Creation Research. Dr. Tomkins earned his Ph.D. in genetics from Clemson University, and Dr. Clarey earned his Ph.D. in geology from Western Michigan University.



ICR Discovery Center Milestone



In November, ICR celebrated a significant milestone in building the ICR Discovery Center for Science and Earth History! The topping-off ceremony began with ICR staff and Board members signing the last beam needed to frame the structure. We covered it with Scripture, and ICR CEO Dr. Henry M. Morris III led the group in prayer, thanking God for His faithfulness and provision.

Other updates include exterior wall construction and a vast amount of progress inside—most of the interior walls have been framed out and covered with drywall.

Without you, our faithful friends, this progress would not be possible. Thank you for partnering with us!

Please visit ICR.org/Construction-Progress to see how far we've come.

Help Us Complete the ICR Discovery Center's Exhibits

As we build the ICR Discovery Center, we're still raising funds for the interior exhibits. We're working to develop the most educational and moving exhibits possible. Your gift will help us make this vision a reality. Together, let's point people to the truth of our Creator, the Lord Jesus Christ.

Visit ICR.org/DiscoveryCenter for more information and to find out how you can join us in this vital project. Partner with us in prayer and help us finish strong!



ICR CEO Dr. Henry M. Morris III (foreground) and board member Dan Arnold sign the last beam.



Dr. Henry M. Morris III leads a corporate prayer for this milestone event.



The last steel beams are put in place on the planetarium.



A section of the exhibit hall that will include Grand Canyon, Mount St. Helens, and dinosaur displays.



Exterior walls go up around the auditorium.



Drone shot of the ICR campus.

Welcome New ICR Scientist: Jerry Bergman, Ph.D.

Jerry Bergman always loved science, but he became a biblical creationist after becoming an atheist in college. “The evidence against Darwinism was a critical factor in my acceptance of creationism, which opened the door to my acceptance of Christianity, biblical reliability, and a young-earth creation worldview.”¹

Long-time readers will be familiar with his past *Acts & Facts* articles. He brings a wide body of knowledge and extensive experience to the work of ICR as our new contributing writer and speaker.

Dr. Bergman knew in sixth grade he wanted to be a teacher when he formed an astronomy club at the height of the U.S. space program. He taught at the college level for over 40 years—biology, astronomy, genetics, biochemistry, anatomy, and physiology. He served on undergraduate and graduate faculties at Bowling Green State University, the University of Toledo, and the Medical College of Ohio. He was awarded outstanding teacher twice.

At the medical school, he earned three master’s degrees and worked full-time on cancer research in the department of experimental pathology. His nine earned degrees include a doctorate from Wayne State University in Detroit, Michigan. Though Dr. Bergman encountered much evolutionary teaching during these years, he could not help but notice weaknesses in its



“After exploring all of the major arguments for evolution, I eventually concluded that Darwinism has been falsified on the basis of science and realized that the evidence demands an intelligent creator.”

claims. “The first example I researched in detail was the ‘vestigial organ’ claim. There [were] over 100 claimed vestigial organs. These [were] supposedly non-functional evolutionary ‘leftovers,’ yet I found uses for all of them.”¹

An award-winning author, Dr. Bergman has over 1,000 publications in science journals. Over 80,000 copies of the 43 books

and monographs he has authored or co-authored are in print.

His books include *Slaughter of the Dissidents*; *The Dark Side of Darwinism*; *Hitler and the Darwinian Worldview*; *The Darwin Effect: Its influence on Nazism, Eugenics, Racism, Communism, Capitalism & Sexism*; *C. S. Lewis: Anti-Darwinist*; *Fossil Forensics: Separating Fact from Fantasy in Paleontology*; and the forthcoming *Darwinism’s Blunders, Frauds and Forgeries*.

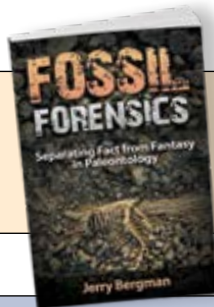
Dr. Bergman has spoken at over 1,000 college campuses and churches in North America, Africa, and Europe, and his research was featured by Paul Harvey on national radio. As he presented scientific evidence that confirms the Bible, he also shared his journey from atheism to faith: “After exploring all of the major arguments for evolution, I eventually concluded that Darwinism has been falsified on the basis of science and realized that the evidence demands an intelligent creator.”¹

A former licensed therapist, he also worked in Michigan’s Jackson State Prison—the largest walled state prison in the United States.

Dr. Bergman and his wife, Dianne, live in Ohio. They have four adult children and 10 grandchildren. ICR welcomes Dr. Jerry Bergman to our staff! ✨

Reference

1. Bergman, J. 2015. Creation Conversion: From Atheist to Creationist. *Acts & Facts*. 44 (2): 20.



Fossil Forensics: Separating Fact from Fantasy in Paleontology

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C. S. Lewis: Anti-Darwinist

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Epigenetics— Engineered Phenotypic “Flexing”

RANDY J. GULIUZZA, P.E., M.D.

article highlights

- Epigenetic mechanisms turn genes on or off in response to a cell's needs.
- This process enables creatures to self-adjust to varying conditions.
- They adapt and actively problem-solve as they track environmental change.
- This demonstrates engineering causality and confirms internal design in living creatures.

A thrill-seeking bungee jumper wouldn't leap off a bridge tethered by a chain, and most people wouldn't buy a car with its axle welded directly to the frame. It needs a flexible spring system joining the axle and frame to afford a comfortable ride. And from an engineered performance standpoint, a flexible suspension allows tires to oscillate up and down within a specified range, keeping them safely in contact with the road's surface in varying conditions. Even non-engineers intuitively know when engineering applications call for strong but flexible items.

Likewise, a proper understanding of biological function begins with correlating a living organism's features with the engineered characteristics—like flexibility—that enable them to work. Unfortunately, the evolutionary biologists who dominate aca-

demical and research positions reject the possibility that living things were intelligently designed. Except for systems or bioengineers, biological researchers seem oblivious to the concept that the characteristics of the living systems they study correspond to those of the human-designed systems they use right in their laboratories.

Thus, even in a highly researched and widely popularized field like epigenetics,¹ evolutionary thinking tends to underappreciate the flexibility that epigenetic mechanisms confer on an organism's adaptability. But a quick, design-based overview of epigenetics will make it easier to see.

Flexible Elegance in Genetic Change

The engineered elegance of flexible designs is that they allow a part to change

form without breaking as it absorbs a stress and then returns to its standard shape when the stress passes. Biologically, our genes code for certain traits, and when a gene changes, a lasting alteration to the trait happens. That's called a *genetic change*. But, epigenetic mechanisms enable the trait expressed by a gene to be flexibly and adaptively altered *without* permanently changing the gene. So, when the stress is gone, the original trait of the gene usually returns. Design analysis gives insight into how the intrinsic flexibility of epigenetics integrates into an organism's overall adaptability.

For example, ponder this evolutionary conundrum. Evolutionary change is supposedly random, slow, and gradual. But if an environment undergoes a sudden life-altering or even life-threatening change, then how could creatures survive long enough to



produce the new traits necessary to continue living there—not to mention produce fit offspring?

This is where epigenetic mechanisms shine. They allow organisms to rapidly “flex” with the variability and challenges of changing conditions by expressing suitable traits and then return to their “baseline” after the challenge passes. If time considerations are factored into an adaptable design, then epigenetic mechanisms perfectly fill the bill between very rapid physiological self-adjustments and the full genetic changes that occur over many generations. Just like a flexible suspension allows tires to oscillate according to a road’s varying conditions, epigenetic mechanisms are one of many tools that allow organisms to continuously track fluctuating environmental conditions. Unpacking some details about epigenetic mechanisms will highlight why they clearly demonstrate engineering causality.



Epigenetic mechanisms enable the trait expressed by a gene to be flexibly and adaptively altered without permanently changing the gene.

Epigenetics: A Mechanism of Continuous Environmental Tracking

Suppose that you’re a bioengineer and you are given the exciting challenge of producing the plans and specifications for an organism to be built and somehow animated. The design parameters state that the organism must sustain homeostasis (the self-regulating ability to maintain stable internal conditions) in challenging external conditions and be able to pass those vital adjustments to its offspring.

You identify three capabilities to design: adaptability, reproducibility, and the ability to pass on a biological inheritance (i.e., heritability). You begin work on adaptability.

If changing conditions are seen as problems needing a solution, engineers could identify them as “constantly moving targets.” Tracking systems rapidly follow moving targets—and are already designed. You decide that one would make a good pattern for your epigenetic and other adaptable systems. You know, then, that it will have at least three essential elements: a *sensor* to detect changed conditions, a *logic mechanism* that selects suitable responses based on what is detected, and *output responses* to implement the logical selections.

This organism needs several more design characteristics to attain rapid, reliable adaptability. You restrict its responsive programming to certain conditions, and once equipped with detectors sensitive to only those conditions, the organism effectively specifies for itself what constitutes a stimulus. The adaptive responses must be resilient so your organism can resist damage, mitigate loss, and quickly recover. Therefore, along with being flexible, it should be robust enough to maintain its basic functions even when the

challenges become stressful.

Does research identify actual epigenetic system elements that correspond to—and are utilized as—an organism’s tracking system’s sensors, logic centers, and output responses? Yes, in abundance. But you need to apply engineering principles to the literature in order to identify these elements since most evolutionary biologists seem disinclined to interpret the interdependent use of elements as a purposeful system that tracks and responds to environmental changes. Even so, one researcher recently published several meticulous works intended to increase accuracy and reduce misunderstanding amongst his evolutionary colleagues. Nelson Cabej details each step, from first detecting changed conditions to the expression of a suitable trait. In a book section titled “Making Environmental Signals Intelligible to Genes,” he states:

All of the information related to these external stimuli is received by sensory neurons [the sensors], which convert them into specific electrical signals and transmit them to respective centers of the brain for further processing. The processing of the electrical input in these brain centers [the algorithm-based logic mechanisms] interprets the stimulus...in neural circuits to provide it a meaning....The final stage of neural processing is determining the appropriate adaptive response to the anticipated effects of the stimulus itself or of the environmental effects it might pre-empt. The final product of the neural processing is an output that, in the form of a chemical signal, triggers an “adaptive” signal cascade, ultimately leading to the expression of one or a number of specific genes....*The processing is a neural codification or a translation of environmental stimuli into messages that are intelligible to genes....*The nervous system by using specific signal cascades or gene regulatory networks (GRNs) can adaptively and “at will” relate naturally unrelated external agents to virtually any gene.... This mechanism enables the brain to choose from the available off-the-shelf signal cascades and GRNs leading to phenotypic results [the output response] that adapt the organism to the environmental stimulus.²

Cabej’s description perfectly illustrates engineering causality since only verifiable elements are included and no vital element is omitted. The epigenetic modification of an organism’s genes modulates its innate capacity to define the stimulus, interpret it and assign meaning, select the response, translate that into a “gene’s language,” and build the phenotypic result.

Epigenetics Assists Darwin’s Finches to Rapidly Track Environmental Changes

Darwin’s finches on the Galapagos Islands are assumed to evolve as genetic variation that causes different beak shapes is “fractionated out” when nature selects the fittest birds that have survived following struggles over scarce resources. New research suggests that this outdated story is misleadingly simplistic. Researchers found that “growing evidence suggests that epigenetic mechanisms, such as DNA methylation, may also be involved in rapid adaptation to



Only when scientists skip over all the details linking a changed condition to an altered gene—and fill the void with mystical events—can they believe that epigenetics demonstrates externalism versus engineering causality.

new environments.”³ On Santa Cruz Island, a sub-population of birds within two finch species is being exposed to, and consuming far more, human-associated foodstuffs than natural ones. These were labeled “urban finches.”

The team sampled over 1,000 birds in adjacent populations of traditional “rural finches” and newer urban ones. Significant differences were identified in beak depth and width (and the length of a leg bone) between urban and rural populations in one species. Researchers then looked for genetic and epigenetic differences and found dramatic epigenetic variances but few genetic differences. They conclude that epigenetic mechanisms “may play a role in regulating expression of genes in this pathway [for beak shape] and therefore may influence finch morphology....These results are consistent with a potential role of epigenetic variation in rapid adaptation to changing environments.”³

Epigenetics Is Evidence Against Evolutionary Externalism

Despite the fact that the elements an organism uses to deal with an external tracking situation—the sensors, the logic mechanism, the output responses—all originate within the organism itself, evolutionary scientists still mistakenly describe the genetic alterations as being environmentally induced. Confusion typically flows from their rejection of engineering principles to explain the biological function that is involved in the extremely tight organism-environment relationship. Their perspective is also skewed by the belief that active environments mold passive organisms when challenging conditions “drive” their evolution through eons of time.⁴

Consider the new field of ecological evolutionary developmental biology (“ecoevodevo”) advanced by Scott Gilbert and David Epel.⁵ A basic tenet is that environments exercise agency and actively control an organism’s genes during development. In their chapter titled “The Environment as a Normal Agent in Producing Phenotypes,” they summarize:

Environmental factors such as temperature, diet, physical stress, the presence of predators, and crowding can generate a phenotype that is suited for that particular environment....Thus, in addition to helping decide the survival of the fittest, the environment is also important in formulating the arrival of the fittest.⁶

They later add, “Ecological developmental biology has shown that *the environment can instruct* which phenotype can be produced from the genetic repertoire in the nucleus” since “*the environment is*

giving instructive information as well as selective pressures.”⁶

Of course, their environment-driven interpretation traces to Darwin, who “accepted the view that the environment directly instructs the organism how to vary.”⁷ But, no scientific tests can detect environments exercising agency, or sending instructions, or selecting one organism over another. Magical language is so pervasive in environment-focused scenarios about adaptation that it cannot be dismissed as “scientific shorthand” for long, precise explanations. Mystical projections of agency onto unconscious conditions substitute for the overlooked information-based environmental tracking and response systems in organisms.

To correct mystified explanations, Cabej details at length why changed conditions in and of themselves are “meaningless” and “are not instructions telling genes what to do.”⁸

In everyday parlance, environmental stimuli is [*sic*] said to induce or even regulate the expression of specific genes. This notion is so engraved in the biological conceptual system that it comes as a revelation when, upon closer scrutiny, it turns out that no external stimuli that could directly induce the expression of any gene are known.⁹

Epigenetic mechanisms enable populations to rapidly flex with suddenly changed conditions. These self-adjustments are so regulated and precise they’ve actually been described as predictable. The purposeful tightness between a creature’s response to myriads of changed “targets”—conferred by ultra-miniaturized systems—exceeds the most sensitive human-engineered tracking systems.

Only when scientists skip over all the details linking a changed condition to an altered gene—and fill the void with mystical events—can they believe that epigenetics demonstrates externalism versus engineering causality. The details tend to confirm a design-based theory emphasizing active, problem-solving, intrinsically adaptable organisms that continuously track environmental changes. The evidence is for intelligent, purposeful design by a Master Engineer. ✎

References

1. Epigenetics is a large and complex field of study. Generally speaking, it refers to the modification of chromosomes allowing genes to be selectively turned on or off according to the demands of the cell. The DNA molecule itself can be modified by adding small molecules called *methyl groups* to the individual cytosine (C) bases. The proteins called *histones* the DNA is wrapped around can also have small chemical tags added in a complex alphabet of at least 100 different types of modifications. All of this is accomplished by highly sophisticated cellular machinery. The specific epigenetic profile in any given cell can be related to tissue type, growth, developmental stage, and physiology.
2. Cabej, N. R. 2013. *Building the Most Complex Structure on Earth: An Epigenetic Narrative of Development and Evolution of Animals*. New York: Elsevier Publishing, 200. Emphasis added.
3. McNew, S. M. et al. 2017. Epigenetic variation between urban and rural populations of Darwin’s finches. *BMC Evolutionary Biology*. 17: 183.
4. Guliuzza, R. J. 2017. Engineered Adaptability: Adaptability via Nature or Design? What Evolutionists Say. *Acts & Facts*. 46 (9): 17-19.
5. Gilbert, S. F. and D. Epel. 2009. *Ecological Developmental Biology: Integrating Epigenetics, Medicine, and Evolution*. Sunderland, MA: Sinauer Associates.
6. *Ibid*, 33, 370, and 407. Emphasis added.
7. Kirschner, M. W. and J. C. Gerhart. 2005. *The Plausibility of Life: Resolving Darwin’s Dilemma*. New Haven, CT: Yale University Press, 31.
8. Cabej, N. R. 2005. *Neural Control of Development: The Epigenetic Theory of Heredity*. Dumont, NJ: Albanet, 64.
9. Cabej, *Building the Most Complex Structure on Earth*, 199.

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Q: Were There Days Before God Created the Sun?

A ICR recently received a letter asking a common creation question. Genesis 1 describes the creation of all things in six days. Since Genesis says God didn't create the sun until Day 4, that means the first three days had no sun. Can we consider them real days without the sun shining and providing daylight?

Some Bible readers try to solve this issue by asserting that Genesis 1 doesn't describe creation but instead represents a poetic expression of God's greatness. But if God did not create all things by the power of His command like Genesis, Psalm 33:9, Colossians 1:16, and Revelation 4:11 say He did, then He wouldn't be that great after all. Plus, how great would God be if He couldn't clearly explain the basics of beginnings in the opening verses of Scripture?

Genesis 1 has a literary structure that aids memorization and shows God's progressive creation work, but you won't find attributes of Hebrew poetry like parallelism there. The poetry answer to the sun question creates more problems than it solves, leaving us with three sunless days.

The letter we received mentioned another possible solution. Perhaps God made the sun on Day 1 but waited until Day 4 to

article highlights

- Genesis 1 says God didn't create the sun until Day 4 of the creation week.
- How could there have been days before then without the sun?

give it the purpose to "be for days and years."¹ Genesis 1:16 says, "God made two great lights: the greater light to rule the day, and the lesser light to rule the night. He made the stars also." This teaches that God made the sun, moon, and stars on the same day He had them fulfill their purposes.² Unless we flat-out deny verses 16 and 17, we again have three sunless days.

Thorough Bible study asks if Scripture supplies its own definitions. The sun marks today's days, but does that mean the sun is required for any and all "days"? Scripture says:

Then God said, "Let there be light"; and there was light. And God saw the light,

that it was good; and God divided the light from the darkness. God called the light Day, and the darkness He called Night. So the evening and the morning were the first day.³

Genesis thus does not require sunlight for a day to occur. A day just needs a light source that lasts from morning to evening.

Earth's rotation surely caused evening and morning, but the text doesn't say what supplied light for Days 1 to 3. If that light source was the sun, wouldn't God just say that instead of telling us He made light first, then made the sun three days later?

Perhaps God Himself shone forth on the first three creation days—His very glory. After all, "the Spirit of God was hovering over the face of the waters."⁴ Or maybe God had some shining matter balled up for three days, then He organized that into the sun and stars. Either option fits the text, but we may never know for sure what or Who shone on Earth for its first three days. Whatever we think, we should never let our desire to identify this light source alter what God plainly said. He may not have wanted us to know what light shone on those first three days, but He did want each Bible reader to know that three days elapsed before the sun began "to rule the day." ✎

References

1. "Then God said, 'Let there be lights in the firmament of the heavens to divide the day from the night; and let them be for signs and seasons, and for days and years; and let them be for lights in the firmament of the heavens to give light on the earth'; and it was so" (Genesis 1:14-15).
2. The form of the verb *'asah* used in this verse could be translated "had been made" only if the immediate context justifies a departure from the chronological report Genesis 1 describes. Since the writer does not include such a qualifier, "had been made" would be a mistranslation of verse 16.
3. Genesis 1:3-5.
4. Genesis 1:2.

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Uniformitarians Stumble on Distant Starlight

article highlights

- Stars are millions and even billions of light-years from Earth.
- A light-year is a distance measurement, not a time measurement.
- As God created the universe, He rapidly delivered distant starlight to Earth.

The accuracy and authority of God's Word are often attacked by those who claim that science shows biblical claims to be erroneous if not impossible. 1 Peter 3:15 calls on believers to be always "ready to give a defense [apologian] to everyone who asks you a reason for the hope that is in you." A good place to start is to 1) examine the assumptions of the questioner, and 2) examine closely what the Bible actually says.

For instance, one common stumbling block uniformitarians introduce is the question of how long it took starlight to reach Earth, saying it couldn't possibly have both started and arrived on Day 4 of the creation week as recorded in Genesis. No human observed or measured the travel time for its original delivery. However, as Dr. Henry Morris observed, we know starlight accomplished God's declared purposes listed in Genesis 1:14-18, which included starlight being promptly visible to mankind on Earth.

In order to serve these purposes [for the sun, moon, and stars], however, light energy trails would need to be established already in place in space [raqia'] between each star and earth. Thus, men would have been able to see stars billions of light-years away at the very moment of their formation, in accordance with the principle of mature creation, or creation of apparent age.¹

Most creationists no longer believe God created starlight "in transit," but they all agree distant starlight reached Earth quickly.

The Hebrew text demands that starlight's complete transmission first occurred within the timeframe of Day 4. The main action verb in Genesis 1:17—a form of *nathan* usually translated "give," more literally "transfer" or "deliver"—emphasizes the original transmission of starlight, not God's positioning of the stars.² This means that during Day 4, distant starlight logistically began and completely arrived at (i.e., was "delivered" to) Earth.

As Peter predicted, scoffers say "all things," including distant starlight, "continue as they were from the beginning of the creation" (2 Peter 3:4), so how could starlight travel countless light-year distances so speedily? Uniformitarians assume that starlight began its intergalactic journey eons ago because they assume distant starlight—even "from the beginning"—has always required billions of years to reach Earth.

But God-designed beginnings are not always representative of later continuation norms. Consider a human baby's embryology; it is not representative of how newborn humans grow and develop. Consider the form and behavior of an adult Monarch butterfly; it is not a good "key" for guessing what its earlier caterpillar phase was like.³ Likewise, during the creation week, creation's processes included many mighty miracles that are not normal today.^{3,4} Therefore, assuming that evolutionary eons of billions of years of "deep time" are needed for Earth to originally receive starlight is simply wrong—because God transmitted the original starlight by *special delivery!*

Deists pegged Earth's years in the millions. Many stretch that, today, to the billions. Dismissing Day 4, God's Word they ignore, Thus erring by margins of billions.⁵ ✍

References

1. Morris, H. 2012. *The Henry Morris Study Bible*. Green Forest, AR: Master Books, 11, footnote to Genesis 1:16. The "apparent age" of a mature creation is not deceptive because God gave us an authoritatively true history explaining our origins. Accordingly, if we stumble in the dark about the travel time of distant starlight (or about the true age of creation), we do so only by ignoring the historical facts God reported in Genesis.
2. Genesis 1:17's main Hebrew verb *nathan* (unhelpfully rendered "set" in the NKJV) is translated "give" 1,023 times in the KJV. It is also repeatedly translated "deliver" (e.g., in Genesis 32:16; 40:13; 42:34; 42:37; Deuteronomy 9:10; etc.) In Isaiah 43:9, it is translated "bring forth," and as "send" in Psalm 68:33 ("He doth send out His voice"); Psalm 77:17 ("the skies send out a sound"); 1 Samuel 12:18 ("the LORD sent thunder and rain"); Song of Solomon 1:12 ("my spikenard sendeth forth the smell"); etc. The core meaning of *nathan* is the action of transfer or delivery, such as the transmission of starlight in Genesis 1:17.
3. Creation was not affected by the Curse until after Adam sinned (see Genesis 3 and Romans 8). So, although the laws of physics were probably operating much as they do today, God likely would have supernaturally upheld (i.e., secured the orderliness of) His creation to a greater extent before the Curse than He does now (Hebrews 1:3) so that the then-perfect creation (including all life on Earth) was not negatively affected. After Adam sinned, God may have simply withdrawn His hand, allowing disobedient humans (and the living creatures God had entrusted to their stewardship—see Romans 8:20-22) to experience what we now call "entropy," the ubiquitous tendency toward disorder and decay that God had previously prevented. See Johnson, J. J. S. 2014. Is the Present the "Key" to Our Past? *Acts & Facts*. 43 (6): 19.
4. See DeYoung, D. B. 2010. Mature Creation and Seeing Distant Starlight. *Journal of Creation*. 24 (3): 54-59. If we wrongly assume that distant starlight requires billions of years to reach us, even on Day 4 of the creation week, we err by committing the uniformitarian fallacy.
5. Quoting from an original limerick by J. J. S. Johnson presented with "Deism Then and Now, A Comparative Review" at the Southwest Regional Conference of the Evangelical Theological Society (Fort Worth, Texas, March 9, 2012).

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Godly Contentment in the New Year



article highlights

- Godliness with contentment is great gain.
- We brought nothing into this world, and it is certain we can carry nothing out.

The term “covetousness” is likely unfamiliar to younger generations today. However, it is a sin considered so grievous by God that He included it in His Ten Commandments to Israel. “You shall not covet... anything that is your neighbor’s” (Exodus 20:17). Envy, lust, and greed all convey aspects of the core biblical meaning, but it essentially boils down to a wrongful desire for wealth and possessions that belong to another. It has been said that the command against covetousness may be the most difficult to obey. Perhaps that’s why, after condemning murder, adultery, theft, and lying (each progressively harder to follow and easier to hide), God left the sin of covetousness for last.

Indeed, Christ Himself warned against it when a man asked for His help in settling a family inheritance dispute. “Take heed and beware of covetousness,” cautioned the Lord Jesus, “for one’s life does not consist in the abundance of things he possesses” (Luke 12:15). He then taught the parable of the rich man who, rather than blessing others in need with his overflowing bounty, planned to build bigger storehouses to enjoy it all for himself. But God called the rich man a fool and took his soul that very night, asking him who would own his wealth thereafter. “So is

he,” Christ concluded, “who lays up treasure for himself, and is not rich toward God” (Luke 12:21).

How do we become rich toward God? By accumulating incorruptible “treasures in heaven” that are pleasing to Him (Matthew 6:20). God’s pleasure is key, and in His great Sermon on the Mount (Matthew 5–7), the Lord Jesus gave many examples of attitudes, service, and sacrificial giving that please God. Interestingly, not one of them encourages the pursuit of affluence and prosperity. For those who fear that a life dedicated to pleasing God might somehow deprive them of their daily needs, it is remarkable that Christ gave comforting assurances that God would provide. “Do not worry about your life, what you will eat or what you will drink; nor about your body, what you will put on” (Matthew 6:25). Instead, “seek first the kingdom of God and His righteousness, and all these things shall be added to you” (Matthew 6:33).

If we are honest with ourselves, this is a hard lesson for Christians to learn in an affluent society such as ours. Yet, lest we bash believers today, the frequent warnings throughout Scripture indicate that all cultures have struggled with the sin of covetousness since time began (e.g., Genesis 31:1-7; Joshua 7:20-21; Proverbs 28:16;

Acts 5:1-10; Ephesians 5:5; 1 Timothy 6:6-10). It is far too easy to become possessed by our possessions, and some may even think these possessions are somehow God’s reward for their “godliness.” But Paul warns against those who wrongfully “suppose that godliness is a means of gain”; they are ensnared by “useless wranglings” of “corrupt minds” and are “destitute of the truth” (1 Timothy 6:5). Rather, “godliness with contentment is great gain” in God’s sight. “For we brought nothing into this world, and it is certain we can carry nothing out” (1 Timothy 6:6-7).

As we begin another year of service to God, let us cast off any covetous leanings that have crept into our lives and share our resources in the pursuit of everlasting God-pleasing treasure that produces true gain. God has promised to supply all our needs if we are faithful stewards of what He has entrusted to us (Philippians 4:19). Therefore, “let your conduct be without covetousness; be content with such things as you have. For He Himself has said, ‘I will never leave you nor forsake you’ (Hebrews 13:5). This final assurance is truly something to be content about! ✨

Mr. Morris is Director of Donor Relations at the Institute for Creation Research.



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f Decades ago, I thought myself to be a theistic evolutionist, though I never really studied it, until [ICR] came to my church and I attended their seminar. The evidence they presented was immense, and they've grown a lot since then. I am now a full-on "young-earth creationist." If you've never heard of them, or even if you're an atheist who believes you have an open mind, please go to their page [at ICR.org] to find out more.



— J. O.



 Just got my copy [of *Dinosaurs: God's Mysterious Creatures*] a few days ago and want to say thank you! I bought it to use with my science curriculum in the fall when I start homeschooling my five-year-old. We are both very excited about it. I have been pre-reading it for prep work and LOVE it! My son looked through it too because he loves the pictures. Thank you so much for making this!

— E. W.



I am delighted to hear of this new book [*Dinosaurs: God's Mysterious Creatures*]. For more than 25 years, I have been looking for science titles for all school ages written from a Christian point of view. Hurrah for you folk!

— N. H.



f ICR, we appreciate you and your ministry. After reading your articles for the past year, it still amazes me to hear how much hostility toward God, our Creator, there is. To think that people would go to such lengths to



hide the truth. Why isn't it ever enough that an individual chooses for themselves not to believe? Why must they attempt to deceive everyone else? The hits just keep on coming. Even still, come quickly, Lord Jesus.

— T. M.



f What a true blessing ICR is in my life. This article ["Godly Prosperity," July 2017 *Acts & Facts*] is outstanding. It's unbelievable how many of the TV evangelists are preaching this false doctrine [of prosperity gospel teaching]. Many are very popular and some could say famous. It's just another way for them to get money by quoting a Scripture and telling you that if you give that much you will be rich and prosperous.

— J. G.



The disciples were proba-bly the most devoted to Christ—most of them [were] killed for their faith. Yet, I don't recall ever reading where they became rich for their efforts. God is not an ATM machine.

— A. A.



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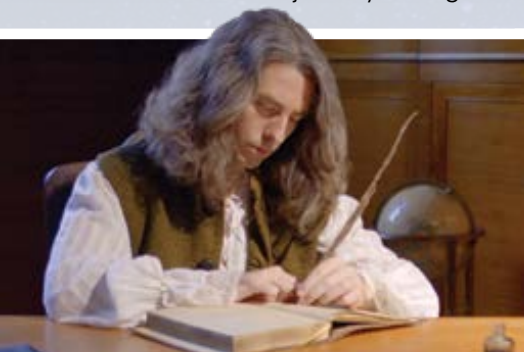
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