

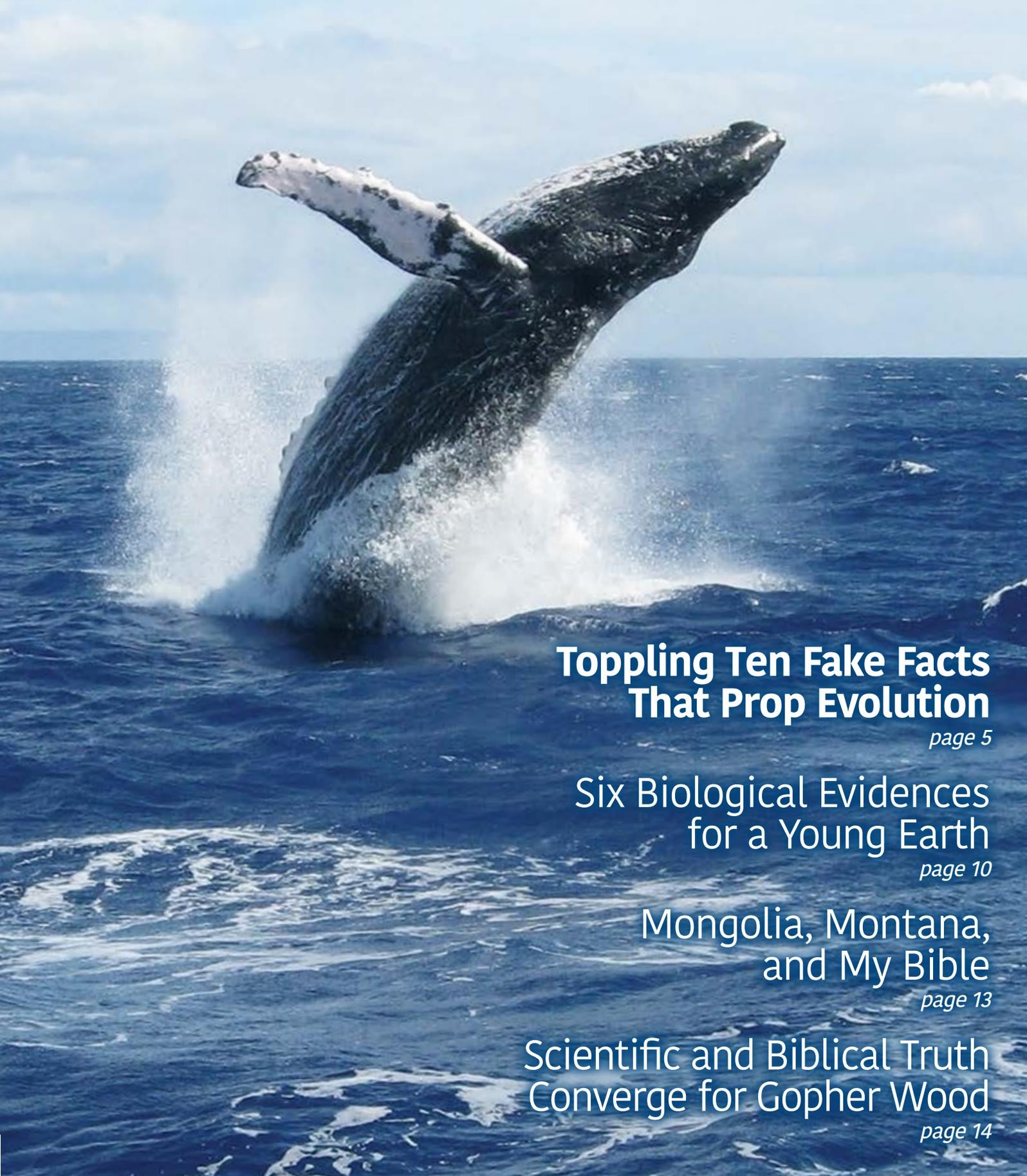
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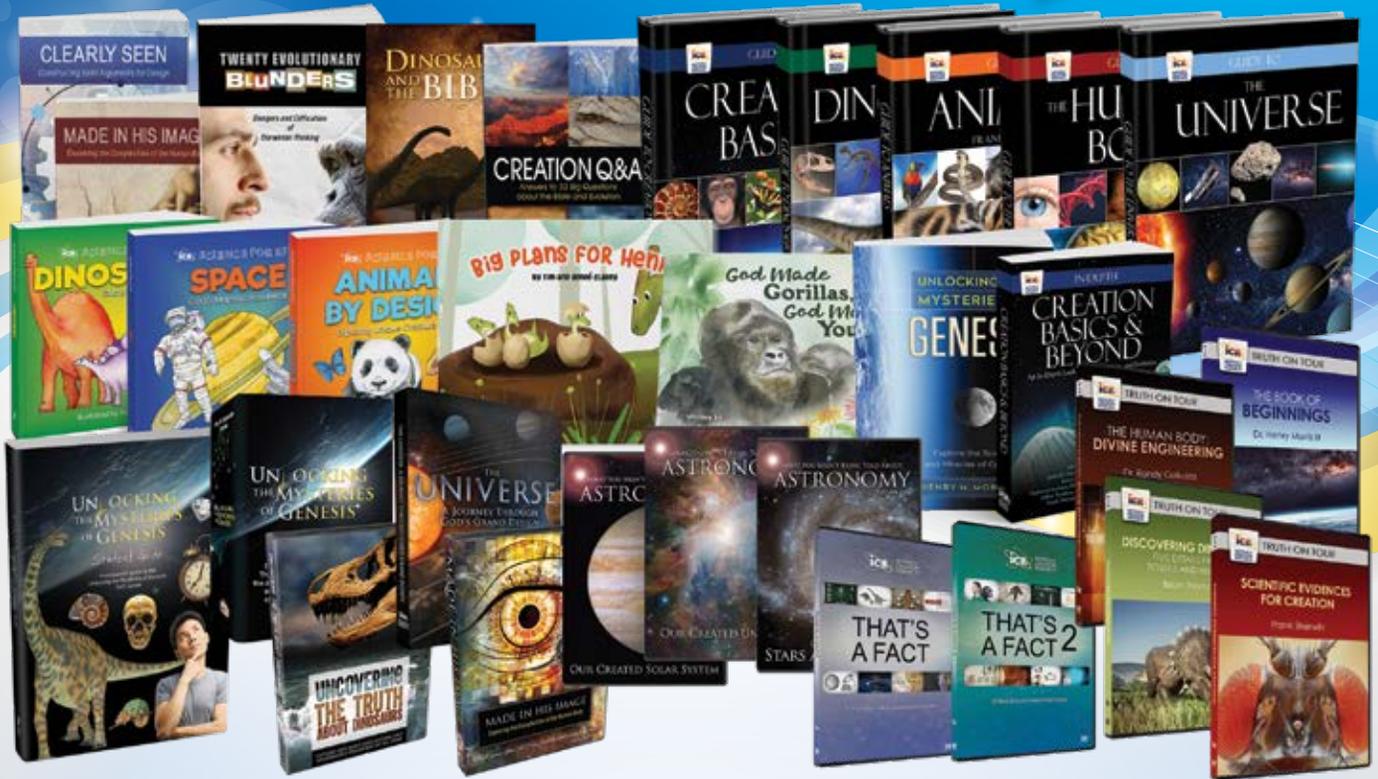
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Asking Questions to Point Out Creation Truth



The Institute for Creation Research recently welcomed three busloads of sixth-graders for a sneak-peek experience inside our still-in-progress ICR Discovery Center for Science and Earth History. The students enjoyed presentations given by paleobiochemist Dr. Brian Thomas and geologist Dr. Tim Clarey about the scientific evidence that showcases God’s work in creation.

The group viewed two planetarium shows, one on God’s design in the solar system and the other on the wonders of God’s creation under the sea. After eating lunch in the Discovery Center park, they ended the visit with a thought-provoking Q&A session with ICR scientists. I was impressed with the depth of their questions.

Asking questions is beneficial for many reasons. They clarify issues, lead to understanding and answers, reveal motives and biases, and help us build confidence in what we believe. When we discover answers, we have more ownership of the concepts. And when we ask other people questions, we encourage them to discover answers, too.

Questions are an effective way to help lead others to truth, as Dr. Thomas points out in this month’s feature article, “Toppling Ten Fake Facts That Prop Evo-

lution” (pages 5-7). He suggests asking well-informed questions to get a creation conversation started. As examples, he points out the scientific problems with 10 evolutionary statements and provides helpful questions you can ask people who aren’t convinced that Genesis explains our origins. If we can expose evolution’s weaknesses, perhaps our friends will be more open to learning about the scientific evidence for biblical creation.

The sixth-graders who visited the Discovery Center arrived ready to learn about evolution’s fake facts and creation’s solid science. As I watched them experience the 3-D planetarium films and interact with scientists, I thought back to the days when we were planning the center. This is what we envisioned—young lives being touched by truth. We envisioned a place that could help multiple generations see how science really does fit with what the Bible says. That dream is becoming reality, and I witnessed firsthand the effects on children, parents, teachers, and administrators.

This field trip to the Discovery Center is just the beginning. We hope for many more fun-filled, information-packed days for families and students in the years ahead! Though the center is not yet open to the public, you can schedule private visits



through our events department (events@ICR.org). They’ll let you know about available dates and opportunities. You can also follow the progress of the Discovery Center through our *Acts & Facts* updates (page 16) and our social media platforms (ICR.org/followicr). We’ll continue to keep you posted in the coming months.

In the meantime, thank you for your prayers and donations that have gotten the Discovery Center this far. It is our hope that God will use this center to spur thoughtful questions and provide life-changing answers for many generations to come.

Jayme Durant

Jayme Durant
EXECUTIVE EDITOR



Toppling

TEN **FAKE** FACTS That Prop Evolution

B R I A N T H O M A S , P H . D .

ICR founder Dr. Henry Morris wrote in 2003, “Practically all the media strongly promote evolution and...the general public has been taught only evolution in public schools and secular colleges all their lives.”¹ Yet, according to yearly polls, about half of Americans still distrust at least some evolutionary ideas. Dr. Morris suggested these people may recognize the evidence that counters big-picture evolution. I’ve found that by asking thought-provoking questions about evolutionary arguments, I can help friends recognize enough weaknesses for them to think more about creation options.²

This article will review 10 false statements used to promote the belief that purely natural processes could accomplish what only a supernatural Creator can. Some suggested questions follow each section to help tactfully guide conversations about these origins issues.

1 The Universe Began with a Big Bang

Many people talk about the Big Bang as if it’s a scientific fact, but it’s really a speculation. It has never been proven. Some assume that because the universe is apparently still expanding, it must be a leftover

effect from an explosive origin. But even if the universe is expanding today, it doesn’t require a Big Bang beginning. God could have created it to expand not from the size of a pear but from a much larger original size.

Even secular textbooks recognize Big Bang difficulties such as the horizon problem and the mature galaxy problem. If the Big Bang were true, the universe should not have such a stunning uniformity or “sameness” throughout its structure and temperature. The Big Bang would also mean that the galaxies farthest from Earth should look like baby galaxies. Instead, they look the same age as those near us.

Questions to consider: Which observable, measurable, and repeatable experiment demonstrates that the Big Bang actually occurred? What about the horizon problem and the mature distant galaxy problem? Where did all the material or energy that originally “banged” come from?

2 The Earth Is 4.6 Billion Years Old

Secular scientists³ insist Earth formed through natural processes 4.6 billion years ago, but much evidence confirms our planet’s youth.

article highlights

- Many people distrust evolution despite our culture’s strong promotion of it.
- Asking thought-provoking questions is an effective way to help others recognize evolution’s scientific problems.
- Understanding the weaknesses behind popular evolutionary arguments can guide what questions you ask.
- Here are 10 fake facts used to defend evolution, along with questions to help expose the problems with these claims.

At its current decay rate, for example, Earth's magnetic field would have run down before 100,000 years.⁴

Earth's fossils, coal, and diamonds are supposedly millions of years old, yet they all contain short-lived radiocarbon atoms that can last no more than 100,000 years.

Questions to consider: If Earth is billions of years old, why does it still have a magnetic field? Why is short-lived radiocarbon found in Earth's natural resources that are supposedly millions of years old?

3 Geologists Use Good Science to Date Rocks

Nobody—not even geologists—can directly measure the age of a rock. None of us watched Earth's rock layers form. So, when researchers measure isotopes in rocks, they have to use assumptions to convert isotope ratios into time estimates. They assume a consistent decay rate, how much of which isotope was there in the first place, and whether or not this or that isotope leaked into or out of the rock before or after it hardened.

Isotope-based “dates” for the same rock sample don't always agree, so scientists must decide which results to keep and which to ignore. ICR's Radioisotopes and the Age of the Earth (RATE) multi-year study found strong evidence that secular geologists use bad science to date rocks.

Questions to consider: How can we trust radioisotope dating for rocks that formed in the past if it often gives incorrect dates for rocks of known age? When isotope-based dates don't agree, how do scientists decide which one is right?

4 Scientists Are Close to Creating Life from Non-Life

Scientists have spent at least a century trying to create biological life from chemicals, yet they haven't made even one DNA molecule. Since a cell's energy, information storage, and metabolic machinery all depend on one another, the first cell could not have arisen through natural processes unless all three intricate systems sprang up at once. And besides that, body cells break down when they're not part of a living being. The universal failure of people to make life highlights God as the source of all life (Psalm 36:9).

Questions to consider: Even if scientists someday coax natural processes to make DNA, what good would that do without the proteins required to protect, package, manipulate, transcribe, translate, and repair that DNA? What are the odds of unguided processes somehow obtaining or developing these proteins?

5 You Even Share Ancestry with Earthworms

We see variation within an animal kind, such as the lions, tigers, ligers, and cheetahs included in the cat kind. Creatures within a kind might develop trait variations to adapt to changing environments, but we never see fish turn into frogs or earthworms gradually change into people. Cats

make cats, frogs produce frogs, and worms beget worms.

Evolutionists cannot agree on any of the proposed transitional creatures found among the fossils. They try to map animal and human ancestries by observing similar traits between creatures. But each researcher makes a different map as each one crafts a new story of how the same traits spontaneously evolved many times in different kinds.

Questions to consider: Is there a single scientific paper that documents the transformation of one kind of organism into a completely different kind? What do the many different ancestries scientists compose for the same set of creatures suggest about the process of crafting them?

6 Changes to Bacteria and Virus DNA Show Evolution in Action

Dr. Richard Lenski's famous *E. coli* breeding experiment at the University of Chicago was designed to observe evolution happening in the lab. This famous experiment should've given us a glimpse of evolution occurring right before our eyes. But after 50,000 generations, he still breeds *E. coli*.⁴

Mutations caused a loss of regulation that made some *E. coli* more efficient citrate eaters, but this loss didn't show that mutations can rebuild germs into anything but germs. Similarly, some people claim that the flu virus' tendency to mutate into new strains demonstrates molecules-to-man evolution. But with every new flu strain, we're still fighting the flu.

Questions to consider: If no new functions evolve after 50,000 bacterial generations, is there any reason to think they would ever evolve? How do flu virus mutations help prove big-picture evolution? Why after all their many mutations are they still flu viruses?

7 Natural Selection Gives Creatures an Appearance of Design

Evolutionists credit natural selection through environmental pressures for the development of various creature features. For example, the properties of air supposedly helped make bird feathers air-resistant. In truth, scientists have never seen natural selection generate a new feature, much less an organ system, in a plant or animal.

Questions to consider: How does an environment re-engineer creature features? What about air could plan and engineer the aerodynamic qualities of a feather? Why doesn't air give all creatures feathers? Since nobody has actually seen natural selection craft new designs, why not attribute creature features to an actual designer?

8 Whale Fossils Show Evolution

Museums have labeled *Pakicetus* as a whale ancestor since the 1980s, when only its skull was known. In spite of the 2001 discovery of a full-body *Pakicetus* fossil with legs rather than fins, museums continue to display this fake fact. Evolutionists teach that this walking mammal somehow evolved into a whale. Speaking of whales,



Pakicetus fossil

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some speculated that their “hip bones” were useless leftovers from when whale ancestors had legs. But further study showed these pelvic bones are vital for underwater mating.

Questions to consider: How many body features would have had to change for *Pakicetus* to turn into a whale? How could a transitional creature with some dog-like parts and some whale-like parts survive in the wild? Since scientists have disproved the idea of whale hip bones, why should we believe whales ever had legs at all?

9 Fossil Ape-Men Prove Human Evolution

Donald Johanson insists that his fossil discovery nicknamed “Lucy” was a human ancestor, while Tim White insists that his discovery “Ardi” and not Lucy was a human ancestor. How can we know which, if either, is right?

Museum displays showed Lucy with human feet against fossil evidence. In 2018, a baby Lucy fossil was discovered, and it had a curved, ape-like big toe. Lucy is an extinct form of ape—with no human parts. Experts have classified every supposed human ancestor



Lucy: Australopithecus afarensis

Image credit: Public domain.

fossil as an extinct ape, an extinct human, a mystery, or a fraud. At least some evolutionary experts disagree on every one as a human ancestor.

Questions to consider: Can you name a particular fossil that evolutionary experts all agree was an ape transitioning into a human? If human evolution were true, why would natural processes give uniquely human traits such as abstract thought, appreciation of beau-

ty, and knowledge of right and wrong to humans but not to animals?

10 Humans and Chimps Share 98% Genetic Identity

The chimpanzee is supposedly our closest relative in the animal kingdom, thought to have diverged from the same ape-like ancestor humans came from. For evolution to have made these changes, within the secular time allowed, chimp and human genomes would have to be at least 98% similar. But chimps have 6% more DNA than humans. Plus, side-by-side sequence comparisons show no more than



Chimpanzee

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85% similarity.⁷ Mutations don’t write new code. The 98% similarity line is fake.

Questions to consider: Do you know the percent difference between the chimp and human genomes simply based on size? How do the more recent studies that show only 85% similarity impact this idea?

Just One Question

Evolution runs on rhetoric and not reality. ICR offers many in-depth resources that evaluate evolutionary assertions and arguments.⁸ Sometimes it takes just one thought-provoking question to plant a seed of doubt in someone’s belief that nature created all things. The better we understand what makes evolution’s supposed facts fake, the better equipped we become to make a real difference. ✎

References

1. Morris, H. M. 2003. Evolutionary Arrogance. *Acts & Facts*. 32 (2).
2. Thomas, B. 2018. Communicate Creation with Mirror Questions. *Acts & Facts* 47 (4): 15.
3. By “secular” we mean those who refuse to consider supernatural origins regardless of evidence.
4. Humphreys, D. R. 1993. The Earth’s Magnetic Field is Young. *Acts & Facts*. 22 (8).
5. Thomas, B. 2017. Young Radiocarbon in Old Samples. *Acts & Facts*. 46 (11): 9.
6. Thomas, B. 2015. Evolution’s Top Example Topples. *Acts & Facts*. 44 (10): 16.
7. Tomkins, J. P. 2018. New Chimp Genome Confirms Creationist Research. *Acts & Facts*. 47 (10): 16.
8. ICR offers news articles, books, podcasts, DVD series, and live events to help answer some of the most challenging questions of faith and science. Go to ICR.org/10-Fake-Facts to find a list of articles related to the topics discussed in this article.

Dr. Thomas is Science Writer at the Institute for Creation Research and earned his Ph.D. in paleochemistry from the University of Liverpool.



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Rocks Reveal the End of the Flood

One of the most important aspects of any Flood model is the definition of its boundaries. Is there an identifiable layer in the rock record where we can say the global Flood ended? And should we expect that boundary to be at a consistent level globally? ICR's Column Project research team compiled global rock data from oil wells and outcrops to help answer these questions.

Most creation scientists agree that the Flood/post-Flood boundary is at or near one of two levels: 1) the top of the Cretaceous system at the K-Pg horizon,^{1,2} or 2) near the top of the Upper Cenozoic at about the Pliocene level (Figure 1).^{3,4}

Our research results include five major geological observations that demonstrate the boundary must be at or near the Pliocene level.⁵ Some of these observed features are so massive and/or extraordinary that local post-Flood catastrophes could not have produced them as the K-Pg boundary proponents have claimed. Our recently published technical article describes these features in depth, but this article will summarize our most significant findings so far.⁵

Probably the strongest evidence of the Pliocene boundary is the presence of uninterrupted carbonate rocks from the Cretaceous level below the K-Pg boundary and continuing upward through Miocene

strata across much of North Africa and the Middle East, including the countries of Syria and Iraq (Figure 2). Carbonate can only form underwater, which tells us these layers were still under the Flood's waters at the time of deposition. These water-deposited

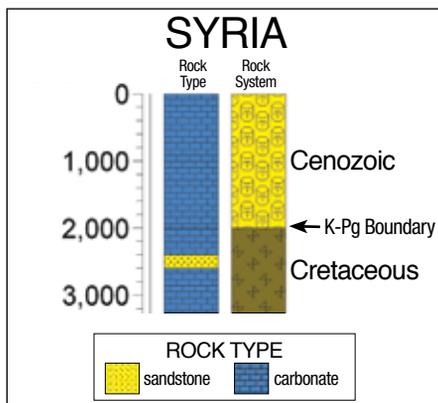


Figure 2. Stratigraphic column in western Syria showing rock type and stratigraphic data. All depths are in meters. The top of the Cretaceous is the K-Pg boundary. Note how the carbonate layers (colored blue) are continuous across the K-Pg boundary all the way to the top of the column, which stops in the Miocene.

sediments across such a broad region are compelling proof that the floodwaters could not have receded fully from this area until the Late Miocene and possibly even later.

Incidentally, Syria and Iraq are just to the south of the site in Turkey where the Bible describes the Ark landing. Huge regions of the Middle East were clearly still underwater during most of the Cenozoic. This means active ocean sedimentation would have made it impossible for humans to settle there and build the Tower of Babel at that time.

Our studies of the stratigraphic column data across Europe produced the same results as our observations in the Middle East and North Africa. Uninterrupted layers of marine strata are found from the Cre-

article highlights

- Geological Flood models use rock layer data to determine where and when the Flood started and ended.
- Evidence suggests the Flood ended near the more recent Pliocene level rather than the proposed K-Pg boundary.
- The ICR Column Project is providing a more accurate understanding of the Flood.

taceous level upward through the Miocene across much of Central Europe, including Bulgaria, Romania, Italy, Austria, and even the Netherlands.

From all of these data, we concluded that too much water-deposited sediment was still being actively emplaced for the Flood to be over at the level of the K-Pg boundary. Much of the Cenozoic (Paleogene and Neogene) was still undergoing active marine deposition and was likely part of the receding phase of the great Flood. The post-Flood boundary must be near the top of the upper Neogene, around the Pliocene level.

Our research has identified a globally consistent and identifiable change from marine to non-marine deposition in the Upper Cenozoic rock layers, coinciding with an abrupt change in fossil content.⁶ Both forms of evidence confirm the Pliocene as the more accurate Flood boundary. As our Flood research continues and we refine our interpretations, we're getting a clearer picture of this world-changing event. ☞

References

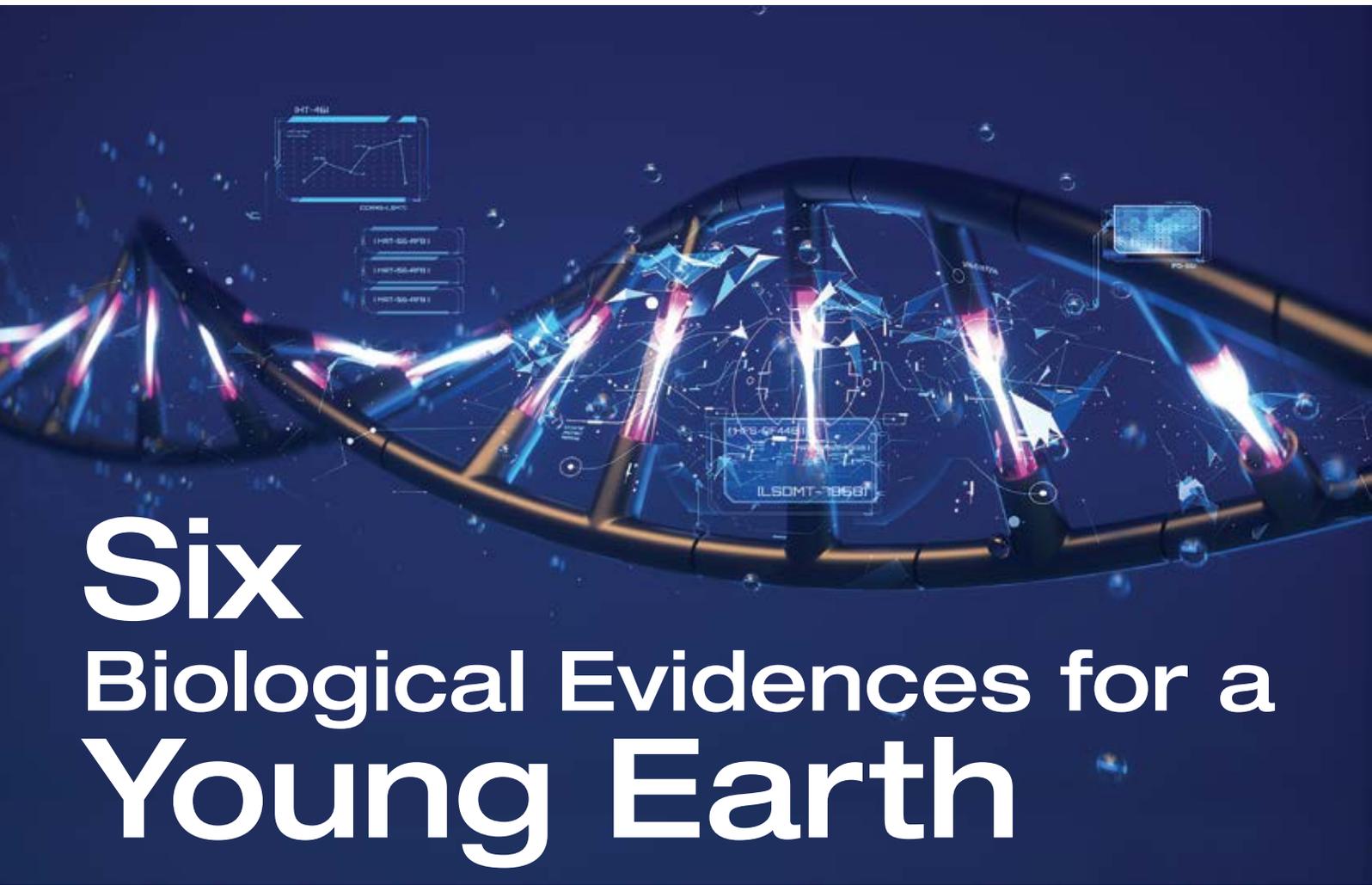
1. Austin, S. A. et al. 1994. Catastrophic Plate Tectonics: A Global Flood Model of Earth History. In *Proceedings of the Third International Conference on Creationism*. R. E. Walsh, ed. Pittsburgh, PA: Creation Science Fellowship, 609-621.
2. Whitmore, J. H. and K. P. Wise. 2008. Rapid and early post-Flood mammalian diversification evidences in the Green River Formation. In *Proceedings of the Sixth International Conference on Creationism*. A. A. Snelling, ed. Pittsburgh, PA: Creation Science Fellowship, 449-457.
3. Oard, M. J. 2013. Geology indicates the terrestrial Flood/post-Flood boundary is mostly in the Late Cenozoic. *Journal of Creation*. 27 (1): 119-127.
4. Clarey, T. L. 2016. The Ice Age as a mechanism for post-Flood dispersal. *Journal of Creation*. 30 (2): 48-53.
5. Clarey, T. L. 2017. Local Catastrophes or Receding Floodwater? Global Geologic Data that Refute a K-Pg (K-T) Flood/post-Flood Boundary. *Creation Research Society Quarterly*: 54 (2): 100-120.
6. Pimiento, C. et al. 2017. The Pliocene marine megafauna extinction and its impact on functional diversity. *Nature Ecology & Evolution*. 1: 1100-1106.

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SUBDIVISIONS OF GEOLOGIC TIME			
ERA	PERIOD AND SUBPERIOD	EPOCH	
CENOZOIC	QUATERNARY	Holocene	
		Pleistocene	
	TERTIARY	NEOGENE SUBPERIOD	Pliocene ← Our proposed boundary
			Miocene
		PALEOGENE SUBPERIOD	Oligocene
			Eocene
			Paleocene ← K-Pg boundary
MESOZOIC	CRETACEOUS	Late	
		Early	
	JURASSIC	Late	
		Middle	
		Early	
	TRIASSIC	Late	
		Middle	
		Early	

Figure 1. Partial geologic timescale showing the subdivisions of the Mesozoic and Cenozoic.



Six Biological Evidences for a Young Earth

article highlights

- Biological data show that Earth and the life it contains are young.
- Scientific findings match the Bible's historical and genealogical records.
- Six examples from biology support a young earth: soft tissues in fossils, ancient microbe resurrections, genetic entropy, mitochondrial Eve and Y-chromosome Adam, living fossils, and Earth's current human population.

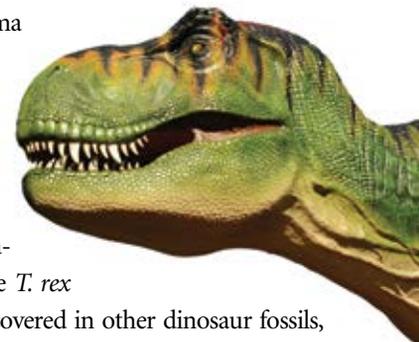
What does the Bible tell us about the age of the earth? Not only does the Bible describe how God created Earth and its life forms in six days, Genesis also contains detailed genealogies and chronologies. Based on the Hebrew Masoretic text, one can deduce Earth's age to be about 6,000 years.^{1,2} In contrast, evolutionists believe Earth is 4.6 billion years old and that life here got going about 3.5 billion years ago.

While the evolutionary story is just naturalistic speculation, the Bible gives a fairly complete history and timeline that provide the basis for what is often called a young-earth creationist view. But do the

scientific facts demonstrate a young age for Earth? This article will show that a young earth is well supported by the biological data.

1 Soft Tissues and Biomolecules in Fossils

Soft tissues and decay-sensitive biomolecules that are still intact and not degraded shouldn't exist in fossils that are supposedly millions of years old—but they do. The most famous case of this evolutionary enigma was the discovery of soft, stretchy tissue in the bones of a *T. rex*, along with visible blood vessels, blood cells inside the vessels, and bone cells with delicate finger-like projections called *osteocytes*.^{3,4} Collagen proteins were also found in the *T. rex* bones. Similar finds have been discovered in other dinosaur fossils, including a hadrosaur and a *Triceratops*.^{5,6}



ICR research scientist Brian Thomas has compiled a list of 41 different journal papers describing the amazing soft tissues and biomolecules discovered in the fossils of many different types of land and

sea animals and plants.⁷ Many of these findings were made and documented by secular scientists. Some of these discoveries involve fossils alleged to be 250 to 550-plus million years old. Because it would be impossible for these highly degradable compounds to last for more than a few thousand years, the evidence clearly points to a young age for Earth and to the global Flood that produced the fossilized remains, burying them quickly in sediments about 4,500 years ago.

2 Ancient Microbe Resurrections

Since the mid-1990s, scientists have isolated and characterized more than 1,200 ancient microorganisms extracted from fossils found in amber.⁸ These amber fossil finds include nine ancient yeasts, four of which are brewer's yeasts that were patented and used to commercially brew beer by one of the scientists who discovered them. These amber-extracted microbes were thought to be up to 40 million years old.



But the most amazing microbe discovery came when scientists were able to revive bacteria extracted from salt inclusions in rock strata that were alleged to be 250 million years old.⁹ A salt inclusion is a pocket of salty water that became trapped as the sedimentary rock formed, a phenomenon that would have occurred during the Genesis Flood. Based on an evolutionary perspective of the rock strata, scientists dated the salt inclusion layer as early Triassic. Needless to say, these ancient resurrected microbes shouldn't have been present if the rocks were actually that old. Their existence points to a young earth and a recent global flood.

3 Degeneration of the Human Genome

Contrary to popular evolutionary dogma, the human genome is actually degrading over time. It's devolving, not evolving. At the beginning of creation, Adam and Eve's genomes would have been pristine, with no errors. Then they both fell into sin and brought a curse upon creation, causing increasing amounts of DNA decay and progressive loss of genetic information in successive generations of

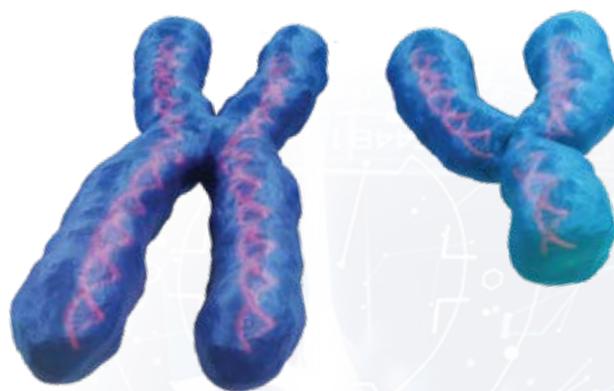
their offspring. This degeneration is due to multiple slightly harmful mutations that occur during each generation, and the accumulation rate of these genetic alterations is indicative of a human origin in agreement with the biblical chronology of about 6,000 years.

In fact, as I have documented previously, empirical genetic clocks determined by both secular and creation researchers indicate a beginning point of human variation associated with degeneration starting about 5,000 to 10,000 years ago.^{10,11} This recent time frame also fits closely with a pattern of human life expectancy that quickly and continually declined after the global Flood.



4 Evidence for Mitochondrial Eve and Recent Origin of Y-Chromosome Adam

Outside the nucleus of the human cell, small organelles called *mitochondria* act as energy factories. Each mitochondrion contains a small piece of circular DNA that is typically inherited only through the mother. Scientists have studied mitochondrial DNA in people groups around the world and discovered the data are consistent with a single origin of all humans less than 10,000 years ago.^{10,11} Creation scientist and geneticist Robert Carter reconstructed a consensus mitochondrial DNA sequence for the original ancestral "Eve" and published the results in a peer-reviewed secular journal.^{12,13}



An individual's biological gender is genetically determined by inherited sex chromosomes—XY for males and XX for females. At conception, a male embryo gets a Y chromosome from the father's sperm cell and an X from the mother's egg cell. A female gets an X from the father and an X from the mother. The Y chromosome stimulates the development of male traits.

As it turns out, there is a very limited amount of variation in the DNA sequence for the human Y chromosome across the world's

population. This is consistent with an origin of humanity only about 6,000 years ago.¹⁴ In fact, the same recent origin of the Y chromosome followed the same pattern of variation observed in the mitochondrial DNA sequence. This matches the human history found in Genesis.

5 Unchanged Living Fossils (Stasis)

Creatures like jellyfish, graptolites, horseshoe crabs, coelacanths, and many more are living proof of a recent creation.¹⁵ How could so many types of creatures remain so unchanged during the alleged millions of years attributed to evolution? Called *living fossils*—a term coined by Darwin—they form discontinuous fossil sequences in that they appear suddenly in the fossil record without any evolutionary



Coelacanth

precursors, disappear and apparently go extinct, and yet are still living today. For example, horseshoe crabs show up in the fossil record 450 million years ago (according to evolutionary dating) and then disappear for hundreds of millions of years but are alive now. Evolutionists like to call this a “Lazarus effect.”

One living fossil tree, the Wollemi pine, supposedly first showed up in the fossil record over 200 million years ago and not only still exists but has living specimens dated at less than 1,000 years. The lack of evolution observed in living fossils, combined with their sudden appearance in the fossil record and then absence for millions of years, doesn’t support the evolutionary paradigm. Instead, the fossil record shows that a global flood occurred only thousands of years ago and progressively buried ecosystems.¹⁶ Living fossils are more evidence that Earth is quite young.

6 Population Growth

According to the evolutionary timeline, humans diverged from a chimp-like ancestor three to six million years ago. In that case, there ought to be many billions of people living today or buried in the fossil record. With the world’s human population now approaching eight billion, the evolutionary story falls completely short—there



should be many more of us.

As it turns out, a biblical model of Earth being repopulated from Noah’s three sons and their three wives starting about 4,500 years ago fits perfectly with the number of people living today. In 2015, Robert Carter and Chris Hardy used computer modeling for population growth that included multiple variables like age of reaching maturity, minimum child spacing between births, and age of menopause.¹⁷ They also factored in probabilities like polygamy, twinning rates, and the risk of death according to age. Their conclusion was that “it is trivial [i.e., no great difficulty] to obtain the current world population from three founding couples in four and a half millennia.”¹⁷

These six biological evidences provide ample support for a young earth. There are numerous examples in every arena of science, and more are discovered each year. ✎

References

1. Johnson, J. J. 2008. How Young Is the Earth? Applying Simple Math to Data in Genesis. *Acts & Facts*. 37 (10): 4-5.
2. Hardy, C. and R. Carter. 2014. Biblical minimum and maximum age of the earth. *Journal of Creation*. 28 (2): 89-96.
3. Schweitzer, M. H. et al. 2005. Soft-Tissue Vessels and Cellular Preservation in *Tyrannosaurus rex*. *Science*. 307 (5717): 1952-1955.
4. Schweitzer, M. H., J. L. Wittmeyer, and J. R. Horner. 2007. Soft tissue and cellular preservation in vertebrate skeletal elements from the Cretaceous to the present. *Proceedings of the Royal Society B*. 274 (1607): 183-197.
5. Schweitzer, M. H. et al. 2009. Bimolecular Characterization and Protein Sequences of the Campanian Hadrosaur *B. canadensis*. *Science*. 324 (5927): 626-631.
6. Armitage, M. H. and K. L. Anderson. 2013. Soft sheets of fibrillar bone from a fossil of the supraorbital horn of the dinosaur *Triceratops horridus*. *Acta Histochemica*. 115 (6): 603-608.
7. Thomas, B. Published Reports of Original Soft Tissue Fossils. Posted on ICR.org September 17, 2018.
8. Thomas, B. ‘45-Million-Year-Old’ Brewer’s Yeast Still Works. *Creation Science Update*. Posted on ICR.org August 17, 2009.
9. Vreeland, R. H., W. D. Rosenzweig, and D. W. Powers. 2000. Isolation of a 250 million-year-old halotolerant bacterium from a primary salt crystal. *Nature*. 407 (6806): 897-900.
10. Tomkins, J. P. 2014. Genetic Entropy Points to a Young Creation. *Acts & Facts*. 43 (11): 16.
11. Tomkins, J. P. 2015. Genetic Clocks Verify Recent Creation. *Acts & Facts*. 44 (12): 9-11.
12. Carter, R. 2009. The Neutral Model of evolution and recent African origins. *Journal of Creation*. 23 (1): 70-77.
13. Carter, R. W. 2007. Mitochondrial diversity within modern human populations. *Nucleic Acids Research*. 35 (9): 3039-3045.
14. Carter, R. W., S. S. Lee, and J. C. Sanford. 2018. An overview of the independent histories of the human Y chromosome and the human mitochondrial chromosome. In *Proceedings of the Eighth International Conference on Creationism*. J. H. Whitmore, ed. Pittsburgh, PA: Creation Science Fellowship, 133-151.
15. Guliuzza, R. J. 2016. Major Evolutionary Blunders: The Fatal Flaws of Living Fossils. *Acts & Facts*. 45 (6): 16-18.
16. “The geological column and its accompanying fossils represent the progressive extinctions and rapid ebb and flow of water burying entire ecosystems over the course of the flood year.” Tomkins, J. P. and T. L. Clarey. Red Algae Lazarus Effect Can’t Resurrect Evolution. *Creation Science Update*. Posted on ICR.org January 31, 2019.
17. Carter, R. and C. Hardy. 2015. Modelling biblical human population growth. *Journal of Creation*. 29 (1): 72-79.

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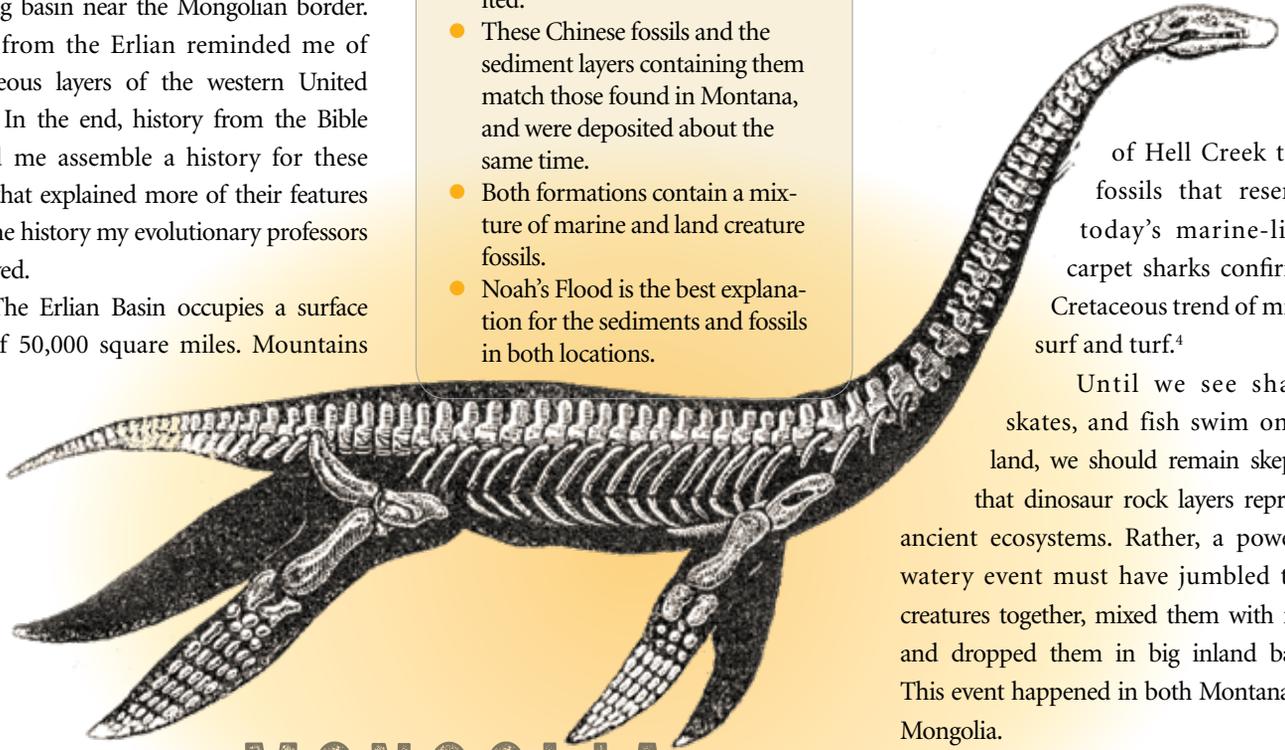
I recently completed an online college course on Cretaceous dinosaurs from China, centering on fossils from the Erlian Formation. These rock layers lie in a big basin near the Mongolian border. Clues from the Erlian reminded me of Cretaceous layers of the western United States. In the end, history from the Bible helped me assemble a history for these rocks that explained more of their features than the history my evolutionary professors purveyed.

The Erlian Basin occupies a surface area of 50,000 square miles. Mountains

article highlights

- Dinosaur fossils from northern China appear to be flood-deposited.
- These Chinese fossils and the sediment layers containing them match those found in Montana, and were deposited about the same time.
- Both formations contain a mixture of marine and land creature fossils.
- Noah's Flood is the best explanation for the sediments and fossils in both locations.

cited secular researchers who admit that the Cretaceous Hell Creek fossils from Montana, like *T. rex* and *Triceratops*, “were located in marine rocks.”³ A recent discovery



of Hell Creek tooth fossils that resemble today's marine-living carpet sharks confirms a Cretaceous trend of mixing surf and turf.⁴

Until we see sharks, skates, and fish swim on dry land, we should remain skeptical that dinosaur rock layers represent ancient ecosystems. Rather, a powerful, watery event must have jumbled these creatures together, mixed them with mud, and dropped them in big inland basins. This event happened in both Montana and Mongolia.

A global watery effect should have a global watery cause, so I turned to my Bible.

The Flood account in Genesis 6–9 describes a worldwide watery catastrophe that other Bible contributors either directly or indirectly confirmed.⁵

Chinese rock layers do not showcase some age of dinosaurs from long before Adam and Eve. Instead, like so many other Cretaceous rock layers around the world that mix land and sea creatures, they formed from the Flood. ☞

References

1. Bonnetti, C. et al. 2014. Sedimentology, stratigraphy and palynological occurrences of the late Cretaceous Erlian Formation, Erlian Basin, Inner Mongolia, People's Republic of China. *Cretaceous Research*. 48: 177-192.
2. Austin, S. A. 1990. Were Grand Canyon Limestones Deposited by Calm and Placid Seas? *Acts & Facts*. 19 (12).
3. Clarey, T. 2015. Dinosaurs in Marine Sediments: A Worldwide Phenomenon. *Acts & Facts*. 44 (6) :16.
4. Gates, T. A., E. Gorscak, and P. J. Makovicky. New sharks and other chondrichthyans from the latest Maastrichtian (Late Cretaceous) of North America. *Journal of Paleontology*. Published online before print January 21, 2019.
5. For example, Ezekiel (Ezekiel 14:14), Jesus (Matthew 24:39), and Peter (2 Peter 3:6).

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border its vast, landlocked sediments, and other basins surround those mountains. Its name comes from a nearby town that lies 480 miles from the nearest ocean. My course instructor said that a system of ancient rivers deposited the Erlian Formation's Cretaceous layers. He referred to the formation as an ecosystem. As the course progressed, however, details emerged that contradicted his teachings.

A recent study of the Erlian Formation noted fast fluid flow features in each sedimentary layer called a *facies*.¹ In other words, there aren't just ancient river channels within a layer, but the *entire* layer holds signs of fast flow. The sand-dominated facies have cross-beds typical of swift waters.² The facies with a mixture of sand, silt, and mud have “cross strata...formed by oscillation processes marking the ultimate stage of the waning flood.” The study authors don't say what flood it might have been, but they know the mud facies “were deposited in floodplain ponds.”¹ Does

MONGOLIA, MONTANA, AND MY BIBLE

widespread flooding describe any normal ecosystem?

The Erlian Formation's strange fossils also indicate catastrophe. Along with *Gigantoraptor* (a large, toothless theropod), *Erlianosaurus* (a plant-eating theropod with huge hands), and *Sonidosaurus* (a small titanosaur), the Erlian has fossils of crocodiles, plesiosaurs, softshell turtles, sharks, other types of fish, rays, and clams. This odd mixture of wetland and sea creatures calls for an odd origin. Instead, evolutionary scientists insist the fossils preserve a normal ecosystem. No normal ecosystem forms fossils, let alone environment mix-ups like these!

In 2015, ICR geologist Dr. Tim Clarey

Scientific and Biblical Truth Converge for Gopher Wood

JEFFREY P. TOMKINS, PH.D., AND
JAMES J. S. JOHNSON, J.D., TH.D.

Scientific facts can sometimes yield surprising biblical insight. For example, lignins make hardwood trees hard. They are a complex group of organic compounds found in the cell walls of plants that give structural rigidity to the plants' overall growth and architecture. One type of plant lignin contains sulphur, while the other is sulphur-free. It's the sulphur-bearing lignins that form the fundamental structural basis of all hardwood trees used for lumber products.

This botanical fact casts an interesting theological light on Genesis 6:14, where God instructs Noah to build a large ship. The Ark allowed him and his family (eight people total) and various representatives of the animal kingdom to survive the impending global Flood and repopulate the earth. Specifically, Noah is commanded, "Make yourself an ark of gopher wood."¹

Much confusion has been connected to the term "gopher wood." No one seems to know exactly what the Hebrew word גֹּפֶרֶת, or *gôpher*, really means, and this is the only place in the Bible where it's used. The King James and the New King James versions wisely leave the word untranslated. Other Bible translations have inserted different types of wood, such as cypress, but this is speculation.

When we dig deeper into the Hebrew, we begin to find enlightening connections. *Gôpher* is actually a root of the word גֹּפְרִית or *gophrith*, which is translated seven times in the Old Testament as "brimstone" in the context of God's fiery judgment on human wickedness.² Examples would be Genesis 19:24: "Then the LORD

article highlights

- God instructed Noah to build the Ark from gopher wood. "Gopher" is related to the word translated as "brimstone" in the Old Testament.
- In addition, the Ark was covered with pitch. The word "to cover" is also used for "atone."
- In God's construction instructions, we have the symbolic act of a high priest making atonement for the sins of the people—protecting them from judgment.
- The scientific facts behind the biblical narrative can convey profound insights into God and His Word.

rained brimstone and fire on Sodom and Gomorrah"; and Psalm 11:6: "Upon the wicked He will rain coals; fire and brimstone and a burning wind shall be the portion of their cup."

The New Testament Greek equivalent of *gophrith* is θεῖον, or *theion*, and just like in the Old Testament it's used exactly

seven times within the context of God's judgment on wickedness—a remarkable mathematical coincidence.³ The number seven represents completion, perfection, and veracity, as noted in the seven-day creation week and in Psalm 12:6: "The words of the LORD are pure words, like silver tried in a furnace of earth, purified seven times." The number seven is even used in reference to God's displeasure of humanity's sinful traits, as stated in Proverbs 6:16: "These six things the LORD hates, yes, seven are an abomination to Him." But even more intriguing is that the biblical use of the Greek word *theion* is essentially the same as the similar word θεῖο, or *theio*, which means sulphur and can be used interchangeably with the word "brimstone."

When we put these original biblical terms into the context of the organic compounds that form the structural basis of trees and industrial applications of lumber, the coincidence is remarkable. For



גֹּפֶר

often describes the “covering” payment of a ransom for one’s life or that of an entire village. In other words, we have the symbolic act of a high priest making atonement for the sins of the people—insulating and protecting them from judgment. The very materials used in the construction of the Ark not only convey protection from the judgment of the floodwaters but a deeper layer

of meaning in the protection against a sulfurous fiery judgment in the afterlife.

all practical purposes, God is speaking a scientific truth to Noah in telling him to use a form of plant material with sulfur-bearing lignin. Furthermore, since the word “wood” (i.e., “tree” or “timber”) in gopher wood is the plural form of the Hebrew עֵץ (‘êš), this fits well with the fact that wooden ships are typically built of many types of hardwood. Some woods work well for the ship’s hull, while others are used for support structures, deck planking, and other features—yet all would be sulfur-bearing tree kinds.

The deeper we dig into the treasure chest of Scripture, the more nuggets of truth we uncover. Practical biblical truth and profound examples of judgment and redemption can be found throughout Genesis. Both the Ark and Noah serve as foreshadowing types of Christ, and much has been written about them in this respect.⁴

Given the great depth of God’s wisdom in Scripture, the scientific truth of sulfur-bearing lignified plant tissue yields profound insight into His eternal purposes in judgment and redemption. Noah is also told in Genesis 6:14 to “cover [the Ark] inside and outside with pitch.” The word “cover” is the Hebrew word כָּפַר, or *kâphar*, which literally means “to cover” and by extension means “to insulate” or “to atone for (by covering).” This word is widely used in Mosaic law to describe the process of the high priest making atonement for the sins of the people (i.e., by covering those sins as if thereby protectively insulating the people), such as on *Yôm Kippûr* (“Day of Atonement”). An example would be Exodus 30:10: “And Aaron shall make atonement upon [the altar’s] horns once a year with the blood of the sin offering of atonement.”⁴

A related and similar word used for pitch, כֹּפֶר, or *kôpher*, most

of meaning in the protection against a sulfurous fiery judgment in the afterlife.

Even the scientific reality of biblical truth has much to reveal not only about the veracity of God’s Word but about the omnipotence and eternal genius of our mighty Creator and Redeemer. Every detail of the Ark’s construction shows His care, love, and redemptive purposes. ✨

References

1. The King James Version correctly separates gopherwood into two words: *gopher wood* that represents two different Hebrew words as discussed above. The New King James is used in the quoted text, but the words are separated for textual accuracy.
2. Genesis 19:24; Deuteronomy 29:22-23; Job 18:15; Psalm 11:6; Isaiah 30:33, 34:9; Ezekiel 38:22.
3. Luke 17:29; Revelation 9:17, 9:18, 14:10, 19:20, 20:10, 21:8.
4. Noah’s Ark prefigures salvation in Christ (1 Peter 3:20-21). Animal sacrifices, like promissory notes, only bought extra time for the satisfactory payment of the sin debts of humans. Thus, human sins were covered by animal sacrifices but were not removed. Ultimately, humanity’s sin debt was satisfactorily paid (and thus removed) only when Christ died for our sins (John 1:29; Romans 5:8; Hebrews 10).

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How can you wrap your mind around the idea of a worldwide flood that covered all the highest hills and mountains? Wouldn't it be helpful—and fascinating—to see the global Flood year in fast-forward? The Omniglobe attraction at the ICR Discovery Center for Science and Earth History will bring ICR geologist Dr. Tim Clarey's Flood discoveries to life. His team is mapping the coverage of each major sedimentary sequence that the Flood deposited across the continents. Among his findings the globe will show:

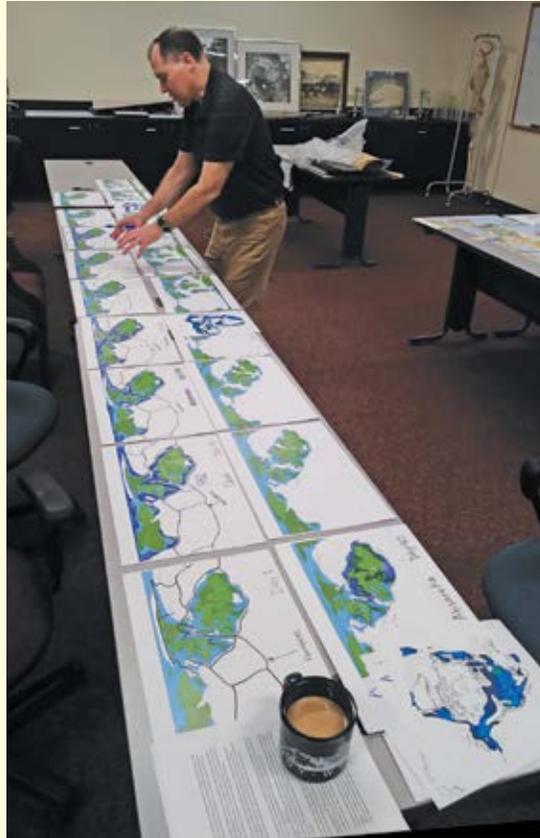
1. The first three sequence layers only partially covered the land as floodwaters rose.
2. As floodwaters inundated farther, the last three layers completely covered the land as the supercontinent was breaking into the continents we see today.
3. Toward the end of the Flood, floodwaters draining off the continents produced offshore deposits that include land animal fossils.

Dr. Clarey says, "It takes a global cause to produce a global effect." So far, his research has revealed

these same sedimentation patterns on three continents: North America, South America, and Africa. You can read more about the research team's findings on page 9. The Omniglobe exhibit will help visitors see how geological evidence confirms the Genesis Flood as a real catastrophic event in Earth's history.

Help Us Complete the Exhibits

We're developing exhibits that point people to our Creator and Redeemer, the Lord Jesus Christ. Visit ICR.org/DiscoveryCenter and partner with us!



Dr. Tim Clarey explains a storyboard for the Omniglobe animators



A crane sets in place the 24-foot steel DNA sculpture that marks the entrance to the Discovery Center and outdoor park



Workers add an icy haze to the floor of the Ice Age Theater, which will show short films explaining this frosty period in Earth's history from a biblical perspective



Blockchain-Like Process May Produce Adaptive Traits

PHIL B. GASKILL AND RANDY J. GULIUZZA, P.E., M.D.

article highlights

- Evolutionists see DNA as a sequence of accumulated random variations, but it is actually similar to a computer program.
- The adaptive process may work like blockchain technology, which uses a specific type of distributed computer program.
- Evidence indicates that organisms use a blockchain-like process to produce some adaptive traits.
- The organism itself appears to deliberately engineer many genetic changes associated with the development of adaptive traits.

The previous article in the Engineered Adaptability series focused on how a population might continuously track environmental changes.¹ We hypothesized that populations are analogous to distributed problem-solving applications. If engineering principles best explain biological functions, then a biological mechanism would likely have system elements that correspond to those of a human-engineered mechanism.

In this scenario, individual organisms correspond to computers running the same distributed algorithm (immanent selection) in order to generate similar solutions (traits). During reproduction, traits are redistributed in a targeted, problem-solving manner (not randomly) to rapidly adapt the population to changing environmental conditions. In contrast to selectionism, which emphasizes competition over cooperation, both the individual and the population are vitally important to the process. This model expects rapid convergence on solutions rather than slow, gradual evolution.

The way the adaptive mechanism works may be similar to a cutting-edge distributed computer program called *blockchain technology*.

Adaptive Genetic Modifications Appear to Be Controlled, Not Random

Evolutionary selectionism believes that outside forces called *selective pressures* produce DNA modifications that lead to trait variations in organisms. Thus, DNA is an accumulation of selected random variations. However, selectionism finds it difficult to simultaneously explain both variation and stasis. The dilemma is that DNA cannot be modified via random mutation without also quickly losing its ability to produce traits. In other words, this kind of variation tends to not simply alter traits but eliminate them.

In contrast, computer software specialist Mitchel Soltys uses engineering principles in a model that compares DNA to a computer program that combines both instructions and data in a single stream.² Though the code is bounded by fixed, top-level instructions, input data called *variables* enable variation. Soltys describes how this model accounts for both variation and stasis:

Using abstraction, computer programs can also dynamically load, move and control portions of instruction code, called subroutines or functions, during execution to perform their job. It is even possible for computer programs to generate sections of programming code on the fly, turn them on and off and call them in different orders, but it is always a computational result of information at a higher level created by an intelligent being or beings. No matter how many layers of abstraction you have in a computer system,

there is always a top level instruction set that controls everything below it and must be the result of a creative mind.²

ICR’s continuous environmental tracking (CET) model has highlighted mounting evidence that organisms are deliberately engineered to generate targeted solutions to environmental problems “on the fly.”³ This evidence, combined with Soltys’ computer program model of DNA, implies that organisms actively reprioritize, reshuffle, and recombine the information necessary to generate adaptive traits.

Blockchain Technology Provides Insight into Adaptation

Blockchain was developed to run the Bitcoin digital currency network. It can also be used, however, in a range of applications in which a distributed consensus must be established—similar to the way populations rapidly adapt. How do blockchains work?

A blockchain allows a network of computers (nodes) to maintain a single record of transactions called the *ledger*.⁴ Transactions are grouped into a “block” that is “chained” to the previous block. Ergo, a blockchain. A new block is added when a complex mathematical problem is solved using data from the previous block and an irreversible mathematical function. This results in a unique code identifying the new block. Thus, each block contains information from the previous block and is connected to it in an irreversible manner.

Using engineering principles to explain biological function opens up powerfully insightful ways to understand biological phenomena. Remarkably, a side-by-side comparison of the transactions recorded in a blockchain to variables recorded in DNA reveals analogous processes between creating blocks and generating adaptive traits. We can draw a direct correspondence between the elements involved in each process.

Network: group of connected computers	Population: group of connected organisms
Node: discrete computer that generates blocks	Individual: discrete organism that generates traits
Ledger: digital file that records transactions	DNA: molecular structure that records variables
Block: a group of transactions linked to a previous block	Trait: a group of variables linked to a parental trait
Mining: process of solving computational problems in order to generate blocks, where the solution is arrived at by “guessing” a random number	Development: process of solving biological problems in order to generate traits, where the solution is arrived at by “adjusting” the organism’s internal state
Cryptographic hash function: irreversible mathematical operation that results in a unique alphanumeric code	Adaptive hash function: irreversible biological operation that results in a unique optimized DNA code

The cryptographic hash function (*f*) used to create new blocks can be represented as follows:

$$\text{threshold} > f(\text{previous block} + \text{new transactions} + \text{novel value})$$

We can generate a similar function to update our concept of the

biological mechanism that produces adaptive traits:

$$\text{constraint} > f(\text{previous trait} + \text{new variables} + \text{internal state})$$

We hypothesize that adaptive traits result from a biological function based on the inputs of inherited information (previous trait), information gleaned from sensing environmental conditions (new variables), and the internal resources available to an organism at the time the trait is generated (internal state).

A *hash function* is a mathematical process that can take any amount of incoming data and return a data output of a fixed size, as specified by the function. Thus, if adaptive traits are produced by this type of function, we would expect the length of DNA sequences associated with the traits to remain stable. This implies that even though DNA sequences may be altered, reshuffled, or recombined in order to produce adaptive traits, the size of the genome should remain fixed over time.

Blockchain Technology and the CET Model

The CET model explains the regulated, rapid, and targeted characteristics of adaptation. CET hypothesizes that organisms use sensors, logic mechanisms, and output responses to track environmental changes. Like human-engineered sensors, biological sensors are sensitive to specific environmental conditions and are designed to ignore others.⁵ Sensors trigger adaptive responses both in the behavior of adults and in the development of their offspring.

This is where new variables may play a role. When environmental conditions change, sensors trigger an organism’s pre-programmed logic to select pre-existing information designed to respond to the changed condition. When combined with inherited information and an organism’s internal state, these new variables comprise the inputs to the function that generates an adaptive trait—one altered from the inherited trait in a targeted way.

Further, though multiple organisms may inherit similar information and experience similar conditions, each organism’s internal state (e.g., metabolic rate, energy reserves, hormone levels, etc.) is continuously self-adjusted per its environment. Thus, each organism produces similar—but unique—solutions to the same environmental problem. The result is increased trait diversity in populations.

If many adaptive traits are produced by adaptive hash functions that draw data from multiple sensors and internal systems, then we would expect to observe the following characteristics in living systems.

1. Information to produce adaptive traits may be compiled from DNA sequences scattered throughout the genome.
2. Widely divergent traits may be produced from the same underlying genetic code.
3. Adaptive traits would be constrained in a manner that is nonrandom and therefore accounts for both variation and stasis.

Is there any evidence that adaptive traits can be produced by adaptive functions? Yes, there is.

Evidence of Adaptive Traits Produced by Adaptive Functions

Threespine Sticklebacks

The threespine stickleback, a small fish with marine and freshwater variants, provides an excellent example of adaptive traits associated with genome-wide changes to DNA. Marine variants are generally larger in size and darker in color, are heavily armored with rows of bony plates, and have a pelvis with two long spines. Smaller freshwater variants are generally lighter, have few or no armor plates, and have a pelvis lacking spines. Both variants still interbreed along coastal rivers and produce both marine and freshwater offspring.

Their traits appear to be determined both by inheritance and during development. One study demonstrated that differences in adaptive traits between the marine and freshwater variants are generated by dynamic reassembly of many DNA sequences distributed across many chromosomes.⁶ Further, these differences were associated with both protein-coding and non-coding DNA sequences, with non-coding sequences having the prominent role (83% vs. 17%). This fits expectations if adaptive traits in threespine stickleback are produced “on the fly” by changes to the “instruction code” as hypothesized in the computer program model of DNA.

Nematodes

If adaptive traits are produced by a biological function, then inputting multiple new variables to the function would enable a significant divergence of traits in a single generation. A 2016 paper documents a particularly striking example of precisely this kind of divergence in a species of nematode (roundworm) that colonizes figs.⁷ When they arrive at a fig after hitching a ride on pollinating wasps, all of the nematodes are small and have a simple tube-like mouth for feeding on microbes.

However, the offspring of colonizing nematodes develop into four distinct types with “strikingly disparate” shape and size of mouth parts. Three of these forms undergo radical dietary changes and feed on other nematodes. The researchers demonstrated that the colonizing form and distinct offspring “morphotypes” are genetically identical. The “extreme disparity” in the traits of offspring results from their responses to the different conditions encountered during development.⁷ Further, the researchers identified three species that each have the ability to generate five distinct morphotypes. We can expect this if adaptive traits are generated by a biological process similar to the one described above.

Hammerhead Sharks

Other examples illustrate how adaptive traits may be constrained in a mathematically predictable manner. Researchers studying hammerhead sharks discovered an inverse relationship between the surface areas of the hammer (cephalofoil) and pectoral fins such that the combined surface area of both is a constant.⁸ This relationship holds despite significant variation in the width of cephalofoils,

from the winghead shark with a cephalofoil half its body length to the bonnethead shark with small knobs. This relationship indicates developmental constraints from a predetermined algorithm or function.

Songbirds

An even more impressive study searched for a mathematical description of beak shape diversity in songbirds.⁹ The researchers discovered that the diverse beak shapes of all songbirds are constrained to mathematically precise conic sections that are somehow linked to the modulation of genes that govern beak morphology during development. This is exactly what we would expect if the development of adaptive diversity in beak shape is controlled by a constrained function.

Conclusion

The hypothesis that organisms generate adaptive traits using a biological function in a blockchain-like process opens lines of inquiry that previously haven't been considered—with profound implications. First, it implies that the primary purpose of adaptation is not survival but optimization. Second, it implies that many genetic changes associated with the development of adaptive traits are deliberately engineered by the organism itself. These implications logically follow from the observation that organisms appear to be using a mathematically precise problem-solving process analogous to a human-engineered computer program in order to arrive at targeted solutions to environmental problems.

Far from being the result of random external pressures, the remarkable diversity and adaptive abilities of Earth's creatures can only be the result of the brilliant engineering and master design of their Creator, Jesus Christ. ✎

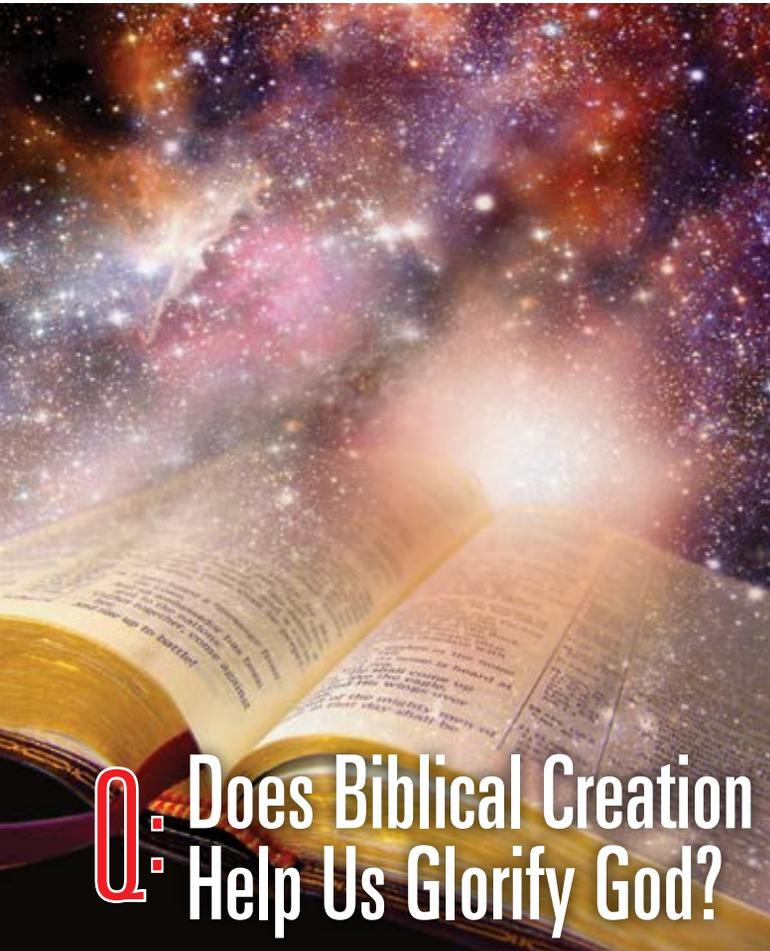
References

1. Gaskill, P. B. and R. J. Guliuzza. 2019. Engineered Adaptability: New Distributed Problem-Solving Model for Population Adaptation. *Acts & Facts*. 48 (4):17-19.
2. Soltys, M. 2011. Toward an Accurate Model of Variation in DNA. *Answers Research Journal*. 4: 11-23.
3. Guliuzza, R. J. 2018. Engineered Adaptability: Fast Adaptation Confirms Design-Based Model. *Acts & Facts*. 47 (9):18-20.
4. D'Aliessi, M. How Does the Blockchain Work? Blockchain technology explained in simple words. Medium. Posted on medium.com June 1, 2016, accessed March 10, 2019.
5. Guliuzza, R. J. 2018. Engineered Adaptability: Creatures' Adaptability Begins with Their Sensors. *Acts & Facts*. 47 (3): 17-19.
6. Jones, F. C. et al. 2012. The genomic basis of adaptive evolution in threespine sticklebacks. *Nature*. 484: 55-61.
7. Susoy, V. et al. 2016. Large-scale diversification without genetic isolation in nematode symbionts of figs. *Science Advances*. 2 (1): e1501031.
8. Thomas, B. Shark Study Hammers More Nails in Evolution's Coffin. *Creation Science Update*. Posted on ICR.org June 5, 2010, accessed March 4, 2019.
9. Fritz, J. A. et al. 2014. Shared developmental programme strongly constrains beak shape diversity in songbirds. *Nature Communications*. 5: 3700.

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article highlights

- God deserves all the glory for being our Creator.
- He's the Bible's Author and His every Word is true.
- According to the Bible, He created everything in six days only thousands of years ago.
- We glorify God as an accurate Author and powerful Miracle Worker when we take Him at His Word.

And good science backs that belief. For example, we calculate the mutation rate over many generations⁴ or find fast-decaying proteins still present in fossils.⁵

Biblical creation takes God at His Word, with the benefit of solid scientific support. It's the perfect position for those ready to glorify God as the all-knowing Author. The psalmist did this when he wrote, "The entirety of Your word is truth."⁶ Accepting creation according to Genesis clears the path for believers to celebrate how God's truthful essence inspired His accuracy as an Author.

Recent creation also glorifies God by more fully recognizing His miraculous creative power. Part of what makes creation known as a miracle is that it happened so fast. How did the wedding guests at Cana recognize Jesus' miracle of creating wine? They saw it happen instantly, at his command.⁷ Similarly, Jesus did not rise from the dead after months of doctor care. He just got up. The speed with which many miracles occur helps authenticate the fact that someone from outside this world reached down to cause these instant events.

If belief in billions of years isn't scientific, what could motivate the promotion of this idea? The father of modern uniformitarian geology, Charles Lyell, wrote in a letter dated June 14, 1830, of his desire to "free the science from Moses."⁸ Charles Darwin expressed a similar desire to remove God from the picture, as do many scientists today. That's not science. Rather, "although they knew God, they did not glorify Him as God, nor were thankful, but became futile in their thoughts."⁹ Biblical creation helps glorify God by admitting that He performed the true miracle of creation in six days only thousands of years ago.

Do you seek to glorify God by honoring Him as a truth-teller? As an accurate Author? A bona fide miracle maker? If you answered yes, then biblical creation is for you. ✎

References

1. Acts 12:21-23.
2. Exodus 20:11.
3. When did He create? "In the beginning" (Genesis 1:1; John 1:1). How did He create? "He spoke, and it was done" (Psalm 33:9).
4. Jeanson, N. 2014. New Genetic-Clock Research Challenges Millions of Years. *Acts & Facts*. 43 (4): 5-8; Tomkins, J. P. 2015. Genetic Clocks Verify Recent Creation. *Acts & Facts*. 44 (12): 9-11.
5. Thomas, B. 2014. Original-Tissue Fossils: Creation's Silent Advocates. *Acts & Facts*. 43 (8): 5-9.
6. Psalm 119:160.
7. John 2:11.
8. Bailey, E. 1962. *Charles Lyell*. London: Thomas Nelson and Sons Ltd., 77.
9. Romans 1:21.

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Q: Does Biblical Creation Help Us Glorify God?

A ■ How well do you glorify God? Robbing God of glory is serious, as illustrated in this brief account in the book of Acts: "So, on a set day Herod, arrayed in royal apparel, sat on his throne and gave an oration to them. And the people kept shouting, 'The voice of a god and not of a man!' Then immediately an angel of the Lord struck him, because he did not give glory to God."¹ Beliefs impact our capacity to give God the glory He deserves. A belief in the Bible's clear narrative of a recent creation helps Christians better glorify God in at least two ways.

Recent creation glorifies God because it acknowledges His accuracy as a divine Author. By accuracy I mean telling it like it is. What kind of God would inspire His prophet Moses to record "For in six days the LORD made the heavens and the earth, the sea, and all that is in them, and rested the seventh day"² if in fact nature made the heavens and the earth over billions of years? And if God failed to fact-check Genesis and Exodus, then what other mistakes might He have made elsewhere in His Word?

Most churchgoers believe that science demands billions of years. But many scientists, including those at ICR, find circular reasoning and cherry-picking—not science—behind the billions-of-years position. We side with biblical creation, which holds that God created all things exactly when and how He said He did in the Bible.³

The Circle of the Earth

article highlights

- Some Christians try to use Isaiah 40:22 as a proof text of Earth's sphericity, but they haven't carefully examined the actual Hebrew vocabulary involved.
- The "circle of the earth" in this verse refers to Earth's perfect orbital movements rather than its ball-like shape.
- Earth, the sun, the planets and moons of our solar system, and the stars beyond move in a perfect "dance" that was choreographically designed by God.

It is He who sits above the circle of the earth, and its inhabitants are like grasshoppers, who stretches out the heavens like a curtain, and spreads them out like a tent to dwell in. (Isaiah 40:22)

Some creation scientists suggest that "circle" in Isaiah 40:22 refers to Earth's spherical shape.¹ However, just because Earth is round like a ball, is that what the phrase "circle of the earth" means in this verse? Actually, no. This illustrates a larger problem within creation apologetics—namely, proof texts misused in an attempt to match Bible verses to scientific facts. We don't need to do this, since there are plenty of texts that do match science.

In short, our understanding of the Bible, as well as of scientific matters, does not benefit from superficial yet flawed use of proof texts. Rather, careful analysis of biblical text details will provide, in the long run, more thorough and reliable understandings of *both* Scripture and relevant creation-related topics.

Let's see how this applies to Isaiah 40. Biblical scholars generally use the noun "ball" to translate the Hebrew noun *dûr* in Isaiah 22:18: "He will...toss you like a ball." If God had wanted Isaiah to describe Earth as a globe (i.e., a ball) in 40:22, why not have him again use *dûr*?² This vocabulary difference was noticed by the English Bible translators in 1611, as a comparison of Isaiah 22:18 ("ball") and Isaiah 40:22 ("circle") in the King James Version shows.³

Even more importantly, to understand this word in Isaiah 40:22, the key issue is what the Hebrew noun *chûg* ("circle") means. To find this out, we should compare Scripture with Scripture. In other words, we review how Scripture itself uses that and other Hebrew words sharing the same root.^{1,2} The Hebrew noun *chûg* is used only two other times in the Old Testament.

"Thick clouds cover Him, so that He cannot see, and He walks above the circle [*chûg*] of heaven." (Job 22:14)

"When He prepared the heavens, I was there, when He drew a circle [*chûg*] on the face of the deep." (Proverbs 8:27)

Are these circles spherical balls, or is Scripture referring to heavenly circuit-like motions?^{2,3} A related Hebrew verb appears in Job



Traditional Norwegian folk dance

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26:10 describing Earth's water cycle dynamics. The idea is circuitous movement, not sphericity.

Other Hebrew words use the same verb stem, such as the verb *châgag* and nouns derived from that verb. Examples include Leviticus 23:34, "feast"; Leviticus 23:39, "celebrate," "feast"; Leviticus 23:41, "celebrate," "feast," "celebrate"; and 1 Samuel 30:16, "dancing."^{1,2}

Dancing? Do the concepts of celebratory feasts—or dancing—fit the idea of Earth's roundness? Or do dancing and cyclical celebrations better compare with Earth's artistically maneuvered orbital motions while circling the sun within our solar system, which itself orbits within the Milky Way galaxy?^{1,2,4}

The popular assumption that Isaiah 40:22 refers to Earth's round shape clashes with how God chose to use the noun *chûg* and related Hebrew words within Old Testament passages. Therefore, the best English word to portray what God was describing about planet Earth in Isaiah 40:22 is *choreography*—an amazingly well-ordered, orchestrated, festive, happy, and harmonious dance.

Like King David dancing before the Lord (2 Samuel 6:14), even the heavenly bodies "dance" unto God's glory!^{1,2,4} ✨

References

1. Hebert, J., and J. J. S. Johnson. 2018. Do Isaiah 40:22 and Psalm 29:10 Speak to Cosmological Realities? Considering the "Waters Above" and Earth's Cosmic Choreography. *Creation Research Society Quarterly*: 55 (1): 44-48. The caveat for creation apologetics is that interpreting Scripture needs to be, above all, true to the text (2 Timothy 2:15).
2. The Hebrew noun *chûg* ("circle" in Isaiah 40:22) is related to the verb *châgag*, which is translated "celebrate" in Leviticus 23:39 and 41. The Hebrew noun *chûg* shares the same root verb as *chag*, a Hebrew noun translated as "feast" (referring to the Feast of Tabernacles) in Leviticus 23:34, 39, and 41. The concept of celebratory dancing is illustrated in 1 Samuel 30:16, where the Hebrew verb *châgag* (in participle form) is translated "dancing."
3. Hebert and Johnson (reference 1) observe: "It is worth noticing that Johannes Kepler published his Copernican heliocentrism defense, *Mysterium Cosmographicum*, in 1596, and later his *Astronomia Nova* in 1609, both before the King James Version was published. Thus, Kepler's defense of Copernican heliocentrism could have been known to someone on the King James Version translation team, since the English term 'circle' roughly matches that of an elliptical orbit (befitting Kepler's first law of planetary motion). Interestingly, Earth's elliptical orbit is very close to that of a circle, with an eccentricity of 0.0167 (a circle would have an eccentricity of zero)."
4. Compare 2 Samuel 6:14 and Psalm 149:3 to Job 22:14, Psalm 19:6, and Ecclesiastes 1:6. Notice that the festively cosmic choreography of Isaiah 40:22 is like the harmonious movements of a perfectly performed Norwegian Leikarringen folk dance.

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God first expressed His great love toward mankind in the first chapter of the first book of the Bible. “Then God blessed them, and God said to them, ‘Be fruitful and multiply; fill the earth and subdue it; have dominion over the fish of the sea, over the birds of the air, and over every living thing that moves on the earth’” (Genesis 1:28). Note that the command was preceded by the Creator’s direct blessing, establishing a pattern we see throughout Scripture. Even when God says, “You shall not,” He does so to protect and guide those He loves.

This first command—the dominion mandate—was given both as a blessing and a responsibility. Adam and Eve soon discovered God’s instructions encompassed far more than they could have imagined. Not only were they expected to populate Earth, they were also to manage the resources God placed around them. In this way, God would receive glory from His new creation while providing people the privilege of sharing in its magnificent bounty.

This mandate has never been revoked, and was renewed and expanded through Noah after the great Flood (Genesis 9:1-7). God will eventually destroy this world and create “new heavens and a new earth” (2 Peter 3:10-13) when His plan of redemption and judgment is complete. But until that time, humans are expected to fulfill God’s command to care for and rule over this world.

The terminology to “subdue” and “have dominion” shouldn’t be misunderstood as God’s permission to abuse and destroy. Rather, God clarifies His intention as one of stewardship: “Then the LORD God took the man and put him in the garden of Eden to tend and



Stewardship, Science, and Sharing Evidence

article highlights

- In Genesis 1, God commanded humans to have dominion over Earth. We have the responsibility to be caretakers of creation.
- Science helps us understand creation, and the Institute for Creation Research has uncovered abundant evidence for biblical creation that needs to be shared with believers and skeptics alike.
- Help ICR complete its Discovery Center so we can showcase this powerful scientific evidence and educate people for decades to come.

keep it” (Genesis 2:15). Humans were given the responsibility to manage and cultivate creation, indicating a special care for Earth’s resources. But proper “tending” and “keeping” cannot occur without a thorough understanding of creation’s underlying processes. We know this today as science, and in the biblical sense God expected people to undertake scientific study to accomplish this very first commission.

Science lies at the heart of ICR’s work. Apart from God’s Word, our scientific research is the catalyst that sparks our entire ministry. For nearly five decades, ICR has championed innovative research that demonstrates evidence for biblical creation. And thanks to our supporters, ICR scientists have uncovered a wealth of evidence that confirms the accuracy of the Genesis narrative.

But the world is largely ignorant of the evidence, and so are many Christians. The sad result is the wholesale acceptance of evolutionary explanations that conflict with the truth. We’re building the ICR Discovery Center for Science and Earth History to showcase this evidence in exciting and engaging ways.

Prayerfully consider partnering with us to bring this about. Your tax-deductible gifts will make a bigger

difference than you may imagine and will be put to good use to communicate the truth of our Creator, the Lord Jesus Christ. Please visit ICR.org/DiscoveryCenter for more information on how you can be a part of reaching the next generation with God’s creation truth. ✎

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



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My wife and I continue to support and promote ICR and its wonderful work. I am grateful that back in 1999 Frank Sherwin visited Mountain View Baptist Church in Lake Isabella, California, and spoke about ICR and its work and ministry. **Because of his effective presentation, I was able, with the help of others, to get *Science, Scripture, & Salvation* [ICR radio programs] broadcast on our local AM station KVLI.** To my knowledge, it's still being broadcast there on a regular basis. Please give Frank my best regards. He has been a blessing to me, and it thrills me to see his articles in *Acts & Facts*.

— C. P. N.



I am new on the “senior adult minister” scene and want to give our seniors the most spiritually stimulating and captivating opportunities available. **I didn't realize just how incredible our visit to ICR would be. It truly surpassed any expectation.** Our church had practically zero exposure to ICR, but that's now changed. Most of the people I have spoken with cannot believe that they didn't know about your ministry.

I have received countless comments of commendation on “such a great trip!” I have even been asked if “that Frank Sherwin has always been so much fun” even back to when you taught me in college. They loved the humor! Both your

tour and the talk with Brian Thomas were grand slams! You all are doing eternal and influential work. Joel [Kautt] was fantastic and more than accommodating as well.

I have been asked countless times this week “when are we going back?” To sum it up, you all have renewed the interest of all who attended regarding the Flood, creation, young earth, and the God of creation.

— G. H.



As I read the articles in *Acts & Facts*, I realize that evolution has fallen over the cliff of credibility and is desperately clinging to the weak, decaying root of Darwinism. As another clump of dirt falls from around the root, they grasp at any blade of grass or hair root to maintain their influence.

— A. B.



I'm just writing to thank your organization and all the souls that work for it for everything you do. I'm sure you guys get lots of criticism, so I'd like to give you some praise instead. I have read overzealous Christians who have not checked their facts and have caused many to repeat those false facts and make Christians as a whole look foolish. I have never found that on your site. I have also read from the overzealous anti-Christians—hatred oozes from their writings and turns me off to everything they have to say. **I can come to your site, be challenged by**

what I read, and enjoy the biblical perspective while also being able to check the facts thanks to all the references in each article. Keep it up!

— G. S.



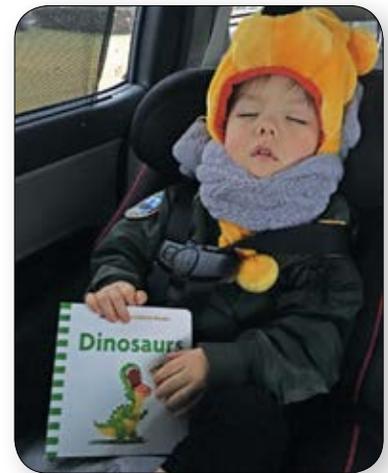
I've received your articles since the late '70s and have seen your work of faith. Working out our faith is not easy. The way is narrow. Few find it. By this I mean being led of the Holy Spirit, our part in yielding, by trust (faith), in focus of what Jesus said the real work of God was (John 6:29, 30). I love ICR, and we pray for and support you.

— J. V.



When I became a Christian late in life, one of the first things I wondered about was how to square God's Word with the evolution I'd been taught. Then I found ICR and heard the other side of the question. Ph.D. scientists who believe in God's creation and had facts to back up their belief. ICR is a blessing.

— M. O.



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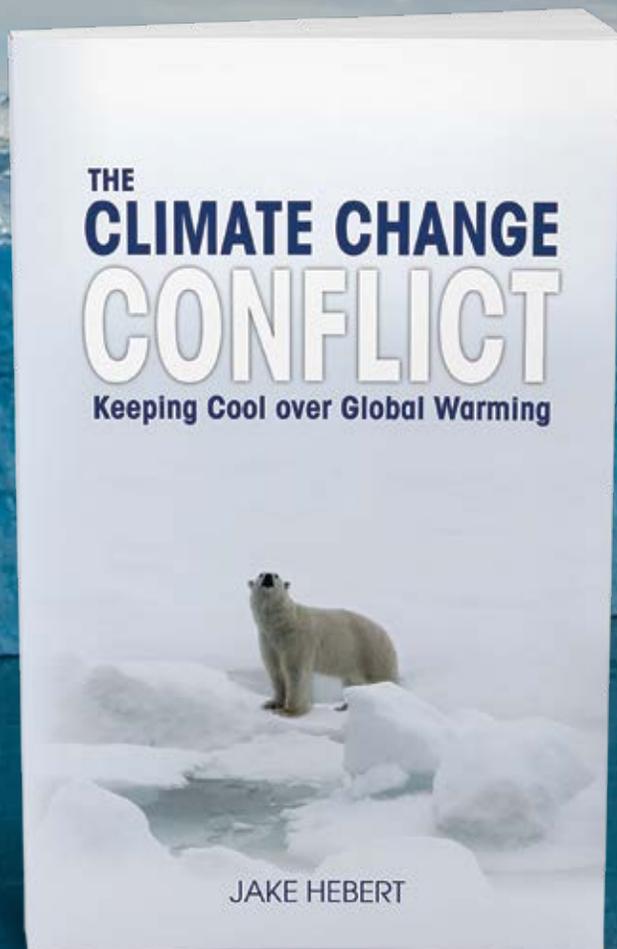


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