

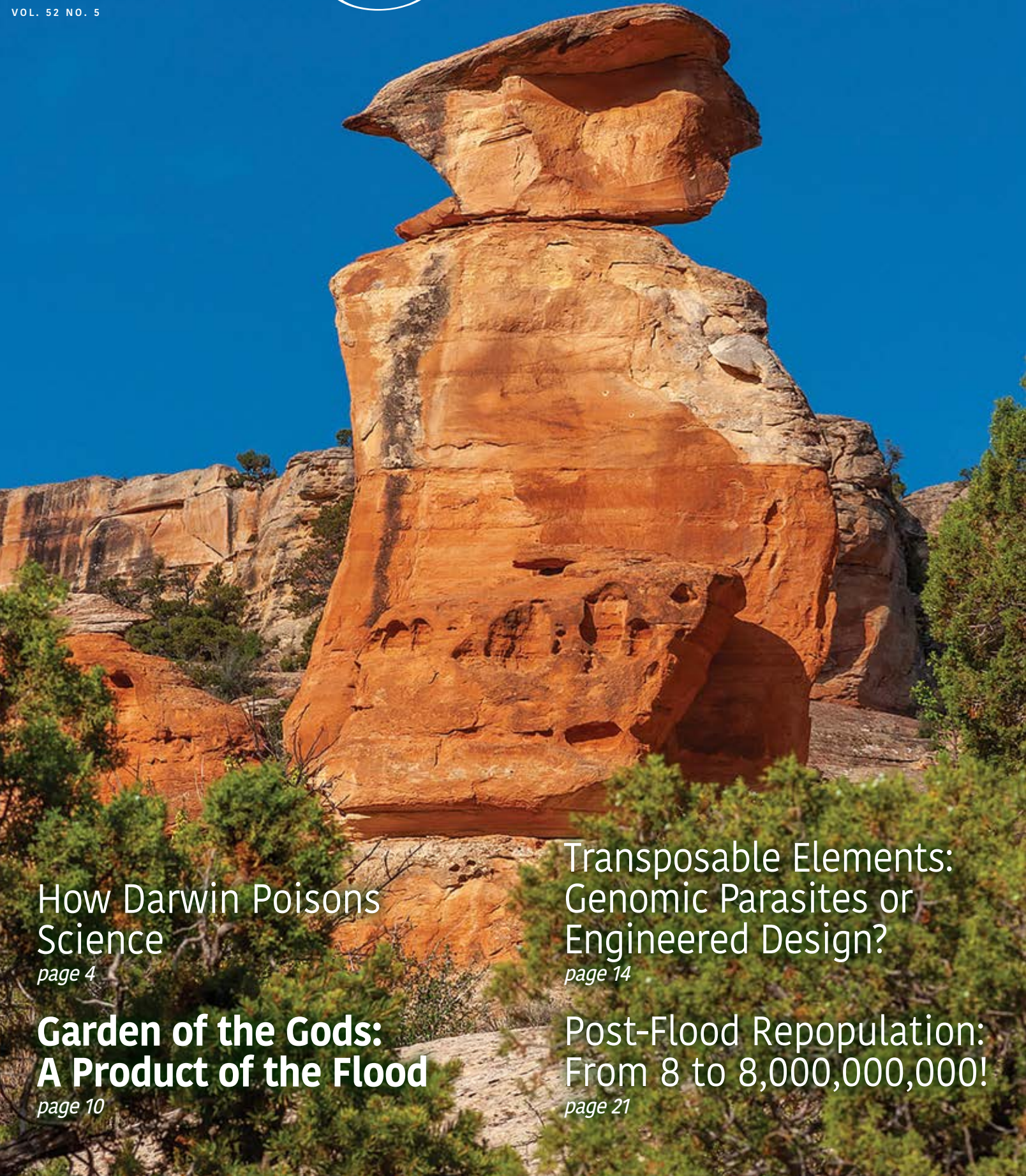
ACTS & FACTS

INSTITUTE FOR
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How Darwin Poisons
Science

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Genesis says God created land animals on Day 6 of creation, including one of our furriest friends.

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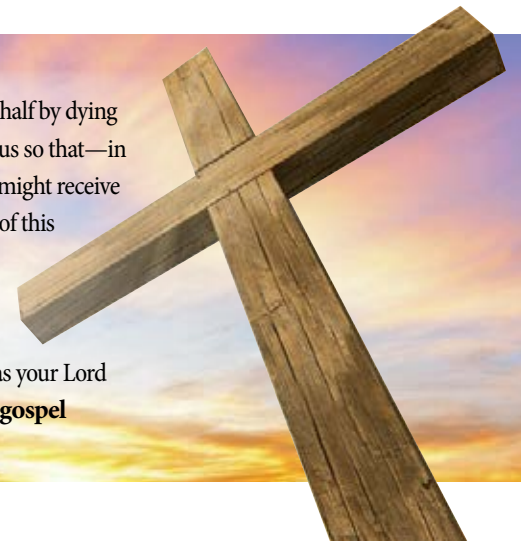
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You are deeply loved by God! This certain truth is expressed in a Scripture that sums up the gospel of Jesus Christ: "For God so loved the world that He gave His only begotten Son, that whoever believes in Him should not perish but have everlasting life" (John 3:16). We all need Jesus as our Savior because we are all sinners and can't by our own efforts fulfill the requirements of God's justice. But Jesus Christ, our Creator, could satisfy the Father's holiness, so He

suffered the punishment for sin on our behalf by dying on the cross. Jesus was made to be sin for us so that—in the most remarkable exchange ever—we might receive the righteousness of God. We can be sure of this because Jesus rose again from the dead. What a gift of love! You can have the promise of everlasting life when you turn from your sin and believe in Jesus Christ as your Lord and Savior. To learn more, visit ICR.org/gospel



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DESIGNER
Dennis Davidson

[Jesus Christ] is the image of the invisible God, the firstborn over all creation. For by Him all things were created that are in heaven and that are on earth, visible and invisible, whether thrones or dominions or principalities or powers. All things were created through Him and for Him. And He is before all things, and in Him all things consist. And He is the head of the body, the church, who is the beginning, the firstborn from the dead, that in all things He may have the preeminence. For it pleased the Father that in Him all the fullness should dwell, and by Him to reconcile all things to Himself, by Him, whether things on earth or things in heaven, having made peace through the blood of His cross.

(Colossians 1:15-20)

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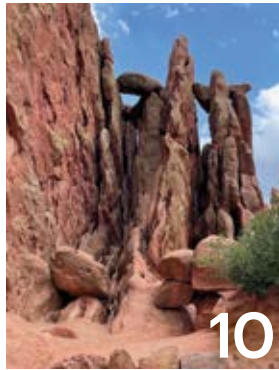
All Scripture quotations are from the New King James Version unless otherwise indicated.



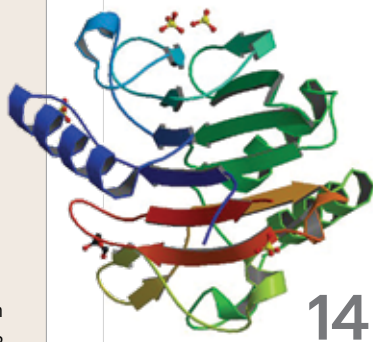
Front cover: Red rock formation at the Garden of the Gods in Colorado Springs, Colorado
Image credit: BigStock | JerryD



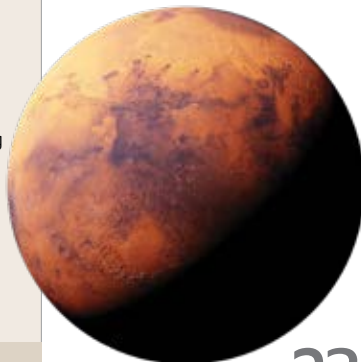
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How Darwin Poisons Science

A cinnamon hummingbird feeds from a flower. The bird's relationship with the flower is clearly symbiotic, not some imaginary fight for survival.

Image credit: Charles J. Sharp CC BY-SA 4.0

There's no denying that most people believe evolution is science but creation science and Intelligent Design (ID) are religion. Education, entertainment, news media, and even our government promote the persuasive claim that belief in evolution is objective, rational behavior in contrast to highly subjective, if not irrational, religious thinking. The former is connected to being smart and the latter to lacking intelligence. I suspect that beginning in childhood, one of the biggest fears humans develop is that others will think of them as dumb. As a tool of ridicule, it can enforce widespread social conformity. What a hurdle to overcome. We need to acknowledge its use and respond wisely.

Skeptics have long recognized the power of characterizing Christians as dumb. To make that point, their literature uses quotes such as Mark Twain's ridicule of Bible believers:

You believe in a book that has talking animals, wizards, witches, demons, sticks turning into snakes, burning bushes, food falling from the sky, people walking on water, and all sorts of magical, absurd and primitive stories, and you say that we are the ones that need help?¹

Even some Christians blush over the same biblical accounts

article highlights

- Most people think evolution is scientific fact and creationism is religious belief.
- Some Christians try to weave evolution into Genesis history but don't realize that evolutionary claims are actually scientifically untenable.
- Darwin infused three antiscientific practices into biology: circular thinking, imagination, and the personification of nature.
- In contrast to evolution's mystical natural selection stories, ICR's continuous environmental tracking (CET) model of adaptation uses engineering principles to understand biological features.
- Christians don't need to trade biblical history for evolutionary fabrications.

Twain scoffed at. One predictable response has been to explain these events away via rhetorical devices. Recently, the noted Christian apologist William Lane Craig, who believes that evolution was God's way to fashion creatures, tried in his book *In Quest of the Historical Adam: A Biblical and Scientific Exploration* "to understand the [biblical] text as the original author and his audience would have understood it."² Why can't Craig just interpret Genesis normally? Well, he acknowledged the obvious discrepancies and that something must give—either evolution or parts of the Bible.

For Craig, it's the Bible. He teaches that Genesis 1–11 is best described as "mytho-history" and not as real historical narrative. He believes the Bible's opening chapters are riddled with unreal events. These are identified by their "fantastic" elements that reveal them to be mythological. Craig wouldn't deny God's miraculous interventions like Jesus' resurrection, but in his opinion, "fantastic" biblical accounts are those that "if taken literally, are so extraordinary as to be palpably false."³

Biblical accounts that he'd consider as palpably false are remarkably like Twain's choices and would include Eden's talking snake and cherubim with a sword, incredibly long life spans, a global flood, and

more.³ Rather than believing that the biblical Adam was directly created by God, Craig invests several hundred pages in trying to identify some evolutionary product as “Adam” and shoehorn it into today’s evolutionary scenario.

Perhaps there’s a better response to evolution than trying to weave it into the biblical narrative or treating it as though it’s the storehouse of rational scientific thought on origins. It’s more effective to point out that the reason why evolutionists pound their pulpits so loudly and fanatically to shut down dissenting views in classrooms is to keep up the smokescreen hiding how scientifically untenable their claims have always been.

Those claims started with Charles Darwin, who infused into biology three antiscientific practices—circular thinking, imagination, and personifications of nature (wholesale magical explanations). These interpretive practices are standard fare in the most elite evolutionary literature, but they actively hinder biological research. It’s time to challenge Darwin’s irrational approach to interpreting biological phenomena.

Circular Thinking Pervades Evolutionary Explanations

Darwin’s circular thinking begins right in the title of his seminal work, *On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life*. Darwin’s subtitle is a remarkably succinct key to his theory and everything he was promoting. We’ll consider how it identifies all three of Darwin’s nonscientific insertions into biology. Darwin’s unscientific approach was severely criticized by leading scientists soon after the publication of *Origin* but has since gone largely unchallenged.⁴

Circular thinking/reasoning is a logical mistake people make when they assume that what they want to prove is already true. Their argument begins with what it’s trying to end with, hence the name circular. Circular thinking is the easiest of the three antiscientific practices to spot in Darwin’s subtitle *the Preservation of Favoured Races in the Struggle for Life*. If one were to ask how we know that certain races were favored, the answer is because they were preserved. And if we ask why they were preserved, it’s because they were favored. Thus, Darwin’s subtitle is really saying *the Preservation of Preserved Races in the Struggle for Life*.

A classic example of evolutionary circular thinking is the study of similar traits between creatures, called homology. For instance, one explanation for the similar bones in the legs of a human and a dog is that they utilize a common design. The evolutionary explanation is that they both were inherited from a common evolutionary ancestor. The shared features (in this case, the similar bones) are called

homologs. Yet, in circular fashion, the definition evolutionists use for a homolog is a shared feature derived from common ancestry. One evolutionist who observed that circular thinking had even advanced to the point of definition said, “Although ancestry was at first viewed only as an explanation for homology, it soon was incorporated into the definition.”⁵

ICR paleobiochemist Dr. Brian Thomas researches un-fossilized biological tissues found in dinosaur bones that are claimed to be at least 65 million years old. Though no one has a viable mechanism known to preserve biomolecules for vast ages, evolutionists are convinced long-term preservation *did* happen. Why? Because they know that dinosaurs died out 65 million years ago. Thomas said:

As a result, the only way to conclude that [an evolutionary] model explains protein persistence for millions of years is to first assume that fossils with proteins still in them have been sitting in the ground for millions of years, thus begging the question.⁶

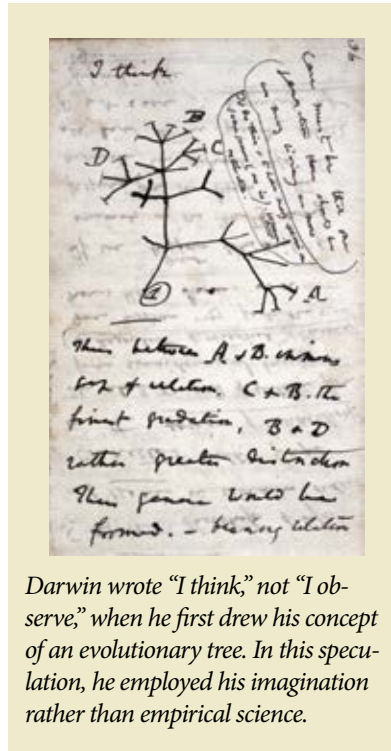
Over 30 years ago, one evolutionist pointed out how Darwinian-style circular thinking is antiscientific. He criticized that it is “completely misleading to include” the criteria of common ancestry into the definition of homologous and cautioned:

It becomes obvious that the strategy by which we replace a description of an empirical condition with its explanatory hypothesis is self-defeating...By making our explanation into the definition of the condition to be explained [e.g., similar features], we express not scientific hypothesis but belief. We are so convinced that our explanation is true that we no longer see any need to distinguish it from the situation we were trying to explain. Dogmatic endeavors of this kind must eventually leave the realm of science.⁷

Imagination: Darwin’s Dream of a “War of Nature”

Again turning to the subtitle of *Origin*, we see Darwin imagining a terrible “struggle for life.” He closes *Origin* by saying, “Thus, from the war of nature, from famine and death, the most exalted object which we are capable of conceiving, namely, the production of the higher animals, directly follows. There is grandeur in this view of life.”⁸

We certainly see predation in the world. But look around—where is the war of nature? Headlines of today’s research read like this: “New Interpretation of Darwin’s Theory: Friendliness and Cooperation Is the Most Successful Strategy in Survival,” “Survival of the Fittest Has Evolved: Try Survival of the Kindest,” “Forget cut-throat competition: to survive, try a little selflessness,” “Survival Of The Nicest? A Theory Of Our Origins Says Cooperation–Not Competition–



Darwin wrote “I think,” not “I observe,” when he first drew his concept of an evolutionary tree. In this speculation, he employed his imagination rather than empirical science.

Is Instinctive,” “What if Competition Isn’t As ‘Natural’ As We Think?””

The “war of nature” passed on to all of us in our education was just Darwin’s imagination run wild. For years I abandoned my own obligation to make thoughtful observations and passively accepted scientific pronouncements like the war of nature. The fact is that there never has been a war of nature. The ubiquitous and constant cooperative, communal, and symbiotic relationships greatly overwhelm the numbers of fully parasitic and even widespread predator-prey events. Science writer David Coppedge reported on research that found:

The principle of competitive exclusion is not found in “real nature”. The reason probably lies in the fact that ecologists have not questioned some of the principles of evolution. In fact, most ecological models are too simplistic and are often considered outdated.¹⁰

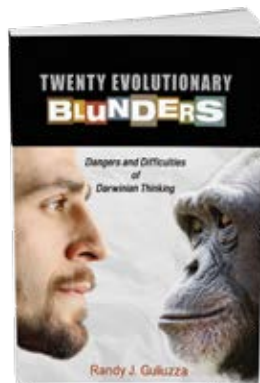
Darwin’s theory needed some type of deadly one-upmanship competition to impart a progressively *improving* trajectory to evolutionary change. He never had reservations about using imagination to fill in the struggle to survive. Likewise, evolutionist Stephen Jay Gould described why a basic element of evolutionary theory *must* appeal to our imaginative ability to “see” unseen things from the past. He describes the element as extrapolationism, in which researchers use “history from data of an imperfect record that cannot, in any case, ‘see’ past causes directly, but can only draw conclusions from preserved results of these causes.”¹¹ Extrapolation isn’t an inferential conclusion. Rather, it’s a speculative, imagination-based exercise to fill in knowledge gaps. Intervening time or distance is proportional to how much conjecture is summoned; the larger the gap, the more imagination is needed.

ICR’s book *Twenty Evolutionary Blunders* documents mistaken evolutionary claims that were the result of overactive imaginations.¹² Darwin imagined that whales evolved from a bear-like animal, saying:

I can see no difficulty in a race of bears being rendered, by natural selection, more and more aquatic in their structure and habits, with larger and larger mouths, till a creature was produced as monstrous as a whale.⁸

Then evolutionists envisioned that whales evolved from a mammal group called mesonychids. But now they imagine that whales evolved from something related to giraffes and camels—despite substantial discrepancies between fossil data and DNA studies.

The Piltdown hoax embarrassed the world’s leading evolutionists, who “discerned” ape features in a human brain case and human features in an ape jaw. Their imagination also snookered them into seeing the perfect transition between dinosaurs to birds in the *Archaeopteryx* hoax. They fancied some DNA as “junk” evo-



Humpback mother and calf

Image credit: Imagine Earth Photography/Shutterstock.com

lutionary leftovers that later turned out to be vital to cell function. The list goes on.

Mystical Thinking

The most egregious of Darwin’s practices was introducing magical explanations in lieu of objective causes. His subtitle speaks of *the Preservation of Favoured Races in the Struggle for Life*. Personifications are now so commonplace in selectionist writing that most evolutionists fail to question how there can be “favored races.” Favored by what? Living things with volition and will can favor. But what in unconscious nature is equivalent to a volition that would enable it to exercise favor? This problem isn’t just the figures of speech Darwinists use to attribute agency to nature—it’s their inclusion of nature exercising agency in their *causal* explanations.

Darwinian selectionists envision a substitute volitional agent selecting for the “fittest” characteristics over time. Thus, to us certain biological features look to be the purposeful effects of an intelligent, volitional agent while to selectionists they’re only the unforeseen outcome of nature “selecting for/against” or “acting on” random mutations. Nature itself is visualized as the volitional, creative agent that replaces God.

Selectionism succumbs to slipping an alternative pseudo-agency into the operation of nature. Darwin cleverly cloaked the pseudo-agency within an analogy that few people spot as illegitimate. However, two prominent atheists, bothered by Darwin’s duplicity, lift the veil:

Familiar claims to the contrary notwithstanding, Darwin didn’t manage to get mental causes out of his account of how evolution works. He just hid them in the unexamined analogy between selection by breeding and natural selection.¹³

Simply put, breeders have a brain that can make real selections, and nature doesn’t, though Darwinists’ *scientific* explanations treat nature like it can think.



Some astute evolutionists spot the mystical thinking of selectionism. One evolutionary historian of science concluded that the Darwinian usage of selection “appeared to reify, even to deify, natural selection as an agent.”¹⁴ Another evolutionist who recoils from the personification of nature complained that natural selection was always doing something, and thus, “natural selection becomes rather like an occult Power of the pre-scientific age.”¹⁵ Intelligent Design advocate William Dembski called Darwin’s projection of selective ability onto nature “the greatest intellectual swindle in the history of ideas.”¹⁶

Mystical thinking continues unabated as the core of evolutionary causality. For instance, in the 1970s many researchers began to interpret evolutionary progression as the outworking of “selfish genes.” Why? Like Darwin, Richard Dawkins, another influential evolutionist, projected agency onto genes themselves, saying that organisms’ bodies are merely “robot vehicles blindly programmed to preserve the selfish molecules known as genes.”¹⁷

Clearly though, this prominent selectionist model chokes out real science by appealing to genes exercising numerous agent-like activities (e.g., competition) as an expression of their “selfishness.” A critic of Dawkins’ personification of selfish genes reveals, “The trouble with metaphors is that they don’t just mirror scientific beliefs, they also shape them. Our imagery is never just surface paint, it expresses, advertises and strengthens our preferred interpretations.”¹⁸

The eminent evolutionist Ernst Mayr showed how Darwin, Dawkins, and others easily get away with mystical models. Mayr explained that “evolutionary biology, in contrast with physics and chemistry, is a historical science. ...Laws and experiments are inappropriate techniques” for explaining the past, but “instead one constructs a historical narrative.”¹⁹ This subjectivity coupled to unfettered imagination are reasons why the famed evolutionist Richard Lewontin once candidly described evolutionary explanations as “against common sense,” “counter-intuitive,” and “mystifying to the uninitiated.”²⁰

Dawkins portrays himself as a rational atheist standing against superstition. Evidently, all advocates for selfish genes are blind to the magic enveloping their thinking. Perhaps this explains the *Wall Street Journal* article “Look Who’s Irrational Now” that reported on a Baylor University poll that found that nonreligious skeptics and liberal Christians were far more likely to believe in “Bigfoot, UFOs, haunted houses, communicating with the dead and astrology” than conservative Christians.²¹

Conclusion

Longtime ICR supporters have expressed appreciation for our non-mystical approach to research. We seek to explain biological functions from a completely objective engineering perspective called engineered biology. Imaginary causes are essentially nonexistent in engineering literature. Our organism-focused, engineering-based

continuous environmental tracking (CET) model of adaptation is totally rational and increasingly supported by our cavefish research and even by conventional biologists. It posits that creatures innately self-adjust to changing environments through *identifiable* sensors, logic pathways, and response mechanisms—without invoking unquantifiable “selection pressures” or imaginary “selection events.”²²

Evolutionists claim that actual observations conflict with Genesis being real history. We say that it’s their interpretations of those natural phenomena that conflict with a historical Genesis, and *that’s* because their anti-engineering approach is inherently flawed. As we’ve seen, the evolutionists’ scientific literature has cornered the market on interpretations rooted in self-deluding circular fallacies, extremely fertile imaginations, and ethereal mystical thinking...all the things that they accuse Christians of adopting.

Evolutionists produce a mountain of literature, but it’s filled with imaginative stories and not evidence. Christians needn’t be overawed or intimidated. All of Genesis is real, not myth-, history, which means that we shouldn’t trade the valuable birthright of God’s historical truth for a bowl of mystical evolutionary pottage. ☸

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Dr. Guliuzza is President of the Institute for Creation Research. He earned his Doctor of Medicine from the University of Minnesota, his Master of Public Health from Harvard University, and served in the U.S. Air Force as 28th Bomb Wing Flight Surgeon and Chief of Aerospace Medicine. Dr. Guliuzza is also a registered Professional Engineer and holds a B.A. in theology from Moody Bible Institute.



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First Assembly Memphis
Creation Sunday
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OCTOBER 12-14

Phoenix, AZ
ICR Creation Mega Conference
(R. Guliuzza, T. Clarey, B. Thomas,
F. Sherwin)
ICR.org/Phoenix2023 or 214.615.8306

SEPTEMBER 9

Sioux Center, IA
Sioux Center United Reformed Church
Conference on Biblical Creation
(F. Sherwin)
ReformationGospelMinistries.org
or 712.441.5793

SEPTEMBER 20-24

Snohomish County, WA
Apologetics Forum
(F. Sherwin)
214.615.8306



SEPTEMBER 9-10

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Creation Conference**
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OCTOBER 1, 8, 15, 22, 29;
NOVEMBER 5**

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9-week series!**
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J. Tomkins, J. Hebert, D. Napier)
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Mount Airy, MD
Mount Airy Bible Church
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OCTOBER 22

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Bayside Community Church
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OCTOBER 22

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Argo Christian Fellowship
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SEPTEMBER 29-OCTOBER 1

Upland, CA
Foothill Bible Church
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OCTOBER 22-25

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Vicki Coolidge

Kids learning about their Creator at the ICR Discovery Center's Independence Day Celebration



ICR's Dr. Randy Guliuzza speaking at the foot of Mount Rushmore during the Black Hills, South Dakota, conference in June

Image credit: Emily Steele



Dr. Randy Guliuzza at Sylvan Lake in South Dakota

Image credit: Joel Kautt



ICR's Dr. Tim Clarey leading a group in the Badlands of South Dakota

Image credit: Emily Steele

GARDEN OF THE GODS

A PRODUCT OF THE FLOOD

TIM CLAREY, P.H.D.

article highlights

- The Garden of the Gods' sedimentary rock layers sit on a portion of the Great Unconformity, an almost planar boundary found at the same level on every continent.
- Conventional geologists struggle to explain this feature, but the global Flood would have stripped the continents simultaneously and then deposited new layers.
- The park's sandstone layers are part of massive blanket-like sands that the Flood laid down on several continents at the same time.
- The nearly vertical rock layers were folded when the sediment was soft and then were sculpted by receding water, another testament to the forces of the Flood.
- The stunning Garden of the Gods rock formations offer powerful evidence for the Genesis Flood.

One of the most breathtaking sites along the Colorado Front Range is located within the city limits of Colorado Springs. Here, multiple sheets of orange and white sandstones shoot right out of the ground in front of the dramatic backdrop of Pikes Peak. Known as Garden of the Gods, this park was named by two surveyors in 1859 who considered it “fit for the gods to assemble.”¹ Evidently they didn’t take into account the one true God who created everything through Jesus Christ (John 1:3).

A bill was introduced in Congress in 1886 to make Garden of the Gods, Pikes Peak, and nearby land a national park, but it didn’t pass.¹ The park

was subsequently listed as a National Natural Landmark instead. Today, the park is owned and maintained by the City of Colorado Springs. Consisting of 1,367 acres (over two square miles), the park is visited by about four million people annually, coming from every state.¹

Although no sign in the park mentions the global Flood, three observations demonstrate that Garden of the Gods was a product of it.

Great Unconformity Exposed

Just south of the park and west of the town of Manitou Springs is an exposure of

the Great Unconformity, a global erosional surface. Here we see the Flood’s lowermost sandstones resting on a nearly planar erosional surface (the unconformity). This boundary marks a major gap in the conventional geologic record between Precambrian rocks below and younger sedimentary rocks above. Below this surface is the pink Pikes Peak granite, which is possibly from the creation week.

The worldwide extent of this erosional surface baffles uniformitarian scientists. Why is this near-planar boundary found at the same level on every continent? This question remains one of the great mysteries of evolutionary geology.²

Garden of the Gods with Pikes Peak in the background

Image credit: Tim Clarey



Dr. Tim Clarey pointing to the Great Unconformity

Image credit: Joel Kautt

The worldwide Flood is the best explanation for the global nature of the Great Unconformity. To make this extensive erosional surface, a significant portion of the Precambrian surface material and some of the pre-Flood sedimentary rocks must have been stripped off a majority of the world's continents simultaneously. This was followed by the immediate deposition of the overlying sands.³ The erosion may have been caused by torrential rains that occurred in the first 40 days of the Flood and/or by the erosive action of tsunami-like waves propagating across parts of the continents.

The global Flood left its undeniable mark on all the continents. A universal erosional surface immediately covered by fossil-filled sedimentary strata adds up to strong evidence for the Flood that destroyed every land-dwelling creature except for those preserved with Noah on the Ark. This evidence is clearly visible to those who haven't closed their eyes to the truth of God's Word.

Blanket Deposits on Continental Scale

The second observation that points to the Flood is the extent of the sandstone layers found at Garden of the Gods. The

orange-colored rocks are the Permian Lyons Sandstone, a layer deposited near the onset of the Absaroka Megasequence about 40 to 50 days into the Flood.³ It runs from Colorado Springs to the Wyoming border, a distance of 150 miles.⁴

But these rocks extend even farther. Flood geologist John Whitmore found that this sandstone layer, commonly about a few hundred feet thick, extends nearly from Canada to Mexico and from the western edge of Utah to western Kansas!⁵ The Lyons Sandstone in Colorado is equivalent to the Coconino Sandstone in Grand Canyon.⁵ That means water deposited the whole sand blanket at the same time.

These same sandy layers have been correlated to other units deposited at the same position during the Flood on several other continents, including Europe and South America, as well as the Middle East.⁵ Most of these sands are composed of extremely pure quartz that contains almost no shale. Uniformitarian geologists still struggle to explain the sands' global presence and have failed to develop a satisfactory answer.⁶

The Flood offers a great explanation for these thin, uniform sandstones that were

deposited at the same time across multiple continents. Even the cross-bedded layers⁷ within these sands show a similar flow direction (southward), which supports a common origin for the entire unit.⁵ In addition, measurements of the cross-bed angles reveal about a 20° average for their dip angle (measured from the bedding surface).⁵ A significant percentage of desert dunes are always steeper than 25° whereas the vast majority of underwater sand dune cross-bed angles hover around 20°. The dunes in this massive blanket of sand show only rare cross-beds steeper than 25°, if at all.⁵

These data match water deposits and not desert sand dunes as evolutionary geologists assert. This evidence is clear. These sands were part of a massive blanket of sand rapidly deposited during the global Flood.



Detail of cross-bedded sandstone

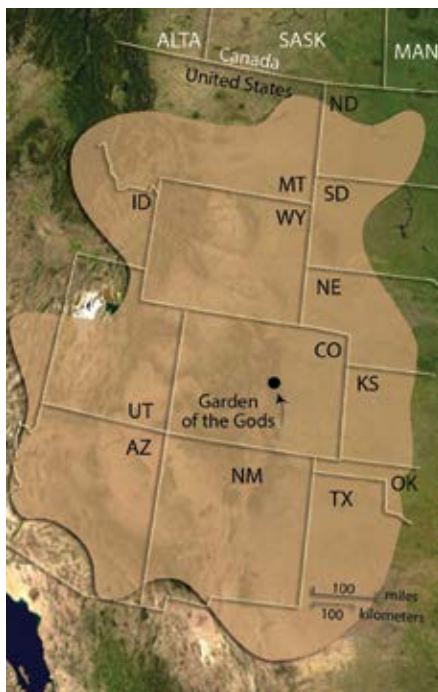
Image credit: Tim Clarey

Folded While Still Soft

The third observation that points to the Flood is that the sedimentary rocks at Garden of the Gods are nearly vertical. Undeformed sedimentary rocks are usually horizontal. It took great forces to fold these sediments 90°.

According to the evolutionary story, the rocks at Garden of the Gods were deposited and turned to stone about 300 million years ago, and their folding to near vertical supposedly took place about 50 million years ago. If this were true, the rock layers would have merely shattered and not folded at all since hardened rocks are very brittle.

Recently, studies were completed on similar folded sandstones in Grand Canyon that were also claimed to be hundreds



Coconino Sandstone and equivalent sands map, modified from Whitmore⁵

of millions of years old. These folded rocks were determined to have been still damp and soft at the time of folding.⁸ They folded like wet clay.

The best explanation for the folding of the sandstone layers at Garden of the Gods is that they were likewise still wet and soft. This means very little time had elapsed between the blanket sand's deposition and its tilting. In other words, these folds should instantly erase about 250 million years from evolutionary thinking. And the needed folding forces were supplied when thickened crust over a complex subduction zone thrust the Rocky Mountains upward near the end of the Flood.⁹

Monument to the Flood

The Flood provides the most reasonable explanation for the rocks at Garden of the Gods. Their deposition was part of the flooding of the North American continent, possibly during the first 40 to 50 days of the Flood year.³ A massive marine flow spread the sand from north to south. Then a few

months later, as the floodwaters began to recede, the uplift of the Rocky Mountains folded the still-soft wet sands to near vertical. Finally, the waning stages of the receding phase eroded away much of the sandstones, leaving dramatic sculptures.

Garden of the Gods is a reminder of the watery judgment of the earth by the one righteous God who created everything and offers us salvation through Christ. 🙏🏻

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7. Cross-beds are sedimentary structures that are inclined at an angle to the bedding planes. They represent the sand that falls down the advancing steep or leeward slope of a water



More vertical sediments

Image credit: Tim Clarey

- ripple or dune. They can be used to determine the direction of the current during deposition.
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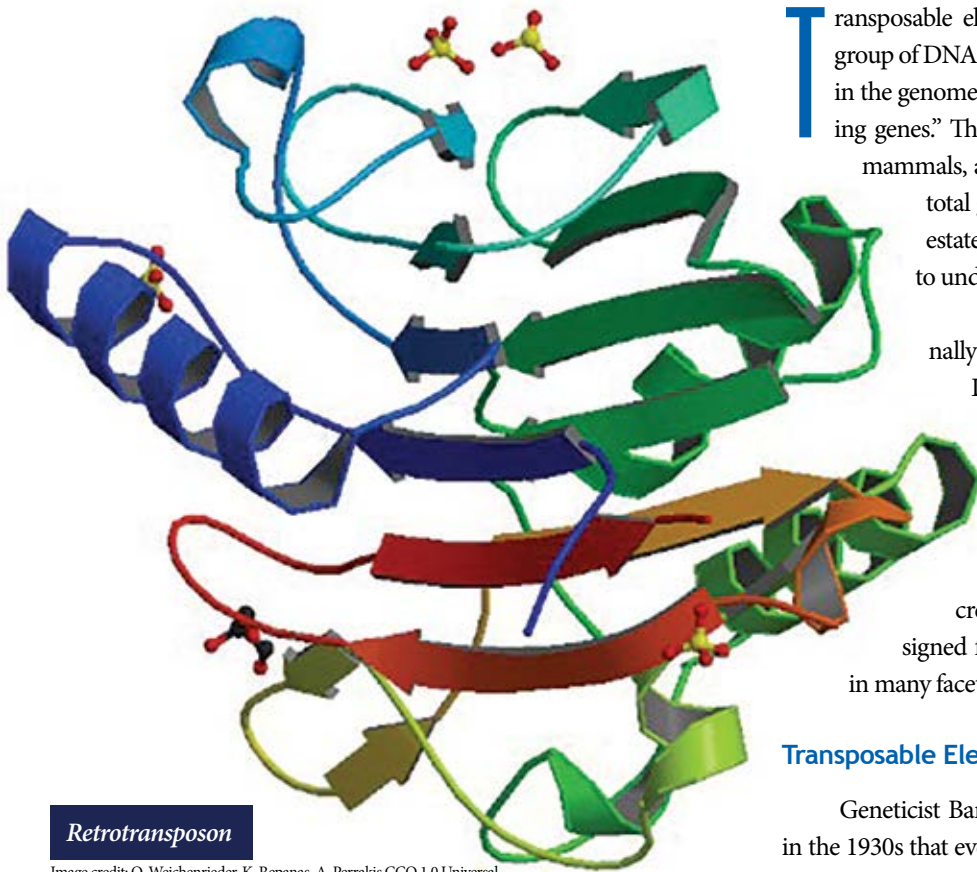
Vertical sediments

Image credit: Tim Clarey



Transposable Elements

GENOMIC PARASITES OR ENGINEERED DESIGN?



Retrotransposon

Image credit: O. Weichenrieder, K. Repanas, A. Perrakis CCO 1.0 Universal

article highlights

- Almost half the human genome is made up of transposable elements (TEs), and these “jumping genes” play important roles.
- Researchers have discovered that TEs can rewire and fine-tune the genome, “jumping” to the exact places where they’re needed.
- Evolutionists claim TEs resulted from ancient viral infections that were modified for the genome’s own purposes in a mystical process called exaptation.
- Epigenetic systems work with TEs to maintain cell homeostasis, playing a significant role in brain function during stress.
- TEs are necessary for life to exist. They’re cleverly engineered for each kind of creature by the Lord Jesus Christ.

Transposable elements (transposons or TEs) are a specialized group of DNA sequences that can transpose or change positions in the genome. Some scientists have referred to them as “jumping genes.” They make up almost 50% of the total genome in mammals, and in humans they comprise at least 46% of the total genome. Given the huge amount of genomic real estate that transposable elements occupy, it’s important to understand their role and function.

Evolutionists have claimed that TEs were originally derived from the infectious insertion of viral DNA into the genomes of creatures. They claim that these TEs then parasitically replicated themselves and are nothing more than *selfish DNA*. However, research is now showing that these features are important to both genome structure and function. From a creationist perspective, it’s clear that TEs are designed features of the genome that play important roles in many facets of cell development, growth, and adaptation.

Transposable Elements: A Brief History of Their Discovery

Geneticist Barbara McClintock made an important discovery in the 1930s that eventually led to her later work in transposable elements. She observed that mutagenic X-rays did not produce isolated random changes in the DNA of corn plants. In fact, she astutely noticed that the chromosomal response to the damaging X-rays was not random but comprised an innate surveillance and repair system with untold complexity. Thirty-five years after McClintock’s first report of transposable elements, she was awarded the Nobel Prize. Regarding this discovery, McClintock said in her 1983 Nobel Prize speech:

There must be numerous homeostatic adjustments required of cells. The sensing devices and the signals that initiate these adjustments are beyond our present ability to fathom. A goal for the future would be to determine the extent of knowledge the cell has of itself and how it utilizes this knowledge in a “thoughtful” manner when challenged.¹

As an offshoot of McClintock’s work with irradiated corn plant



Barbara McClintock in her laboratory

Image credit: Smithsonian Institution Archives; public domain

cells, she also noted that breakpoints in chromosomes were not random.² In addition to the predicted breakage and deletion patterns that produced abnormal ring-shaped chromosomal structures, McClintock obtained a large number of viable plants with unusual patterns of kernel color variegation. She noticed that some of the variegation patterns involved chromosome breaks that she documented by microscope photography of stained cell nuclei.

From 1944 to 1947, McClintock demonstrated that the observed chromosomal breakpoints were the result of genetic activity by what she called controlling elements (now called TEs). In other words, she observed that the TEs could move to new locations and modify the expression of genes where they inserted. Thus, the coloration patterns in the corn kernels were found to be caused by the interplay between a TE and a pigment gene. McClintock also found that the TEs themselves interacted with each other as activating factors. Amazingly, all of this research was done before researchers had access to modern DNA sequencing technology.



Variegated corn kernels

Image credit: CSIRO CC BY 3.0

One of the first TEs McClintock discovered was associated with a chromosome breakage event she called *Ds* for dissociation locus. However, she also discovered that activity for *Ds* required another TE she termed activator, or *Ac*. The *Ac* element could also initiate its own transposition. McClintock located another notable TE she called suppressor-mutator (*Spm*). She noticed it could switch back and forth between an active and inactive form.

Remarkably, McClintock's work in identifying TEs in the 1940s and 1950s through radiation, controlled matings, and light microscopy of stained chromosomes was vindicated as the golden age of molecular biology took off decades later. In 1983, researcher Nina Federoff isolated the *Ac* and *Ds* TEs and mapped the DNA sequences.³ It was found that the *Ac* element was a small TE that encoded a single transposase enzyme (facilitating transposition) and that the *Ds* element was a deleted derivative of *Ac*.

DNA Transposons

The TEs that McClintock discovered are in a TE class known as DNA transposons. These transpose by a “cut and paste” mechanism in which the transposon is excised from a region and moved to another via the aid of a transposase enzyme encoded by the transposon itself or another one.^{4,5}

At the flanking ends of a DNA transposon are specialized sequences called inverted repeats. For the most part, DNA transposons only constitute about 3% of the genome of mammals and are not actively transposing. However, in some plant, insect, and yeast genomes, they can occupy 20 to 80% of the total DNA sequence.

RNA Transposons

RNA transposons, also known as retrotransposons or retroelements, are not cut and pasted like DNA TEs. Instead, they actually proliferate by being copied into an RNA intermediate in a “copy and paste” type of mechanism. This allows the active retrotransposons to retain their original location and structure in the genome while accumulating copies of themselves elsewhere.^{4,5}

Retrotransposons come in a variety of distinct categories and are classified based on the presence or absence of specialized long terminal repeats (LTR) in the flanking boundaries of the sequence. I will briefly discuss each group in turn.

HERVs: In humans, there is a specialized variant of a mammalian apparent LTR-retrotransposon (MaLR) called a human endogenous retrovirus (HERV). Both the HERV and its MaLR counterpart in diverse mammal genomes contain specialized LTR sequences that flank its internal coding regions. In humans, these HERVs comprise a substantial 8% of the total genome.

LINES and SINES: There are non-LTR retrotransposons that essentially lack the long terminal repeat of the HERV. These can be

categorized in two types: LINEs (long interspersed nuclear elements) and SINEs (short interspersed nuclear elements). Taken together, LINEs and SINEs comprise a whopping 33% of the total sequence in the human genome.

SINEs, which include subcategories of Alu and SVA elements, are known as nonautonomous sequences because they cannot copy themselves but are instead copied (transcribed) by a specialized enzyme called RNA polymerase III. Alu sequences are the most numerous SINEs and are present in over one million copies in the human genome while SVA elements comprise more than 10% of the human genome. Furthermore, there is an interplay between LINEs and SINEs with specialized proteins called ORF1/2p that are encoded by LINEs that recognize and bind to nonautonomous SINEs to facilitate their copying and mobilization.

The Transposable Element Evolutionary Story

The basic evolutionary story for the origin of TEs is that the genomes of plants and animals became infected with many different viruses over millions of years of evolutionary history. This idea is based on the similarities that some TEs have with parts of viruses. As the story goes, the genomes of organisms then domesticated these inserted viral sequences like a family taking in a feral dog.

Exaptation is the scientific name for this mystical process of modifying a foreign piece of DNA for the genome's own purposes. It's also believed that these TEs themselves had their own selfish agenda. After their initial infection, they supposedly multiplied across the genome and created vast regions of mutated junk DNA to give additional genetic material for evolutionary processes.

While the evolutionists spin their yarns of exaptation (to explain function) and selfish genes, they ultimately attribute the Darwinian mutation-selection paradigm to the preponderance and now widely documented importance of transposons. In a 2014 paper on the role of transposons in the so-called evolution of the human brain, the authors state:

Brain evolution is an important process that accelerated the evolution of humans. This occurred due to natural selection and genomic variation [mutations], a major source of which has been TE insertions.⁶

But are any of these ad hoc evolutionary explanations plausible? As we shall see, the documented importance of TEs to many biological processes and their ubiquitous contribution to genome structure and function overwhelmingly make the case for divine engineering.

Transposable Elements Essential for Biological Processes

As research on TEs has progressed, it has become increasingly apparent that these genetic features are not selfish junk at all. In mammals, they are shown to be essential for development, growth, and good health. Important biological processes that are dependent on the

function of transposable elements and the important DNA sequences they contain include placental development,⁷ embryo development,^{8,9} cell type specificity,¹⁰ and immune responses through the production of innate immunity factors.^{11,12}

One of TEs' more intriguing biological roles is their regulation of function in neuronal cell development and in the mature neurons of the human brain.¹³ Starting from the initial division of the zygote, embryonic development is regulated by the activation of transposable elements. These are necessary for the sequential expression of genes specific for each cell type in the developing embryo.

Importantly, the differentiation of stem cells in the neural system involves the fine-scale tuning of expression of neuron genes in the different regions of the brain. In this respect, the hippocampus, which is at the center of human neurogenesis, has the highest levels of the brain transposon activity that is key to the formation of specific brain structures.

Specific Functions of Transposable Elements

TEs are major contributors to the genetic regulation of the human genome. One of the main ways they function is by providing what are called cis-regulatory elements, which are localized genetic switches.¹⁰ There are three types of such switches that are turned off and on by the binding of specific regulatory proteins called transcription factors in the DNA at these TE sites.

The first is an *enhancer* element, which functions to upregulate or help activate a neighboring gene. The second is a *silencer*, which helps to downregulate or turn off the activity of a neighboring gene. The third type is an *insulator* element, which helps to insulate the activity of a genetic region from the influence of other factors and activity going on in the genome.

TEs actually contain a wide variety of all three types of these cis-regulatory elements and literally help orchestrate and regulate the activity of thousands of genes across the genome. They are clearly designed and are critical regulatory features of the genome.

Another key regulatory feature of TEs is the now-proven fact that they can also function as gene promoters, which are the primary switches at the very beginning of a gene that directly turn it off and on.¹⁰ More specifically, TEs have been shown to function as alternative gene promoters that under specific conditions will become the preferred promoter for a gene. The TE thus takes over the regulation of the gene instead of its main promoter. In such a case, the TE alternative promoter can be either directly in front of the gene or even just inside the gene after its main promoter. In addition, the TE alternative promoter can also function in concert with the main promoter by regulating its activity.

Even more startling to evolutionists is the fact that TEs themselves can be genes that encode functional RNAs. These TE-based genes are copied (transcribed) into functional RNA molecules that regulate a broad diversity of activity in the genome.¹⁰ In this respect,

one of the main functional aspects to come out of the Human Genome Project is that the majority of genes in the genome don't code for proteins but for RNAs that are used directly by the cell for a variety of functions in the cell's nucleus and cytoplasm. Some are even exported out of the cell to other locations in the body.

These non-protein-coding genes produce what are called long noncoding RNAs, or lncRNAs. In regard to TEs, many lncRNAs contain TE sequences in their promoter regions (main control switches), coding regions (called exons), and noncoding regions (called introns). Another entirely separate class of transcripts produced by TEs are small noncoding RNAs such as microRNAs that bind to a huge variety of protein and RNA-coding transcripts and regulate their activity in the cell.

Needless to say, all this TE-related functionality fits well with the original observation early on in the genomics era that TEs aren't randomly distributed around the genome. Instead, their distributions are highly organized and specified. In this respect, TEs not only provide a host of regulatory DNA sequence as genetic switches and produce various functional RNAs, but they also help to physically regulate the three-dimensional structure of the genome.

Thus, TEs are key to forming what are termed topologically associated domains (TADs) that create specific genomic functional compartments within the nucleus of a cell.¹⁴ The chromosomes within a specific cell type, whether it be a heart, lung, or liver cell, are highly organized in specific TADs.

Transposable Elements in Adaptation

Due to the fact that TEs comprise about 50% of the total genome in mammals and even more genomic real estate in plants and some insects, their direct genetic role in adaptation can be soundly confirmed. However, I will mention just one noteworthy example that dovetails with the aforementioned biological role of TEs in neurological development.

Organismal stress in response to environmental factors plays a major role in shaping behavior and brain function, often with lasting effects. In fact, an important question is how these resulting responses take place in the context of a mature neural cell genome. Synapses are specialized junctions that connect neuronal cells and transmit electrical information from one neuron to another. In this respect, synaptic plasticity (dynamic adaptability) and neurogenesis (development of neurons) are directly related to acute stress that has been shown to regulate the expression of TEs in the rat hippocampus via an epigenetic mechanism.¹⁵ (See my previous article on epigenetics.¹⁶)

In response to stress, epigenetic systems in concert with TEs maintain genomic and transcriptional stability in sensitive and vulnerable brain regions like the hippocampus. These findings have shown that TEs and the genomic plasticity they create play a significant role in brain function during stress and even disease. Thus, TEs play a critical role in maintaining cellular homeostasis as an important adaptive function.

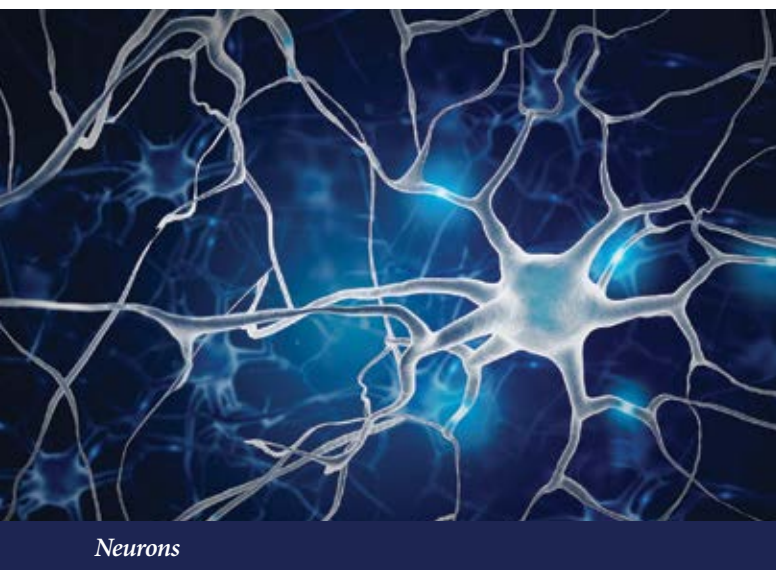
Conclusion

If it were not for the specified structure and activity of TEs in the broad spectrum of plants and animals, life would not exist. These amazing DNA features are cleverly engineered for each specific kind of creature as part of its genetic blueprint by the Creator, the Lord Jesus Christ. 🙏

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Neurons

*And it shall come to pass in that day
That the LORD will whistle for the fly
That is in the farthest part of the rivers of Egypt,
And for the bee that is in the land of Assyria.*

————— I S A I A H 7 : 1 8 —————

Soldier Fly (Stratiomyidae)



Image credit: The William B. Dean, MD Imaging Center of the Institute for Creation Research



The MYTHS of Darwinian Homology and Convergence

Foundational interpretations of Darwinian evolution are built upon two conceptual pillars: homology and convergence. Homology proposes that specific characters—including the genes, cells, body plans, and adaptations of every animal—can be traced through a series of *common ancestors*. Convergence proposes that characters evolve independently from *different ancestors* to produce superficially similar traits for a similar purpose.

These concepts directly contradict one another. For instance, conventional science suggests that the bones forming the structure of wings in birds and bats are homologous while the wings themselves are convergent. Really? No! Evolutionary concepts are highly flexible fabrications of the human mind, intended to replace the true origin and diversification of all biodiversity on Earth.

Currently, there's a trend toward invoking convergence to reinterpret major themes in evolutionary biology, focusing on molecular and cellular evidence of adaptive traits. Examples include the transition of plants from water to land by convergent gene regulatory networks,¹ extremely low reflectance of ultra-black deep-sea fishes by convergent arrangements of melanosomes,² convergent increases in oxygen affinity by hemoglobin in high-altitude birds,³ repeated convergence of wing-pattern mimicry in butterflies by a single transcription factor,⁴ and convergent genetics that produce similar responses to climate by distinct woodpecker species.⁵

The adaptations listed above were not induced by shared ancestry or “selected” through personified forces of nature. They are functional products of distinct organism-centered responses to similar environmental conditions. Darwin's presumptions of “random mutation” and “natural selection” in each case are as undetectable as the endless chain of mythical ancestors assumed to have preceded each

article highlights

- Darwinists construct mythical concepts to explain the impossible process of evolution.
- The most foundational myths include homology (common ancestry) and convergence (independent ancestry).
- Homology and convergence are contradictory terms that are void of mechanistic power to explain adaptation.
- ICR's continuous environmental tracking (CET) model predicts organism-centered mechanisms of adaptation within changing environments.

of those wondrous creations.


Let's take a closer look at multiple changes in the features of blind cavefish (*Astyanax mexicanus*) under investigation at the Institute for Creation Research. According to evolutionists, rapid convergent evolution is the most prevalent explanation for the loss and gain of adaptive traits in cave environments. They believe that random mutations have destroyed certain functional pathways. Proposed *losses* include eyes, melanin pigmentation, schooling behavior, and sleep.⁶ Notable *gains* include increases in olfactory lobes (smell), jaw size, taste buds and teeth (feeding), storage of fat (metabolism), and enhanced neuromasts (lateral line) to facilitate vibrational attraction behavior in complete darkness.

Additional adaptations reveal increased gill size, greater surface area of red blood cells, larger blood cells, and higher levels of hemoglobin expression during development and adulthood.^{6,7} These adaptations bind, transport, and deliver more oxygen per blood cell to optimize respiration at genetic, molecular, cellular, and physiological levels in low-oxygen cave environments.

As of 2018, more than 230 cavefish species had been identified across all con-

tinents except Antarctica.⁸ Similar cave-dwelling adaptations are also observed in salamanders, crustaceans, insects, arachnids, myriapods, annelids, turbellarians, and gastropods, which also exhibit blindness, reduction of pigment, and enhancements in other traits.⁹ They're promoted as clear examples of “convergence” on a global scale, but are they truly convergent? As with homology, convergence is an attempt to discount the true source of adaptive biology. Such broad conceptual myths are void of mechanistic and explanatory power.

From a biblical perspective, we expect to observe common traits within different organisms inhabiting similar environments—as exemplified by ICR's model of continuous environmental tracking (CET), in which every organism is an active, problem-solving entity with a capacity to self-adjust to environmental challenges. What appear as homologous or convergent traits are actually rapid, repeatable, and tightly regulated solutions for a range of conditions to which animals are exposed.

Life is not the result of evolutionary processes. It is thoughtfully and intentionally prepared by the infinite wisdom of our Creator, the Lord Jesus, “in whose hand is the life of every living thing, and the breath of all mankind” (Job 12:10). 

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Making Life Count for the Creator

Ecclesiastes was written by Solomon, a king who appeared to “have it all”—even the inspiration of the Holy Spirit. Yet, near the end of his reign (possibly around 931 BC), Solomon wrote of the hardships that resulted from his poor choices. The Hebrew word translated as “vanity” expresses the futility of seeking to be satisfied apart from God. The panorama of earthly ambitions, when pursued as ends in themselves, produces nothing but emptiness.

Have you ever asked where this “vanity” came from? Did our Lord Jesus Christ create the world in its present flawed state? Certainly not! God says of His marvelous creation in Genesis 1:31, “Then God saw everything that He had made, and indeed it was very good.”

So, where did things go wrong? Adam disobeyed God’s command, and in response God said, “Cursed is the ground for your sake; in toil you shall eat of it all the days of your life” (Genesis 3:17).

The apostle Paul emphasized this consequence of sin when he wrote, “For the creation was subjected to futility, not willingly, but because of Him who subjected it in hope” (Romans 8:20). The King James Version uses “vanity” in place of “futility,” indicating that the cycle of death, decay, and “in vainness” started with sin.

Even believers must deal with this vanity. In this fallen world, our life is balanced between two extremes. First, we acknowledge that God provides this gift of life. Ecclesiastes 2:24 tells us, “Nothing is better for a man than that he should eat and drink, and that his soul should

The words of the Preacher, the son of David, king in Jerusalem. “Vanity of vanities,” says the Preacher; “Vanity of vanities, all is vanity.” (Ecclesiastes 1:1-2)



King Solomon by Gustave Doré


enjoy good in his labor. This also, I saw, was from the hand of God.” On the other hand, embracing life has limitations. Our lives are temporary—“For what is your life? It is even a vapor that appears for a little time and then vanishes away” (James 4:14).

How are we to live in light of this reality? We enjoy the gifts of God, including joy in eternal salvation in Christ, the fellowship of believers, our loving family and friends, the beauty of our Lord’s created world, and every blessing that’s a part of this life. James 1:17 says, “Every good gift and every perfect gift is from above, and comes down from the Father of lights, with whom there is no variation or shadow of turning.”

In the last chapter of Ecclesiastes, Solomon exhorts us to enjoy the gift of life, keeping our eyes and hearts focused on the Giver. He urges us to fear God, keep His commandments, and “remember now your Creator in the days of your youth, before the difficult

days come” (Ecclesiastes 12:1).

At the Institute for Creation Research, our mission is to glorify Jesus Christ by giving Him full credit as Creator. We’re grateful for your prayers and support as our ministry proclaims the truth of biblical creation to a fallen world.

Although this earth will pass away, we can rejoice in the faithfulness of our God. In Him, we have the ultimate gift of life—now and for eternity. 

Dr. Morse is Director of Donor Relations at the Institute for Creation Research and earned his D.Min. from The Master’s Seminary.



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POST-FLOOD REPOPULATION

From 8 to 8,000,000,000!

Sometimes scoffers disparage the Genesis history of the global Flood by saying there hasn't been enough time from the end of the Flood until now for Earth to repopulate to its present population of about eight billion.¹ In fact, after the Flood, the total number of human *generations* is not that many—less than 200 successive generations have occurred since Noah and his family left the Ark.

Today, Earth houses more than 8,000,000,000 people. That means each passenger on the Ark is now represented by a billion people. Does that make mathematical and historical sense?² The Scripture and the math say, “Yes!”

To appreciate how, consider that our planet's 8,000,000,000-plus humans came from just three reproducing couples who survived the worldwide Flood about 4,500 years ago—Shem, Ham, Japheth, and their respective wives.

How Many Generations Were Born After the Flood?

How many generations have occurred since the Flood? That depends on the usual age a woman was when she gave birth, comprehensively averaged over the past 4,500 years. For the sake of our calculations, let's compare two possible ages for the women giving birth—on average, since many mothers have more than one child—one group at around 25 years old and the other 33⅓.³

In the first scenario, the new generation starts when the mother is 25, and in the second it starts when the mother is 33⅓. A generation of 25 years equates to four generations per century, while 33⅓ years averages to three. If the standard generation is 25 years, there would be approximately 180 post-Flood generations. Likewise, if it's 33⅓ years, only about 135 generations would result.

To Populate Today's World, What Replacement Rate Is Needed?

A population replacement rate is the ratio of individuals in a filial (i.e., children's) generation compared to the parental. In other words, how many people in one generation replaced those in the prior generation?⁴

Consider a population replacement rate of 1.2, for example, as the average ratio of filial to parental population over 4,500 years. If


article highlights

- People sometimes question the Bible's post-Flood population growth from eight people to over eight billion in only around 4,500 years.
- Generations that average between 25 and 33⅓ years, along with a modest replacement rate of 1.15, would produce eight billion people from three reproducing couples well within that time frame.
- Scripture-based math easily accounts for today's sprawling world population. Genesis gets its history and math right.

one generation is 25 years, six reproducing adults would have one quadrillion descendants in the 180th generation because $6 \times 1.2^{180} = 1,073,434,474,371,002$. However, if one generation is 33⅓ years, six reproducing adults would have almost 300 billion descendants in the 135th generation because $6 \times 1.2^{135} = 293,507,678,118$. Obviously, Earth's current population is not due to a ratio of 1.2 or higher.

Next, consider a smaller replacement rate—such as for every individual in a parental generation, there's an average of 1.15 in the next generation. If one generation is 25 years, six reproducing adults would have half a quadrillion descendants in the 180th generation because $6 \times 1.15^{180} = 505,548,136,684$. (Still too many.) However, if one generation is 33⅓ years, six reproducing adults would reproduce less than a billion descendants in the 135th generation, because $6 \times 1.15^{135} = 938,338,851$. (That's not enough.) This means that in this scenario, our planet's current population resulted from a rate somewhere between these two averages.

Therefore, if the number of people on Earth came from generations averaging somewhere between 25 and 33⅓ years (for childbearing), a population replacement rate near 1.15 is about right. Such a modest rate yields no excuse for scoffers to reject Genesis by claiming that 4,500 years “isn't enough time” for Earth to repopulate to about eight billion today.⁵

As always, the Bible gets it right, and that's what counts. 

References

1. Christ admonished that disagreeing with Genesis is foolish (John 5:44-47).
2. Thanks to Dr. Lance Oberg for catalyzing this apologetics article. Also, thanks to Dr. Jake Hebert for running the math calculations.
3. Historical averages are counted here because some women don't have children while others bear one or more.
4. If one couple (i.e., two parents) procreated two children, the replacement rate is one, because the two-to-two ratio equals two divided by two. However, if one couple procreated four children, the replacement rate is two, because the four-to-two ratio equals four divided by two.
5. Evolutionists imagine that humans have existed for hundreds of thousands of years.

Dr. Johnson is Associate Professor of Apologetics and Chief Academic Officer at the Institute for Creation Research.





I wanted to express my gratitude for your faithful giving to [this] correctional chapel, which lives on the donations provided by donors such as yourselves. The *Days of Praise*...are popular and sought after by our brothers here....Our men grow in the words thanks to inspirational messages.



— Chaplain H. Y.

Editor's note: We are unable to mail *Days of Praise* or *Acts & Facts* directly to inmates, but a chaplain can request copies to give to them. Call 214.615.8351 for more information.



I am deeply saddened to read about Brother John's [Morris] passing....Like his father and brother, he can concur with the apostle Paul, "I have fought the good fight, I have finished the race, I have kept the faith" (2 Timothy 4:7).

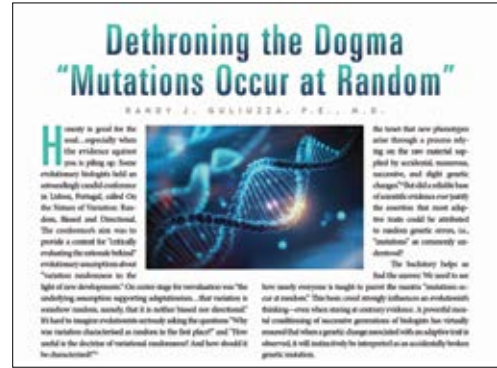
— D. P.

If you'd like to donate to the John D. Morris Memorial Fund for Geological Research, visit [ICR.org/donate](https://www.icr.org/donate) and select the memorial fund in the "Use this gift" field. This fund will support ICR's geological research and the sharing of its results.

MICRO MAX 4



Written by Michael Stamp. Illustrated by Lori Fausak.



Dr. [Randy] Guliuzza's lead article in the current [July/August 2023] *Acts & Facts*, "Dethroning the Dogma 'Mutations Occur at Random,'" is a veritable bombshell.... His list of footnote references, powerfully, all seem to be from the "other side." I have some Christian friends who are conveniently immersed in the old earth community due to their "normal" education. I've annotated the article with my own notes-of-amazement and will lend them the issue, prayerfully hoping that they will realize its implications for their current, unstable stance.

— J. H.



I just turned 93 and was one of the original group—gobbling up every issue of the little ICR pamphlet.... And what a thrill to get the magnificent July/August issue to help strengthen my faith.

— J. B. T.

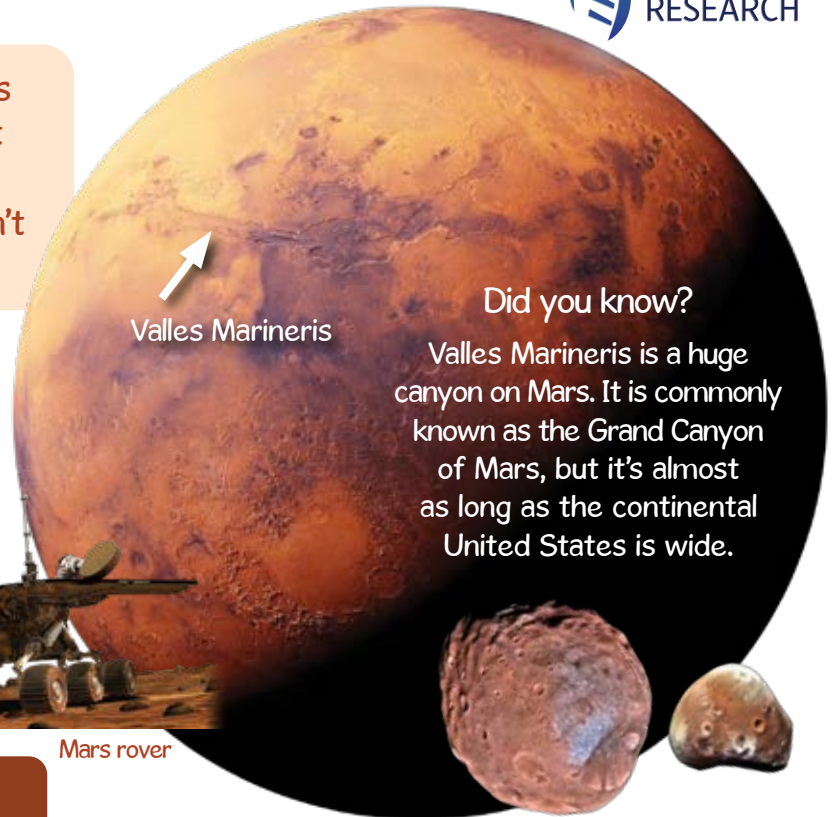
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Of the eight planets in our solar system, Mars is fourth from the sun—one spot farther out than Earth. Like our planet, Mars is rocky. It looks warm, but it's colder than Earth and can't support life. Did you also know...

- ✓ Mars is called the Red Planet, and the color comes from iron oxide in the soil.
- ✓ A Martian year is 687 days long.
- ✓ Olympus Mons is a Martian volcano three times as tall as Mount Everest.
- ✓ If you went to Mars, it would take about seven months, and you would have to travel about 300 million miles!



Valles Marineris

Did you know?

Valles Marineris is a huge canyon on Mars. It is commonly known as the Grand Canyon of Mars, but it's almost as long as the continental United States is wide.

Mars rover

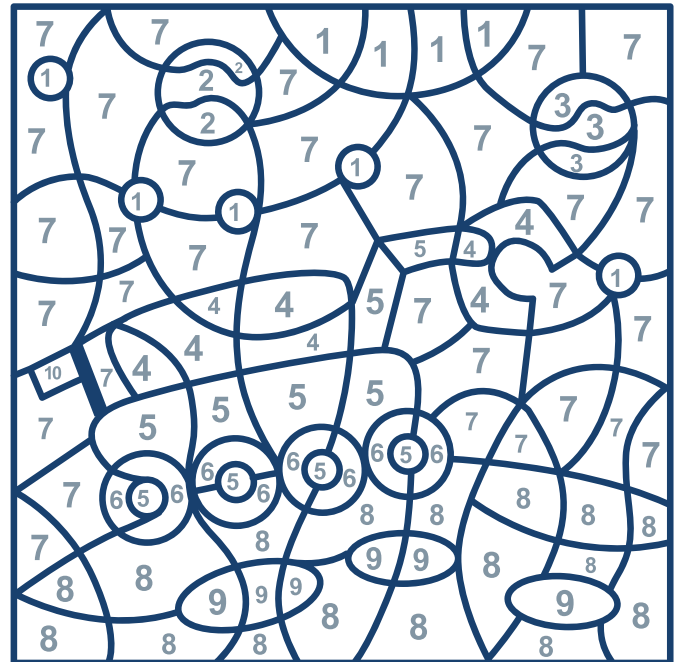
Mars Word Search

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- Mars
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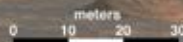
Mars has two moons named Phobos and Deimos.

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The photo below was taken by a Mars rover in 2015. It shows that the surface of Mars is dry and rocky.

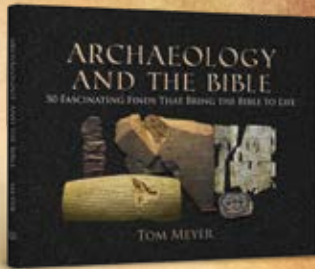


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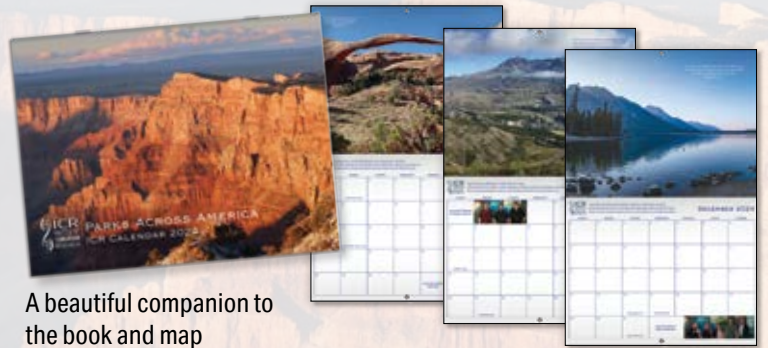


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