

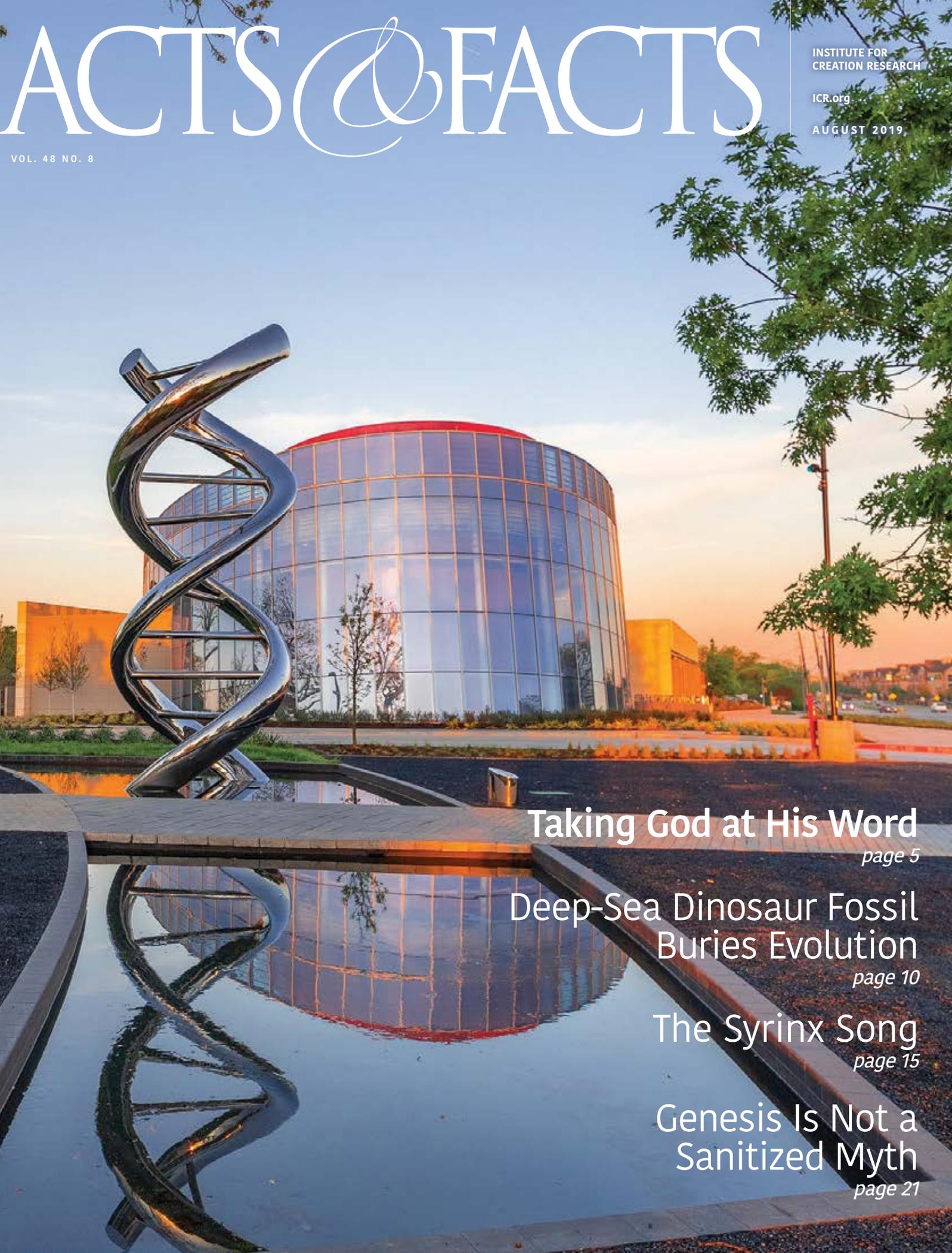
ACTS & FACTS

INSTITUTE FOR
CREATION RESEARCH

ICR.org

AUGUST 2019

VOL. 48 NO. 8



Taking God at His Word
page 5

**Deep-Sea Dinosaur Fossil
Buries Evolution**
page 10

The Syrinx Song
page 15

**Genesis Is Not a
Sanitized Myth**
page 21

Little Creation Books!

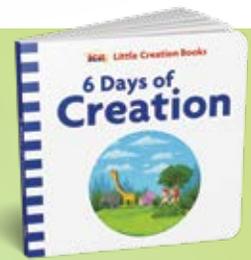
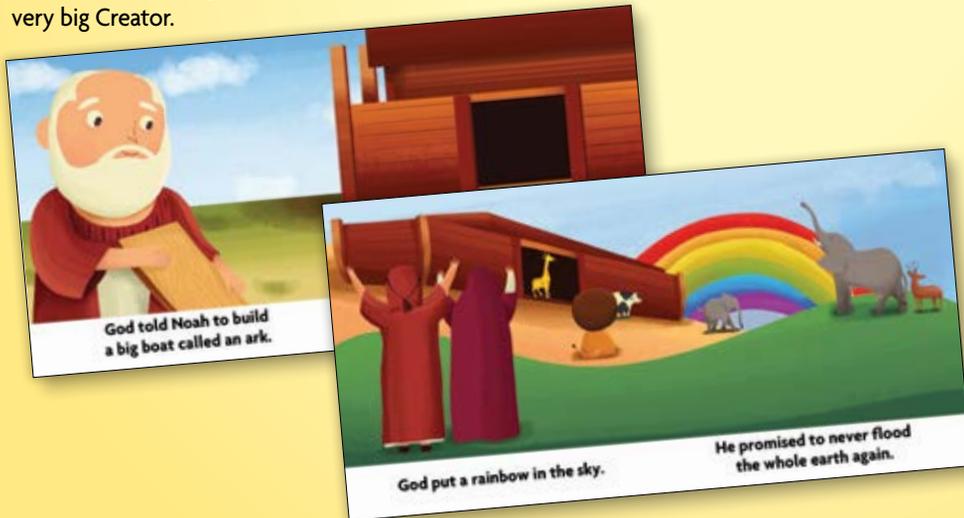
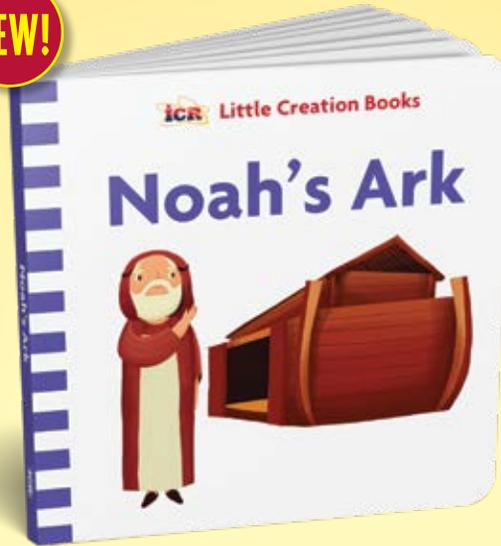
Noah's Ark

\$5.99 • BNA

In *Noah's Ark*, God uses a giant boat and a faithful man to help a group of people and animals escape the worldwide Flood. Just like the Ark saved them, Jesus saves us.

The world can be a confusing place. We help our kids separate fact from fiction by laying a solid foundation of truth during their earliest years. ICR produced the Little Creation Books series to help you teach creation basics to your preschooler. Bit by bit, they'll learn who God is, what He has done, and why it matters. These sturdy little books use colorful pictures and simple words to introduce our youngest children to their very big Creator.

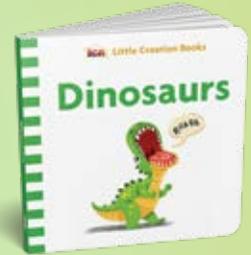
NEW!



6 Days of Creation

\$5.99 • B6DOC

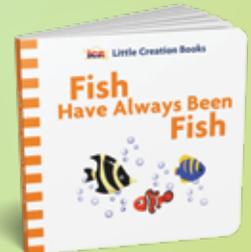
Explore God's very good creation in this sturdy little book that introduces our youngest children to their very big Creator.



Dinosaurs

\$5.99 • BD

In this book, children will discover dinosaurs at creation, on the Ark, and in the ground.



Fish Have Always Been Fish

\$5.99 • BFHABF

This colorful book counters evolutionary tales with the true history of creatures in our world.

ICR IN-DEPTH SCIENCE

RETHINKING RADIOMETRIC DATING

Evidence for a Young Earth from a Nuclear Physicist

Vernon R. Cupps, Ph.D.

How old is Earth? Many believe it to be around 4.6 billion years. This number is used so often that most people accept it as a scientific fact. But are the dating methods that appear to verify this age valid? With decades of experience in top nuclear physics laboratories, ICR's Dr. Vernon Cupps tackles this question from a scientific and biblical perspective.

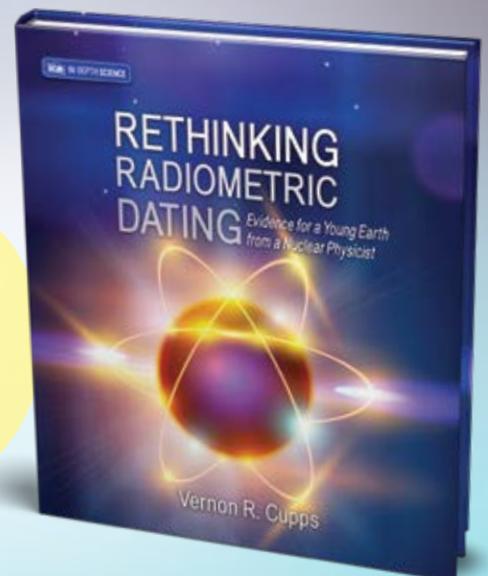
He examines the major radiometric dating methods and the significant problems with the dating methodology employed by many scientists. This first in a series of In-Depth Science books from ICR shows why Christians don't need to rely on flawed science to tell them about origins.

NEW!

\$24.99

**Introductory
Low Price!**
(\$29.99 Retail)

BRRD Hardcover



Published by
INSTITUTE FOR CREATION RESEARCH
P. O. Box 59029
Dallas, TX 75229
214.615.8300
ICR.org

Acts & Facts is a free publication.
For subscription information,
call 800.337.0375,
visit ICR.org/subscriptions,
or write to ICR at the above address.

EXECUTIVE EDITOR

Jayne Durant

SENIOR EDITOR

Beth Mull

EDITORS

Michael Stamp
Truett Billups
Christy Hardy

DESIGNER

Dennis Davidson

No articles may be reprinted in whole or in part without obtaining permission from ICR.

Copyright © 2019
Institute for Creation Research

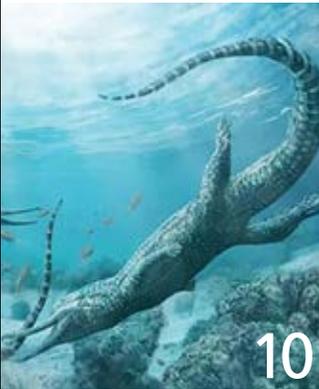
All Scripture quotations are from the New King James Version unless otherwise indicated.



Front cover image credit: Joseph Haubert



5



10



15



20



21

feature

5 Taking God at His Word

research

9 Collagen Decays Too Fast for Evolutionary Time

BRIAN THOMAS, PH.D.

impact

10 Deep-Sea Dinosaur Fossil Buries Evolution

TIM CLAREY, PH.D., AND
JAMES J. S. JOHNSON, J.D., TH.D.

back to genesis

14 Complex Creature Engineering Requires a Creator

JEFFREY P. TOMKINS, PH.D.

15 The Syrinx Song

FRANK SHERWIN, M.A.

17 Continuous Environmental Tracking Wrap-Up

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

creation q & a

20 Where Did Faces Come From?

BRIAN THOMAS, PH.D.

apologetics

21 Genesis Is Not a Sanitized Myth

JAMES J. S. JOHNSON, J.D., TH.D.

stewardship

22 Commitment to a Timeless Message

HENRY M. MORRIS IV



Welcome!

As I write this, the ICR Discovery Center for Science & Earth History is buzzing with activity. Skilled technicians are installing finishing touches to exhibits, and ICR staff members are making final preparations to welcome visitors—hopefully, you and your family will be among them! So, what can you expect when you visit the ICR Discovery Center?

Your family will enjoy hours of fun while learning about the Creator's handiwork. You can watch a planetarium show—options include *Creation in the Solar System* and *Secret Ocean* (3-D).

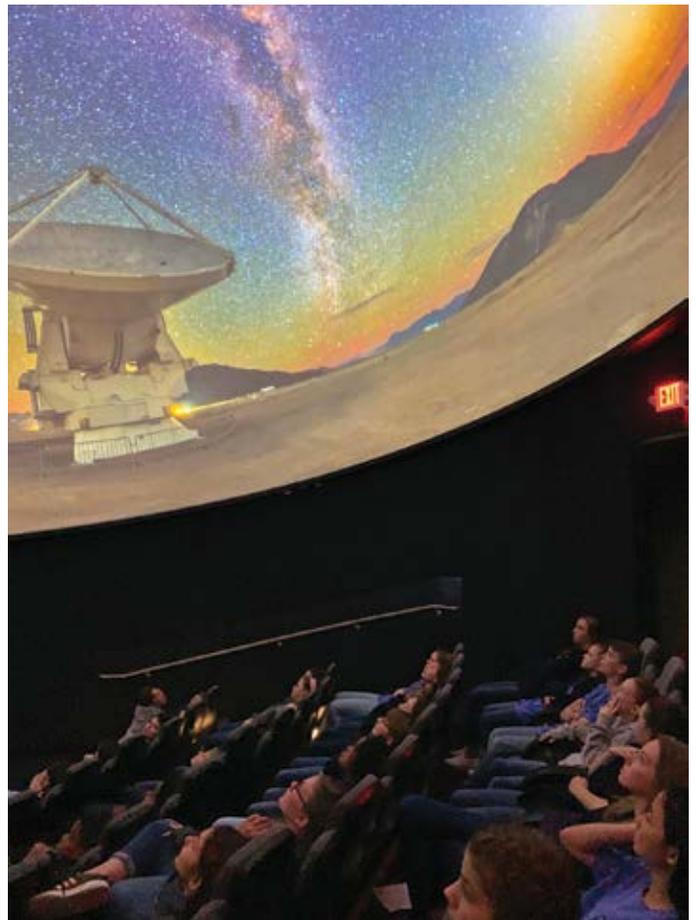
On opening day, ICR scientists and scholars will offer their latest research in live presentations in the auditorium throughout the day. You'll also learn about their findings in exhibits throughout the Discovery Center. Dr. Brian Thomas' dinosaur soft tissue research affirms the biblical timeline of thousands—not millions—of years, and Dr. Jeff Tomkins' DNA study demonstrates that humans and chimps are far less similar than evolutionists claim. Dr. Tim Clarey's exploration of Earth's sedimentary layers provides new evidence for and understanding of Noah's worldwide Flood, while physicist Dr. Jake Hebert's investigations shed light on climate, weather, the Ice Age, and global warming claims.

Learn from early scientists, too. In our Founders of Science exhibit, Isaac Newton, Johannes Kepler, Louis Pasteur, Michael Faraday, and others tell us in their own words about the important foundations of science.

In the exhibit hall, you'll journey through history, beginning with the origins of the universe, Garden in Eden, and the worldwide Flood. Explore what life was like on Noah's Ark. Witness the changes in Earth after the catastrophic Flood, and learn how Mount St. Helens demonstrates that the global Flood could've carved Grand Canyon. Discover how dragons and dinosaurs fit with the Bible. Then enjoy a break in the Ice Age Theater.

You'll also have an opportunity to ponder the life of Christ. Our final exhibits present the Bible's account of His resurrection and proclaim Jesus Christ as the Creator who came to Earth and promised to return and make all things new in His creation.

The immersive experience, animatronic creatures, talking portraits, holograms, and dinosaurs will enthrall the youngest visitors.



They'll learn the sequence of events in Earth's history as they pass through the exhibits, which will provide a biblical framework they can build on for the rest of their lives. Students and adults will have opportunities to dig deeper for the evidence that supports the Bible's events and timeline, and they'll see how science affirms what the Bible says.

In the ICR Discovery Store, you'll find resources that magnify our Creator and answer questions about faith and science. Your family can also enjoy some time in the ICR Discovery Park adjacent to the parking lot, and, in case you didn't see everything during your first tour through the Discovery Center, you can head back into the DC for more presentations, shows, resources, and exhibits.

For tickets, parking details, hotel discounts and accommodations, and other information to plan your visit, go to ICRdiscoverycenter.org. Membership packages are also available for those who plan to visit throughout the year.

We're excited as we get ready to welcome you and your family on Monday, September 2. Please join us as we celebrate this new opportunity to share the wonders of creation with the world.

Jayme Durant

Jayme Durant
EXECUTIVE EDITOR

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.

(COLOSSIANS 1:16-17)



TAKING GOD AT HIS WORD

Almost four years ago, I announced in *Acts & Facts* the Lord's leading and provision for beginning work on the ICR Discovery Center for Science & Earth History. We'd had a vision for some time to build a world-class facility to reach people of all ages with the foundational message that the Bible is authoritative in all things and that the scientific evidence confirms the Genesis account.

We joyfully anticipate the grand opening on September 2 and want to thank those who have diligently prayed with us and given to support this exciting new venture. As this article relates, the ICR Discovery Center will expand our decades-old mission to proclaim the whole of God's creation truth to a lost world.

— Henry M. Morris III, D.Min.

Science Agrees with God's Word

The work of the Institute for Creation Research begins and ends with the firm conviction that the Bible is wholly true. As followers of Christ, we trust Him above all else. His Word communicates to us with great purpose and clarity, and we proclaim all of it and reject any compromise.

ICR's particular focus is on the science that affirms the Bible. That's why after almost 50 years of ministry, we took the extraordinary step of building the ICR Discovery

Center for Science & Earth History. With our particular expertise in the fields of science, we can bring to the table what no other organization can—far-ranging, in-depth evidence that science agrees with God's Word.

The Discovery Center will immerse people of all ages in the scientific evidence for biblical creation. ICR's mission includes teaching the entire biblical message—beginning with Christ's work at creation—and this new state-of-the-art facility will allow us a greater reach to bring God's creation truth to those who need to hear it.

Creation Matters

The message of creation is needed more now than ever before. Our world is saturated with evolutionary humanism. It affects everything from the education of our children, to the news reported in our media, to the movies and shows we watch, to even—unfortunately—the training offered in Christian universities and seminaries. Many Christians mistakenly think the creation-evolution debate is irrelevant and unnecessarily divisive. They couldn't be more wrong.

An understanding of the gospel requires an understanding of Genesis. It is the foundation of the Bible's history and message that God created us in His image for a special purpose, and that although this purpose was derailed when Adam sinned, we can be redeemed and our relationship with God restored through saving faith in the work of Christ.

The creation message enables people to see the truth about God and His universe and helps establish their faith on the foundation of the whole of Scripture.

But evolution negates this message. The Bible states that the curse of sin is death, and this is why Christ came to defeat death on the cross and then rise again to give us the life with Him we lost in Eden. But if evolution is true, then death existed before Adam's sin. Billions of life forms died long before humans arrived on the scene. Death wouldn't be the penalty for sin, and therefore Christ's sacrifice becomes meaningless and our hope is lost.

If God's Word is authoritative in all areas, then picking and choosing isn't an option. If it's from God, how can it be authoritative in some and not in others? The creation message enables people to see the truth about God and His universe and helps establish their faith on the foundation of the whole of Scripture.



ICR staffers praying over the Discovery Center ground in 2010.



The current research wall describes soft tissue fossil finds and the vast differences between humans and chimps.

The Creation Movement

Only one reliable account of origins exists, and it was written by God Himself in Genesis. A normal, straightforward reading of the Genesis account depicts a six-day creation with 24-hour days occurring about 6,000 years ago. If this is true, then science should find substantial evidence supporting special creation as well as other historical Genesis events such as Noah's Flood and the dispersion at Babel.

Many of today's biblical creationists believed at some point in their lives in evolution and/or the deep time presented by secular science. What changed their minds? God's Word.

Last month's feature article was "For Such a Time as This," describing how God raised Dr. Henry Morris to be a catalyst for the modern creation movement. In 1950, Dr. Morris used his keen scientific mind to earn a Ph.D. in hydraulic engineering at the University of Minnesota.

God also gave him a deep interest in the Genesis Flood. He combined these passions to formulate a Flood model based on the Genesis narrative and found abundant evidence for it. In time, he realized biblical creation was the best scientific explanation for the world in which we live. He also realized that no scientific evidence truly supports evolution.

Together with theologian Dr. John Whitcomb, he wrote the groundbreaking book *The Genesis Flood*, which led to many opportunities for him to speak and write on biblical creation, and eventually to the founding of ICR itself. God gathered a formidable team from many disciplines to support Dr. Morris' vision and has used them and others in this ministry to reach multiple thousands of people with God's creation truth.

Many of today's biblical creationists believed at some point

We cannot compromise because we take God at His Word. He never lies.

in their lives in evolution and/or the deep time presented by secular science. What changed their minds? God’s Word. Scientific evidence contradicting evolution and deep time may have introduced doubt, but it was the Word that drew them to the truth. Creation scientists have discovered over and over, year after year, that their work in the scientific disciplines demonstrates the veracity of God’s Word—including Genesis. The scientific evidence they uncover refutes evolution’s empty philosophy that Earth, life, and the universe developed randomly over vast amounts of time, that humanity is here by chance, and that life offers little or no basis for a meaningful existence. Creation research affirms the value of life and the authority of God’s Word.



St. George and the dragon—the carved dragon matches *Nothosaurus* fossils.

It Begins and Ends with the Word

God spoke the universe into being with the words “Let there be.” Christ healed and exorcised demons with His words. God’s Word has the power to create and the power to save. We must take seriously God’s description of reality. He alone witnessed His own creation—we did not.

Many Christians today compromise the Word of God in one respect or another. ICR rejects any interpretation of Scripture that denies or undermines God’s work of creation as taught in Genesis. We cannot compromise because we take God at His Word. He never lies.

The Word is clear. Genesis 1–11 describes God creating the universe in six 24-hour days about 6,000 years ago. At ICR, we write, publish, speak, and have built the Discovery Center to proclaim God’s creation. We will continue to proclaim His Word in its power and purity, and the Word will not fail to do its work.

We invite you to join us in this important mission. ✂



A pair of bovines settle into their home on the Ark.

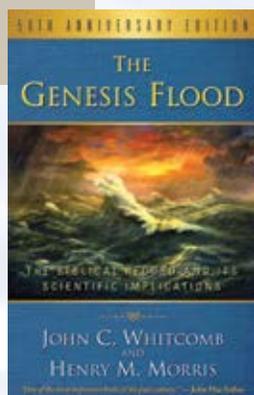
The Genesis Flood

50TH ANNIVERSARY EDITION

Over 50 years ago, Dr. Henry Morris and Dr. John Whitcomb joined together to write the groundbreaking book that sparked dialogue and debate on science and the Bible, culminating in the birth of modern creationism.

\$12.99
~~\$16.99~~

BTGFFAE



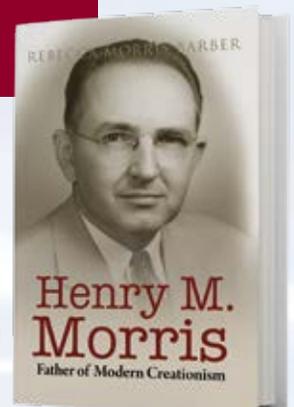
Henry M. Morris

Father of Modern Creationism

Dr. Henry M. Morris, founder of the Institute for Creation Research, spent a lifetime investigating scientific evidence that confirms the Bible. In an age when many people had no answer to evolution, Dr. Morris sought to turn back the tide. He dove headlong into God’s call on his life: answering the tough questions of faith and science. His book *The Genesis Flood*, co-written with Dr. John Whitcomb, triggered the modern creation movement.

\$22.99
~~\$24.99~~

BHMMFOMC



Call **800.628.7640** or visit **ICR.org/store** | Please add shipping and handling to all orders. Offer good through August 31, 2019, while quantities last.

AUGUST

11-15

Grand Canyon Tour | 2019 tour is full-contact Landmark now to reserve your spot for 2020! | (T. Clarey) LandmarkEvents.org/contact

AUGUST

12-17

Ft. Qu'Appelle, Saskatchewan, Canada | Creation Family Camp at Echo Lake Bible Camp | (R. Guliuzza) Creation-Science.sk.ca

AUGUST

19-21

Nashville, TN | Sing! 2019 Getty Music Worship Conference | (Booth only) GettyMusicWorshipConference.com

AUGUST

20-23

Kelso, WA | Mount St. Helens Tour | (T. Clarey) LandmarkEvents.org

AUGUST 28,
SEPTEMBER
4, 11, 18

MCKINNEY, TX
FIRST MCKINNEY BAPTIST CHURCH
ORIGINS SERIES
972.542.0041



Brian Thomas, Ph.D.



Frank Sherwin, M.A.



James J. S. Johnson, J.D., Th.D.



Tim Clarey, Ph.D.



SAVE THE DATE

SEPTEMBER

7-8

Jackson, NJ | Jackson Baptist Church | (R. Guliuzza, T. Clarey) 732.928.0080

SEPTEMBER

8

Whitesboro, TX | First Baptist Church | (J. Tomkins, J. Hebert) 903.564.3546

SEPTEMBER

15-16

College Station, TX | Central Baptist Church | (B. Thomas) 979.776.9977

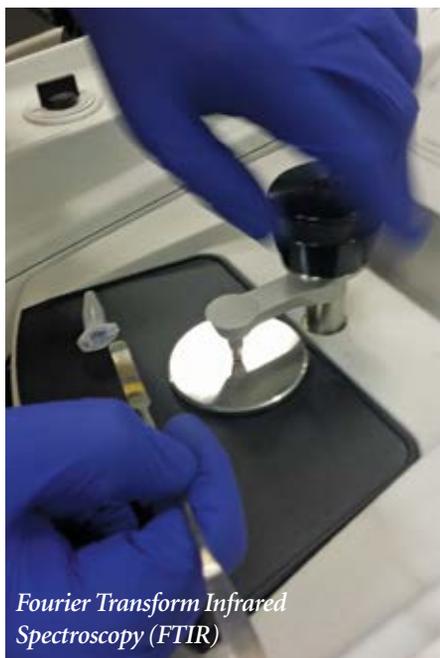
For information on event opportunities, email the Events department at Events@ICR.org or call **800.337.0375**.

Collagen Decays Too Fast for Evolutionary Time

Collagen is a tough, stringy protein that holds bone together like the steel belts in tires. Secular scientists struggle to explain why so many different techniques have found positive detections of collagen in fossil bones. At the heart of the scientists' struggle lies collagen's relatively short shelf life. Prior studies accurately measured collagen content,¹ but more precisely knowing collagen's decay rate would set a sharper outside age limit for fossils that still contain it.

New techniques for Fourier transform infrared spectroscopy (FTIR) could improve this level of precision. As part of my recent Ph.D. research, I applied FTIR to hundreds of artificially decayed bone samples. Some experimental results appear both in my secular dissertation, searchable through scholarly libraries, and in an upcoming ICR technical book titled *Ancient and Fossil Bone Collagen Remnants*. Other results we show here for the first time, and still others are under review in a secular technical journal. Here's what we did to get the findings.

ICR partnered with the Creation Re-



Fourier Transform Infrared Spectroscopy (FTIR)

Image credit: Brian Thomas

search Society's Kevin Anderson. He and his team purchased fresh bone, cleaned and ground it, then placed it into glass vials. These were inserted into water baths set to three different temperatures. Samples were removed after a set number of days that didn't exceed a month. After that, a Dallas-based university lab allowed us access to their benchtop FTIR to scan the samples.

One new technique in FTIR applications uses the carbonyl-to-phosphate (CO/P) ratio to estimate collagen content. Each FTIR scan shows peaks where specific chemical bonds absorb laser light. Fresh bone is packed with carbonyl bonds from its abundant collagen, giving its infrared spectra large CO peaks. Phosphate bonds represent the mineral portion of bone. They last much longer, so the P peaks stay high in both fresh and old bone. The CO/P ratio lessens with time and decreases even faster at higher temperatures.

Another new technique standardizes bone processing for FTIR. This step controlled variations in the spectra caused by particle size differences. All experiments were replicated and all scans performed in triplicate.

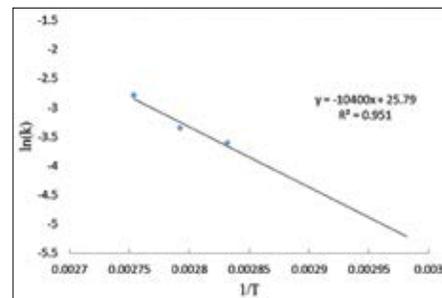
I calculated and averaged the many CO/P results. I then plotted them for each of three temperatures. The resulting curves show that collagen decays fast at first, then more slowly as time passes. The curves have R² values of around 0.90. These results indicate very little scatter and show the high precision we were seeking.

I then used the slopes to build an Arrhenius plot. The slope and intercept values of the plot help solve the Arrhenius equation, which relates temperature to the rate of a chemical process, in this case the reactions of collagen with oxygen and other nearby chemicals.² We found an activation energy value for bovine bone collagen of

article highlights

- Collagen is a protein sometimes found in fossils.
- A new spectroscopy technique more precisely measures collagen integrity as it decays under heat, and confirms collagen's shelf life.
- This technique reinforces prior findings that collagen shouldn't last more than one million years at normal temperatures, contradicting evolutionary expectations.

87 kJ/mol—half of a previously published experimental result of 173 kJ/mol.³ Our lower value implies even less energy is needed to decay collagen. It should decay even faster than scientists originally thought.



The Arrhenius plot relates temperature to the decay rate of bovine bone collagen.

For example, bovine bone collagen held at 59°F would decay with a half-life of 21,012 years under ideal conditions. At that rate, collagen would not last even one million years. If Noah's Flood deposited the fossils only 4,500 or so years ago as the Bible indicates, then we might expect some bio-material to remain. No wonder scientists keep finding collagen in fossils. ❧

References

1. For example, Collins, M. J. et al. 1995. A Basic Mathematical Simulation of the Chemical Degradation of Ancient Collagen. *Journal of Archaeological Science*. 22 (2): 175-183.
2. We used the form $k = Ae^{-E_a/(RT)}$, where k is the rate, A is a collision constant, e is the base of natural logarithms, E_a is the energy of activation, R is the gas constant, and T is temperature. Our experimental results produce E_a and A . The Arrhenius equation to calculate a collagen decay rate for any given temperature.
3. Buckley, M. and M. J. Collins. 2011. Collagen survival and its use for species identification in Holocene-lower Pleistocene bone fragments from British archaeological and paleontological sites. *Antiqua*. 1 (1): e1.

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



Deep-Sea Dinosaur Fossil Buries Evolution



TIM CLAREY, P.H.D., AND JAMES J. S. JOHNSON, J.D., T.H.D.

article highlights

- Dinosaur and other fossils found deep in the ocean make no sense in evolution's story.
- Something powerful swept land-dwellers out to sea and buried them under thick sediment.
- Secular science has no explanation for these discoveries, but the Genesis Flood fits them flawlessly.

Oil and gas explorations have found sedimentary deposits so massive and so far offshore that secular science has no satisfactory explanation for their occurrence.¹ Marine rock exposures have also revealed numerous land fossils washed great distances out to sea.^{2,3} Drilling off the coast of Norway has even pulled up a core containing dinosaur bone.⁴ Although these discoveries baffle uniformitarian scientists, they are not an issue for Flood geologists.



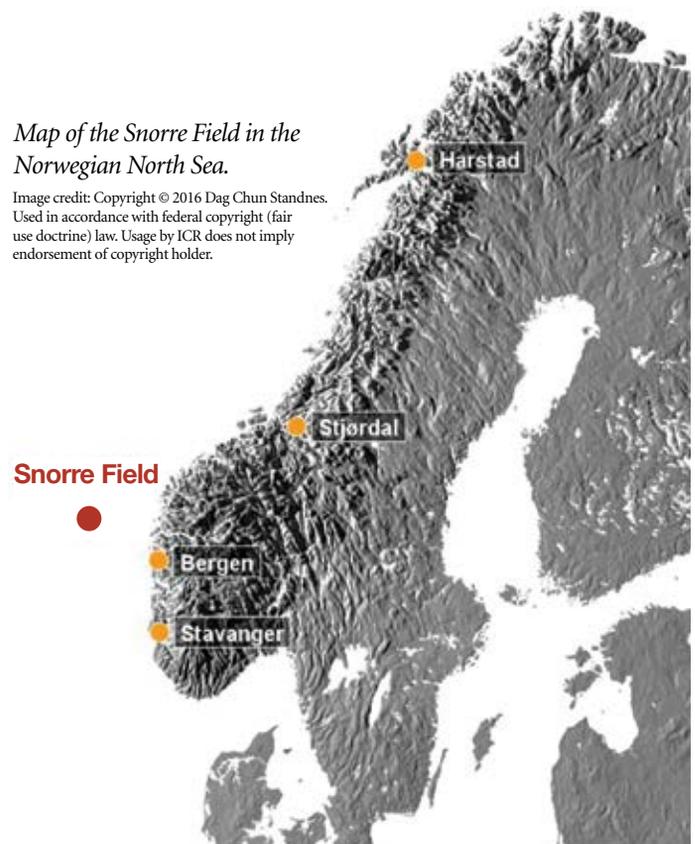
The bone slice [of what appears to be a *Plateosaurus*] was discovered during the description of a core retrieved in February 1997 from well 34/4-9S in the north-western part of the Snorre Field. . . . It occurs in a reddish-brown, mudstone. . . . composed of dominantly compound and cumulative paleosols that formed in distal to fluvial channels in a flood-plain forming the uppermost part of the upper member of the Lunde Formation. . . . The paleosols are characterized by carbonate nodules, pedogenic mud aggregates and slickensides, mottling, root traces and mud cracks. . . . The presence of root traces suggests that the flood-plain was covered with small trees and bushes, vegetation suitable for herbivorous animals living on the alluvial plain.⁵

Based upon comparative studies of fibro-lamellar “longbone” tissue—especially the radial fibro-lamellar tissue, which appears to be from the metaphyseal (narrow portion) region of the bone rather than the middle of the bone shaft—birds and mammals were eliminated as providers of the bone found in the offshore core. Comparative histology analysis indicates this find as being from a *Plateosaurus*, a terrestrial dinosaur that resembled a quadruped sauropod but with hind legs much larger than the forelimbs so that bipedal locomotion was likely. Analysis of *Plateosaurus* footprints elsewhere show that it sometimes walked on all fours and at other times on its much larger hind feet.

This find indicates the *Plateosaurus* was washed way out into oceanic waters and quickly buried in sediment slurry in what became offshore mudstone more than a mile-and-a-half deep.

Map of the Snorre Field in the Norwegian North Sea.

Image credit: Copyright © 2016 Dag Chun Standnes. Used in accordance with federal copyright (fair use doctrine) law. Usage by ICR does not imply endorsement of copyright holder.



Mystery of the North Sea Dinosaur

Offshore drilling in the North Sea near Norway has resulted in cores containing bone fragments from marine reptiles such as plesiosaurs or ichthyosaurs, marine monsters that one would expect to find in the muddy depths of oceanic waters. But would you expect any recognizable bone fragments from a dinosaur—a land dweller by definition—about one-and-a-half miles deep and over 70 miles away from shore? What scenario could explain that occurrence?

With an approximate width of 400 kms between present mainland Norway and the Shetland Platform... [this Lunde Formation part of the Norwegian North Sea] was flooded during a marine transgression from the north and south.⁶

The tsunami-like wave that explosively scour-blasted the *Platosaurs* out into the ocean was catastrophically powerful! How else would this dinosaur or any land animal get washed so far out to sea and buried deeply enough to escape ordinary disintegration?

Similar tsunami-like waves may have also crashed across Svalbard's main island, Spitsbergen—over 400 miles north of Norway—rapidly burying ornithopod (duck-billed) and theropod (meat-eating) dinosaur footprints there and preserving them from erosion.⁷ Massive waves must have transported sediment much farther than most secular scientists readily admit. These trace fossils show us dinosaurs were likely living at high latitudes in the pre-Flood world.

Enigma of the Whopper Sand

There are other examples of terrestrial materials found in unexpected offshore locations. Consider the large sand and mud formations found at the mouths of major river systems, such as where the Mississippi River dumps into the Gulf of Mexico. How far from shore should we expect to find river-driven sand? The standard expectation is that it wouldn't get very far since the water energy drops off too quickly.



Mississippi River Delta showing sediment wash-out (yellow-brown).

Image credit: Copyright © World Ocean Review. Adapted for use in accordance with federal copyright (fair use doctrine) law. Usage by ICR does not imply endorsement of copyright holder.

So in 2001, geologists were shocked to find the Whopper Sand, an enormous petroleum-bearing formation in the Gulf of Mexico's deep-sea sediments.¹ Powerful water motion was needed to deposit this sand about 200 miles offshore, a situation that baffles uniformitarian thinkers but doesn't mystify creationists.

No one should be surprised when geological data match the biblical record of the Genesis Flood, because true science corroborates Scripture. In one case [i.e., the Whopper Sand], creationist geology not only supports facts reported in Genesis, it [also] explains why petroleum companies delayed finding billions of barrels of oil, because they erringly assumed uniformitarian ideas about where to look for this deep-sea treasure.⁸

Before Day 150 of the Flood year, tsunami-like waves moved

inland across the continents, covering them with repeated layers of sedimentary sheet washings. From the end of Day 150, the Flood's mid-point, a remarkable reversal ("return") occurred, followed by continual widespread and powerful drainage dynamics.

That pivotal reversal left its marks all over the world's stratigraphic rock layers. One example is "a large, unusually thick and extensive sand body in the deep water of the Gulf of Mexico [7,600–10,000 feet deep]...so large and completely unexpected that the oil industry dubbed it the 'Whopper Sand.'"⁹

The Whopper Sand was deposited when floodwaters shifted direction and suddenly began to drain off the North American continent into the Gulf of Mexico. This shift occurred at the Zuni/Tejas (K-Pg) boundary and is marked by the sudden change in sediment type between the uppermost Zuni layer and the lowermost Tejas. In a Flood model, this rapid shift from *clay* deposition to *sand* deposition coincides with the reversal in water direction described after Day 150.

The initial drainage rates seem to have been very energetic and extremely high in volume. They coincided with a rapid drop in sea level at the beginning of the Tejas Megasequence, which may have been the mechanism that transported the thick Whopper Sand so far from shore. As the floodwaters continued to drain off North America, the volume of water decreased, slowing the transport of sediment until the modern-day pattern of clay-dominated deposition was reached.

The Whopper Sand surprised secular geologists because their uniformitarian assumptions would never have led them to look for it so deep in the Gulf of Mexico.

If this is a post-Flood deposit, what local catastrophe can explain this massive sand unit?... [T]he size and scale of the Whopper Sand is beyond any deposit like it in the world. The erosive power to produce this much sand and to transport it so far would have likely affected most of the contiguous [lower 48] USA... making it nearly impossible for animal and human survival. As described above, the best explanation for the Whopper Sand is at the onset of the receding water phase of the Flood.⁹

Phytosaurs Found in Marine Sediments

A new discovery in Europe has again sent shockwaves through the paleontological world. Several phytosaurs, a group of crocodile-like reptiles found globally in Triassic strata, were excavated from a presumed marine environment.

Phytosaurs had feet and claws like modern crocodiles, not flippers as do marine reptiles like plesiosaurs. Paleontologists identified at least four individual fossil phytosaurs in the Dachstein Limestone of Austria that were each about 13 feet long and still actively growing at the time of their deaths. The scientists estimated the reptiles were about eight years old when buried, based on bone tissue studies.¹⁰

But this wasn't the first claim of marine-encased phytosaurs. Sev-

eral other occurrences of these terrestrial animals have been identified in marine rocks in Italy, Germany, China, and even possibly England.¹⁰

The phytosaur is a semiaquatic reptile whose remains are usually found near freshwater lakes and rivers....However, these particular fossils were found in sediments from an ancient ocean environment [limestone bed with marine fossils], tens of miles from the Triassic shoreline.¹¹

How do land-dwelling animals end up in an ocean environment and in ocean sediments? The scientists themselves found no evidence other than their occurrence in marine rocks.

Clear skeletal adaptations to a marine habitat are not evident in *Mystriosuchus steinbergeri* sp. nov. [the species found], but may reflect the highly limited available postcranial [body fossils] material.¹⁰

Finding phytosaurs in marine rocks in Austria and elsewhere is clear evidence of massive, high-energy transport. Tsunami-like waves, generated by large earthquakes during the Flood, could easily have swept land-dwelling animals out to the deep sea, miles from the original coastline.

The phytosaurs most likely lived in an ecologically zoned pre-Flood world.¹¹ Coastal environments were probably full of these crocodile-like creatures. As the Flood's water levels increased during the Absaroka Megasequence (which included the Triassic), the phytosaurs were evidently washed out to sea as the turbulent waters receded.

The Absaroka (Pennsylvanian-Lower Jurassic) is the level of the Flood when the first major coal seams show up in the rock record and the first major occurrences of land animals also appear.¹² It's no coincidence that land animals and plants show up simultaneously at the same level globally as these coastal swamps were being flooded by the advancing Flood. In a Flood model, we should not be surprised to find land animals washed great distances out to sea as a consequence.

Massive Transport Process

Only a massive, high-energy flow of water could move sand over 1,000 feet thick more than 200 miles offshore or transport a dinosaur over 70 miles out from the nearest coast. And only repeated tsunami-like flows could bury it about 1.5 miles deep. And similar, tsunami-like flows would be necessary to transport land-dwelling phytosaurs tens of miles offshore.

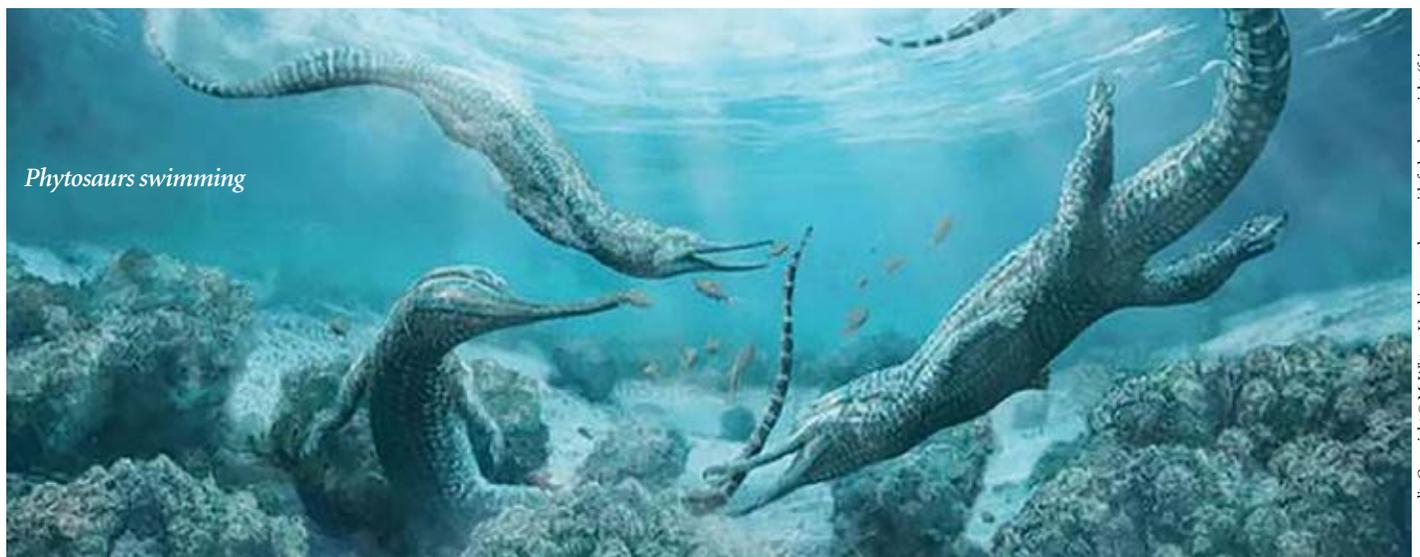
We're talking about unimaginable amounts of energy—greater than any tsunami witnessed in modern times. These features are difficult to comprehend without recognizing a catastrophe as big as the great global Flood described in Genesis. There is no other conceivable explanation that fits the observable facts. It was a terrible day at the beach when the doomed *Plateosaurus* was washed out to sea and buried in sediments far off the coast of modern Norway.

And it was a terrible thing for Earth's people who did not heed Noah's warnings that God was going to send a flood to judge them for their wickedness. We can thank God that Noah and his family believed, obeyed, and were saved. 🌊

References

1. Clarey, T. 2015. The Whopper Sand. *Acts & Facts*. 44 (3): 14.
2. Clarey, T. Dinosaur Fossils Found in Marine Rocks...Again. *Creation Science Update*. Posted on ICR.org May 25, 2017.
3. Clarey, T. 2015. Dinosaurs in Marine Sediments: A Worldwide Phenomenon. *Acts & Facts*. 44 (6): 16.
4. Hurum, J. H. et al. 2006. A Late Triassic dinosaur bone, offshore Norway. *Norwegian Journal of Geology*. 86: 117-123.
5. *Ibid*, 118.
6. *Ibid*, 117.
7. Hurum, J. H. et al. 2006. Tracking polar dinosaurs—new finds from the Lower Cretaceous of Svalbard. *Norwegian Journal of Geology*. 86: 397-402.
8. Johnson, J. J. S. 2018. Receding Floodwaters Buried Deep-Sea Oil. *Acts & Facts*. 47 (8): 21.
9. *Ibid*, quoting 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): 104.
10. Butler, R. J. et al. 2019. Description and phylogenetic placement of a new marine species of phytosaur (Archosauriformes: Phytosauria) from the Late Triassic of Austria. *Zoological Journal of the Linnean Society*. zlz014.
11. Geggel, L. Car-Size 'Sea Monster' Terrorized Triassic Oceans. *LiveScience*. Posted on livescience.com May 11, 2019, accessed June 5, 2019.
12. Clarey, T. 2018. Assembling the Pre-Flood World. *Acts & Facts*. 47 (4): 11-13.

Dr. Clarey is Research Associate at the Institute for Creation Research and earned his Ph.D. in geology from Western Michigan University. Dr. Johnson is Associate Professor of Apologetics and Chief Academic Officer at the Institute for Creation Research.



Phytosaurs swimming

Image credit: Copyright © M. Witton. Used in accordance with federal copyright (fair use doctrine) law. Usage by ICR does not imply endorsement of copyright holder.

Complex Creature Engineering Requires a Creator

High-Tech Bat Sonar

Bats are a remarkable example of God's handiwork. Especially, their sonar capabilities put anything human-engineered to shame.^{1,2} These creatures appear suddenly in the fossil record in Eocene strata with no evolutionary precursors, and their fossils look just like modern bats. Bats are the only mammals capable of true and sustained flight like birds. In fact, they are even more maneuverable in the air than most birds are.

Bats use an incredibly complex form of echolocation to locate prey in the dark. As they zip through the air, they constantly emit and sense sound waves to accurately pinpoint the exact locations of moving targets, which they then snatch out of the air and eat completely "on the fly." The variable sound pulses bats send out have been measured at 30,000 to 100,000 hertz (Hz).³ In comparison, the upper bound for human hearing is 20,000 Hz. This high-tech sonar is amazing enough, but bats also contain another very interesting piece of engineering. They would actually deafen themselves if it weren't for a highly specialized inner ear muscle. This muscle contracts rapidly, repeatedly, and precisely to "freeze" the bone associated with hearing exactly when the sonar impulse is sent out. Then it relaxes at just the right time to receive the incoming sonar echo information from previous impulses.

This echolocational system is so precise that bats can use built-in neurological algorithms to intuitively process the ultrasonic sonar pulses to "see" their surroundings with sound just as well as people can see with their eyes! Some bats can even target and nab insects as small as a mosquito.

Honey Bee Waggle Dancing

One aspect of honey bees that fasci-



article highlights

- Creatures like bats, bees, and butterflies have innate abilities human engineers can't match.
- Bats' precise sonar capabilities, the honey bee's elaborate waggle dance hive communication, and the Monarch butterfly's two-thousand-mile navigational abilities demand the Creator's genius.

ates scientists is their eusocial (cooperative interaction) behavior, especially when it comes to locating food and other resources and then communicating that highly specific information to their hive mates on their return.⁴ When a foraging bee discovers a new food or water source, it flies back to the hive and conveys the exact coordinates of the resource through a high-tech waggle dance in a figure-eight pattern. The angle of the dance in relation to the sun confers the direction, while the amount of wagging confers distance and the general utility of the resource (e.g., food or water).

The hive mates surrounding the dancer bee also exhibit highly specific behavior that involves their distance and angle in relation to the dancer. An important part of their engagement in the information acquisition process is touching antennae with the dancer bee. Located in the bee's antennae are highly

specific, ultrasensitive mechanosensors that detect the information-rich dancer bee's vibrations in a range of 265 to 350 Hz.

Research has shown that the bees emit several different detectable chemical signals during the waggle dance as well. Sophisticated behavioral communication like this in a seemingly "simple" insect utterly defies evolutionary myth and glorifies our omnipotent Creator.

Monarch Butterfly Navigation

Monarch butterflies' annual long-distance migrations are yet another example of the Creator's genius. These insects accurately navigate a southwesterly course on a 2,400-mile autumn trip starting from Canada and the northern U.S. and ending up in specific sites in Mexican forests.⁵ Part of this extraordinary journey can take the butterflies across hundreds of miles of open ocean in the Gulf of Mexico. The butterflies navigate the whole journey by continuously tracking data with their eyes on the horizontal position of the sun over the course of the day.

Researchers have also discovered the butterflies have a time-compensation clock located in their antennae to aid in decoding the sun's movements in relation to time—also known as a circadian clock. In any man-made system, this would require complex sensors, computer algorithms, and hardware to decode and integrate the data as part of the overall navigation and flight system. God's design in this small insect and other creatures puts man's efforts to shame. ✂

References

1. Sherwin, F. 2003. Bat-tastic Bats. *Acts & Facts*. 32 (10).
2. Sherwin, F. 2015. The Ultrasonic War Between Bats and Moths. *Acts & Facts*. 44 (10): 15.
3. A hertz equals one vibration cycle per second.
4. Collison, C. A Closer Look – Waggle Dances. *Bee Culture*. Posted on beeculture.com April 23, 2018.
5. Galiuzza, R. J. 2018. Engineered Adaptability: Creatures' Adaptability Begins with Their Sensors. *Acts & Facts*. 47 (3): 17-19.

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



The Syrinx Song

The rippling murmur of a mountain brook, the intertwining notes of a Chopin nocturne, and the melodious sounds of most birds are a tonic to soothe the soul.

What makes the unique sounds of birds is a structure called the *syrinx*, found at a point where the trachea, or windpipe, splits into the bronchi, the passageways to the lungs. The syrinx is typically designed with a resonating chamber and elastic vibrating connective tissues called *tympaniform membranes*. Sound is produced when the membranes are pushed inward via muscular contraction and partially block the bronchi.

It's been known for centuries that some songbirds can make more than one sound at a time, but how? Through painstaking research (such as endoscopic techniques and high-resolution 3-D images), ornithologists were able to determine some birds have the ability to control the lateral and medial labia of the syrinx and produce an amazing effect called *lateralization*. "Each side of the syrinx receives its own motor program that, together with that sent to respiratory muscles, determines the acoustic properties of the ipsilaterally produced sound."¹

Did such sub-millisecond precision come about by time and chance or by plan and purpose? Indeed, "scientists aren't sure how or why birds evolved these unique voiceboxes,"² and "why only birds evolved a novel sound source at this location remains unknown, and hypotheses about its origin are largely untested."³

Even with 21st-century technology, "the anatomy of the complex physical structures that generate [a bird's] sound have been less well understood."⁴ In addition, there appears to be no syrinx evolution. The first time a syrinx is found in the fossil record, it's a 100% syrinx.⁵

Recent secular explanations for syrinx evolution are anemic. "The longer trachea of birds compared to other tetrapods made them likely predisposed for the evolution of a syrinx."³ The phrase "likely predisposed" isn't a scientific explanation. The same publication ap-

peals to "strong selective pressures," which again is hardly scientific.

Evolutionist Chad Eliason of Chicago's Field Museum, committed to the strange idea that heavy-tailed theropod dinosaurs somehow became hummingbirds, stated, "If we found fossil evidence of a syrinx in dinosaurs, that would be a smoking gun, but we haven't yet. In the meantime, we have to look at other animals for clues."²

Researchers did look at other animals, but to no avail.

In a new study in the *Proceedings of the Natural Academy of Science*, an interdisciplinary team of developmental biologists, evolutionary morphologists, and physiologists examined the windpipes of birds, crocodiles, salamanders, mice, and cats to learn more about how syrinxes evolved. Their findings seem to confirm: the syrinx is an evolutionary odd duck.²

Why did God place the syrinx where He did in birds? A team of evolutionists explain why without giving Him the credit: "By sitting so low in the airway, the syrinx can produce sound with very high efficiency."⁶

The syrinx is a uniquely designed and incredibly complex organ the first time it's found in the fossil record. It has no evolutionary history. It's designed to work at superfast speeds to produce some of the most beautiful music in God's creation. Secular scientists might consider it an odd duck, but creationists know it is a marvelous manifestation of its Maker's ingenuity. 🦋

References

1. Suthers, R. A. 1997. Peripheral control and lateralization of birdsong. *Journal of Neurobiology*. 33 (5): 632-652.
2. Birds' voiceboxes are odd ducks. *ScienceDaily*. Posted on sciencedaily.com September 24, 2018, accessed May 28, 2019.
3. Riede, T. et al. 2019. The evolution of the syrinx: An acoustic theory. *PLOS Biology*. 17 (2): e2006507.
4. How do songbirds sing? In 3-D! *ScienceDaily*. Posted on sciencedaily.com January 8, 2013, accessed May 28, 2019.
5. Clarke, J. A. et al. 2016. Fossil evidence of the avian vocal organ from the Mesozoic. *Nature*. 538 (7626): 502-505.
6. Birds' Surprising Sound Source: The best place for a bird's voice box is low in the airway, researchers find. University of Utah news release. Posted on unews.utah.edu April 10, 2019.

Mr. Sherwin is Research Associate at the Institute for Creation Research. He has a master's in zoology from the University of Northern Colorado.



article highlights

- Birds sing using an organ called a syrinx, which is engineered to resonate at a sub-millisecond level.
- This unique organ appears in the fossil record fully formed, with no evolutionary precursors.
- The syrinx is a precision instrument that reflects the ingenuity of its Maker.



This summer has required all hands on deck as we prepare for the grand opening of the ICR Discovery Center for Science & Earth History on Labor Day, September 2. The exhibit hall has constantly buzzed with workers and ICR staff getting it ready for our first visitors.

Many of the exhibits needed significant off-campus creative work from outside experts, and those parts—like the Founders of Science, Origin of the Universe, Life of Christ, and Return of the King displays—are now in the final phases of installation.

When you first enter the exhibit hall, you'll meet some of the greatest scientific minds in history. Enjoy talking portraits of scientists like Sir Isaac Newton and Johannes Kepler, whose faith in God inspired their scientific pursuits.

In the Origin of the Universe room, you'll journey back to the very beginning of time. We recently added film screens that will display God's work during the six days of creation. Young and old alike will marvel at our Creator's power to speak such a huge, complex universe into existence. A giant globe in the center of the room will allow visitors to explore the unique design features of the planets of our solar system.

The Dragon Encounter exhibit is just about ready. It highlights examples from all over the world where humans encountered “dragons” long before they were called dinosaurs. Find out how historical sightings of these fantastic beasts fit with the Bible's timeline rather than an evolutionary one.

We've just posted ICR scientists' latest research on walls within the exhibit hall. The Bones of Contention section describes how original tissues—such as blood vessels, collagen, and bone cells—are routinely found in dinosaur fossils. These fast-decaying biomaterials shouldn't be there if dinosaurs lived tens of millions of years ago.

Holograms in the Life of Christ/Return exhibits will tie all of this science and history together and show how it points to Christ. Jesus is our Creator and Savior, and one day He'll return as the triumphant King. Visitors will be invited to trust His Word in all matters, from science to salvation.

This project is almost ready—and we're so excited for you to see it! Please pray for us and consider financially supporting this new ministry outreach as we near the finish line.



The Founders of Science exhibit under construction—portraits of talking scientists will fill the walls



The Origin of the Universe room with wall-to-wall screens



Noah's office and drafting table aboard the Ark



The Return of Christ the King exhibit will conclude the tour



A seal from Mesopotamia and an Egyptian palette both show what appear to be long-neck dinosaurs



While on a trip in China, 13th-century merchant Marco Polo described seeing a 30-foot “serpent” with large claws and teeth, and Alexander the Great saw a great hissing dragon in India around 330 BC



Continuous Environmental Tracking Wrap-Up

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



article highlights

- Darwinian evolution attempts to explain life and its apparent design without a Creator.
- Evolution attributes adaptation to chance external environmental processes, as opposed to God's creation of internal biological systems that drive adaptation.
- ICR's continuous environmental tracking model demonstrates that organisms, and even entire populations, have built-in abilities to track their environments and readily adapt with appropriate responses.
- Only intricately and purposely designed biological systems can respond in this way.

For the past two years, the Engineered Adaptability series of articles has explored ways in which scientific methodology and understanding benefit when engineering principles are applied to how living things function. In the process, we have built a conceptual framework for a designed-based model called continuous environmental tracking (CET), which focuses on the mechanisms through which organisms express traits that enable them to closely track changing conditions and adjust accordingly. This final article will take a bird's-eye view of what the series has presented.

Purposes for the Engineered Adaptability Series

The first goal of the Engineered Adaptability series is to help people understand Charles Darwin's anti-Designer strategy. Evolu-

tionary theory was developed as a sophisticated anti-design explanation to answer one question: How can creatures that look purposefully engineered to fit their environment have originated apart from the agency of God? In short, Darwin devised an anti-Designer theory. He cleverly replaced heavy-handed declarations such as "there is no God" with a softer anti-design narrative that leads people to draw their own conclusion that a Creator isn't needed and may not even exist. "No Creator" still arrives at the same "no God" destination, and some Darwin followers affirm to being intellectually fulfilled atheists.

The second goal is to explain why Darwin deliberately focused his theory on the process of adaptation. He envisioned evolutionary development as a long string of adaptations. He astutely recognized that in the battle over evolution's validity, securing the conceptual high ground depended on controlling the explanation of how adaptation happens. Focusing on the relationship between changing environmental conditions and adaptation, he proposed a revolutionary reversal in causation.¹ Darwin visualized random environmental processes that exercise designing agency from *outside* of organisms, which was in lieu of God's designing agency as expressed through purposeful self-adjustments originating from *within* them.

Darwin dubbed his process "natural selection." The soul of selectionism is the affirmation that the environment exercises agency through volitional selective powers. But although nature is full of living things, nature itself is not alive. It possesses nothing equivalent to a volitional brain that would allow a legitimate application of the word "selection" to it.

Selectionism serves as the illegitimate vehicle Darwinism uses to project agency onto the environment. This fabricated agency allows nature to be seen as a substitute designer in God's stead. But since environments can't make bona fide selections, selectionism is fundamentally a misleading, mystical mental construct.² But by replacing purposeful internal causation with random external forces, Darwin succeeded in changing the structure of modern biological thought into an inherently anti-design externalistic framework.³

Theory matters. Biological observations are interpreted in light of one's theory, and theory sets research agendas, so a third purpose of this series is to sow seeds for a theory of biological design. One of its core expectations is that there'll be corresponding system elements between human-designed devices and biological mechanisms that perform similar functions. Thus, since purpose constrains the design of human-engineered complex systems, the theory expects biological systems to also exhibit purposeful design.

Engineers must design all capability *into* an entity, so biological design theory would be internalistic, meaning that identifiable control systems that are innate to organisms will govern both organismal form and adaptability. Highly regulated internal control systems confer the ability for individuals to relate to each other and to external conditions. Also, explanations of biological phenomena will be restricted to objective engineering causality. This precise way to explain biological functions doesn't omit any system element between exposure and response, while it specifically precludes personifications of nature in lieu of system elements as agents of change.

A final goal is to move toward an explanation of adaptation as though Darwin had never propagated his theory. A non-Darwinian framework obviously rejects selectionism. ICR's biological model, continuous environmental tracking (CET), is both design-based and organism-focused. If we begin by assuming that biological functions are best explained by engineering principles, then that change of reference allows us to see biological phenomena differently...and ask fresh questions. Adaptability appears to be the engineered control within organisms that allows them to relate to their environment through appropriate innate self-adjustments. Human engineers use a tracking system to detect and maintain surveillance of a moving target. The Engineered Adaptability series has highlighted diverse mechanisms through which organisms express traits that enable them to similarly closely track changing conditions.

Two very different views of God and creatures become clear. Starting with life emerging naturally from chemicals, Darwinism eliminates God's engineering agency. Organisms are seen as modeling clay passively driven through time while slowly being crafted by the whims of nature as the environment exercises selective and absolute volitional agency. Nature becomes the substitute god.



The opposing view recognizes God's designing agency and so conversely sees creatures as active, problem-solving entities endowed with spectacularly engineered innate capacities. Creatures drive themselves through time as they detect, take on, and solve very challenging dynamic conditions through which they continually "fill the earth"...all to their Creator's glory.



Continuous Environmental Tracking Model in a Nutshell

If engineers were to hypothesize how creatures spread into diverse niches and possibly undergo speciation, they might produce a book titled *On the Origin of Species by Means of Continuous Environmental Tracking*. Many new discoveries on biological adaptation indicate that it's not enough to just identify features of design in biological systems. These findings must be fitted into a conceptual framework. CET is a model based on a theory of biological design to explain adaptation. Each following paragraph sums up an article from the Engineered Adaptability series on how to develop an organism-focused, design-based model.

Start with an observation. In this case, as environments change, creatures are soon observed exhibiting suitable self-adjustments. It seems like creatures can track environmental changes. Then look for a corresponding human-engineered mechanism that may explain the observation. For changing conditions, engineers regularly use tracking systems to detect and maintain surveillance of moving targets. Thus, one hypothesis is that creatures use internal tracking system mechanisms as the underlying means of their adaptability.

We find that for most of the documented adaptations, creatures used elements that match well with those underlying the self-adjustable properties of human-designed tracking systems. These are 1) input sensors to gather data on external conditions; 2) internal programming specifying reference values and "logic segments" that compares input data to a reference and selects a suitable response; and 3) output actuators to execute responses. The route from detected condition to specific adaptation runs through these components. The systems exhibit the engineering principle of functional coherence.

This means that key elements must be available at the right time, place, and amount to attain function.

These recently described mechanisms are completely internal to creatures. In addition, the way research studies characterize their functions is revealing. In general, they don't fit scenarios in which genetic variability is fractioned out "trial and error" style through struggles to survive. Rather, these innate mechanisms yield results

that are regularly described as “regulated,” “rapid,” often “repeatable,” and, at times, even “reversible”—words that better fit the outcomes of engineered systems.

Sensors play a vital role at the organism-environment interface, even though some research papers omit them in their causal explanations. The way in which sensors are utilized by creatures highlights the purpose-oriented, internalistic nature of engineered design. A fundamental engineering principle is that an adjustable system will have a trigger as an *integral* part. That trigger—be it mechanical, electronic, or otherwise—will be both a sensor and the initiating element of self-adjusting processes. Creatures respond to only a select few out of a myriad of exposures. Why? First, sensors are exquisitely designed to be sensitive to specific environmental conditions. Second, internal programming specifies for itself which conditions will be signals, cues, or stimuli.

Data collected by sensors are processed by innate logic mechanisms that also direct a response. Human-engineered logic mechanisms imitate the conscious logical intentions of the designer. Basic “if-then” logic is usually achieved by a switching mechanism (e.g., an on-off switch). Many biological switches are incorporated in gene regulatory networks, yielding a type of logical cellular “cognition” used in adaptation. Remarkably, cells possess specific mechanisms to optimize their genome in response to their environment. Consistent with a design-based approach, recent findings indicate that mathematical models and engineering principles could potentially explain *all* intracellular regulatory networks.

When organisms respond to environmental change, their self-adjustments may be so suitably targeted to the condition that they are often described as predictable. Selectionists will assert that the environment “selected for” the trait. But since a real “selection event” is lacking, the only place selection is happening is in their own minds. A realistic approach recognizes an organism’s programmed “if-then” logic that enables an *internal* selection of the correct solution to different challenges. This logic-based selection is the outworking of an anticipatory adaptive strategy in which innate solutions *precede* environmental challenges and are not *due to* them. Therefore, when diverse organisms converge on similar traits when faced with the same exposure, a reasonable explanation would be that they share the same internal programming for responses.

Three unique mechanisms with a tight correspondence to what a human engineer would design fill out the picture of engineered biological adaptability. When encountering an abrupt environmental challenge, some mechanisms enable a very rapid change in the expression of genes without changing the genes themselves. These are called *epigenetic* mechanisms. Two characteristics achieve enviable design

outcomes. Epigenetics allows a population to “flex” when handling sudden stresses. The early generations rapidly express suitable traits, but then a future generation typically returns to the “baseline” after the stress passes. Engineers must factor time considerations into any adaptable design. Epigenetic mechanisms perfectly fill a crucial time gap right between very rapid physiological self-adjustments and full multi-generational genetic changes.

An exciting research topic focuses on creatures’ internal predictive models that seem to couple information about themselves and their environments in a way that confers “foresight” of future conditions. These anticipatory systems give a vital look-ahead response capability to any tracking system and are a key element of CET. The reality of anticipatory systems refutes evolutionary theory, which holds that adaptations must be “blind” with respect to the future needs of the organism. The details of anticipatory systems are not yet known, but by knowing key elements of human forecasting systems, a theory of biological design can guide scientific research and allow us to make useful predictions.

Finally, this series considered how entire populations rather than just individual organisms might track changing environments. An engineering-based model could see a population as an array of unique problem-solving entities that function like a human-designed distributed computing system. Cutting-edge blockchain technology illustrates how this non-random process might work. This model expects rapid convergence on optimal solutions rather than slow, gradual evolution.

Whereas evolutionists emphasize competition in which a few emerge victorious at the expense of the many, the CET population model refreshingly emphasizes cooperation over competition where both the individual and the population are valuable.

This series has covered a lot of territory in exploring the contrasting theories of adaptation. But one of its most important contributions is the realization that applying engineering principles to the way living things function not only provides new insights and better understanding of what we observe, it also opens new opportunities to better appreciate the exquisite design our Creator, the Lord Jesus Christ, has placed in everything He made. ❧

References

1. Guliuzza, R. J. 2018. Engineered Adaptability: Darwin’s Anti-Design Doctrine. *Acts & Facts*. 47 (10): 17-19.
2. Guliuzza, R. 2011. Darwin’s Sacred Imposter: Natural Selection’s Idolatrous Trap. *Acts & Facts*. 40 (11): 12-15.
3. Guliuzza, R. J. 2017. Engineered Adaptability: Adaptability via Nature or Design? What Evolutionists Say. *Acts & Facts*. 46 (9): 17-19.

Dr. Guliuzza is ICR’s National Representative. He earned his M.D. 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.



Q: Where Did Faces Come From?

Animals don't laugh, smirk, roll their eyes, or give subtle squints like humans do. Hundreds of different tiny facial expressions can convey our thoughts and feelings in an instant—all using the human face. But faces do more than express. They hold sensors for sight, smell, sound, temperature, and humidity. They also keep sun and dust out of those sensors, and they enable us to breathe, eat, speak, and sing. Each person's face does all this while looking unique among billions of others. How did our marvelous faces get here?

A team based at Arizona State University (ASU) Institute of Human Origins recently speculated on how the distinct features of human faces evolved from ape-like faces.¹ Their science-sounding terms masked a failure to face certain facts that should have framed their conclusion.

The team needed to imagine how natural processes could have transformed a chimpanzee-like face into a human's. This may sound like no big deal until one begins to list the many differences. Here are a few face features that Darwinists need natural

selection and mutations to somehow expertly craft in just a few million years:

- » **20 muscles.** Humans have about 20 more facial muscles than modern chimpanzees.² Their combinations of contractions craft a cornucopia of communication.
- » **Smooth skin.** Even men with thick beards have smooth skin in spaces where apes have furry faces.
- » **Eyebrows.** Look close—chimps have no hairy eyebrows.
- » **Visible sclera.** Only human eyes have the whites showing in such a way that we can communicate merely using eye motions.
- » **Nose bridge.** Apes have no bone for their nose.
- » **Smaller ears.** Humans have smaller ears than apes.
- » **Lower cheekbones.** The distance between teeth and cheekbones is shorter in humans than in primates.
- » **Lips.** Apes' closed mouths hide that soft red tissue that human lips have on constant display.

Good luck restructuring all that biology with nothing but a series of random mutations. And that's just the facial differences.

Completely unfazed by the fact that no scientist has seen natural selection craft a single such feature—let alone something akin to the entire suite listed here—ASU News wrote, “Changes in the jaw, teeth and face responded to shifts in diet and feeding behavior.”¹

In other words, our ancestors' facial traits supposedly changed at least partly in response to what they ate.

Even today, human faces look different when we eat raw and unprocessed

article highlights

- Animal faces aren't nearly as expressive as human faces.
- Even chimpanzees can't match the way our eyes, mouths, foreheads, and cheeks convey meaning.
- God gave people the ability to express a wide range of emotions—from the deepest sadness to the greatest joy—with a simple look.
- The designed details in human faces demand a real Designer.

food.³ But this happens when innate sensors detect intense chewing pressures and internal workings interpret that stress and then activate jaw bone and muscle growth during childhood development. Most of us process our food at least partly by hand, giving us smaller mouths. These adjustments have nothing to do with evolution and everything to do with ingenious, adaptable design.

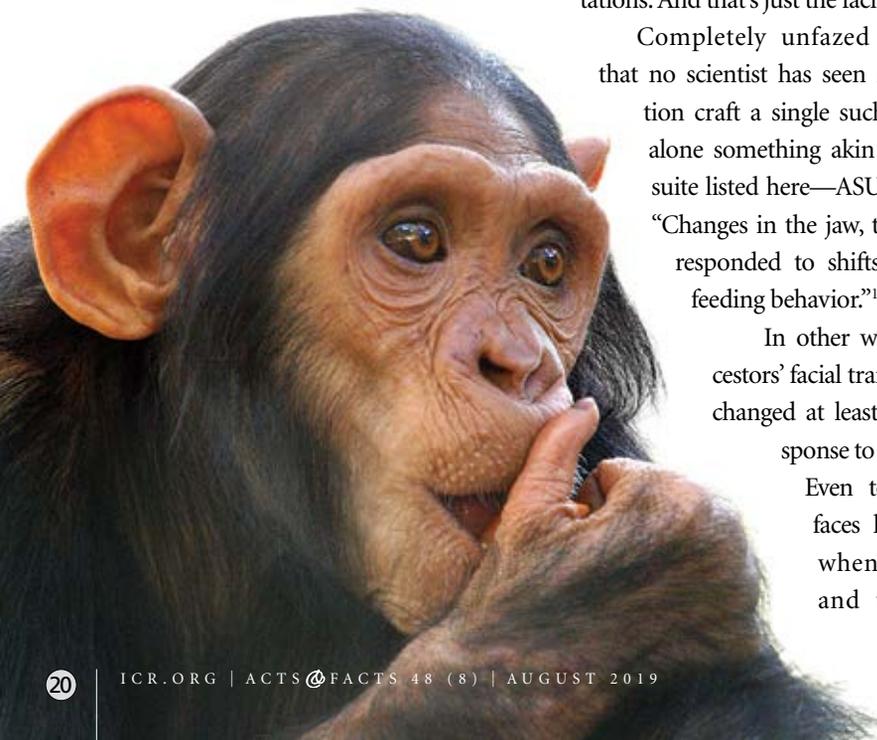
No measurements from past faces document these researchers' speculated shift from ape to man. Instead of science, they rely on blind faith in evolutionary dogmas such as that expressed by ASU paleoanthropologist William Kimbel, who asserted, “We are a product of our past.”¹

Unscientific speculations—popular though they may be—should never substitute for observable, repeatable science. What experiments affirm ape-to-man evolution? For that matter, no science so far refutes the words of Jesus, who said, “But from the beginning of the creation, God ‘made them male and female’...with expressive human faces right from the start.”⁴

References

1. Russ, J. The history of humanity is in your face. *Arizona State University News*. Posted on iho.asu.edu April 15, 2019, accessed May 3, 2019.
2. Gregory, W. K., ed. 1950. *The Anatomy of the Gorilla. The studies of Henry Cushier Raven, and contributions by William B. Atkinson and others. A collaborative work of the American Museum of Natural History and Columbia University*. New York: Columbia University Press, 17.
3. Thomas, B. Human Jawbone Size Reflects Diet, Not Just Lineage. *Creation Science Update*. Posted on ICR.org January 3, 2012, accessed May 20, 2019.
4. Mark 10:6.

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



Genesis Is Not a Sanitized Myth

article highlights

- Many people believe Genesis is a myth rather than actual history.
- They think that when Jesus talked about Genesis, He accommodated the beliefs of His culture, including untrue beliefs.
- But other gospel verses clearly show that Jesus didn't indulge falsehoods at any time.
- Christ referred to and relied upon Genesis as historical narrative.

Years ago, while I was teaching a college class, a non-Christian student chided me for treating the book of Genesis as true history. With fake flattery, the student went on to say, "I'm surprised, as knowledgeable as you are, that you treat the Genesis myth as if it was history that actually happened."

The implication was that all truly "knowledgeable" professors understand that Genesis is just backdated Jewish literature, some kind of poetry forged from ancient myths adopted from Israel's pagan neighbors. The challenging student also balked at the books of Moses being written by the historical Moses. How would you answer this layered criticism of the Bible's integrity?

Referring to John 5:44-47, I admonished the student that no one was more knowledgeable than the Lord Jesus Christ, and He treated Genesis as reporting genuine history and recognized Moses as Genesis' human co-author.¹

The skeptical student countered, "Jesus was only accommodating the common beliefs of His culture to avoid offending His audience in a way that would distract from His main message." The student further alleged that Christ mixed ancient mythology



(such as false ideas about creation and the Flood) with His teachings about morality to avoid sidetracking controversies. This is like saying that endorsing minor falsehoods is somehow okay if you do so to prevent listener distraction while you teach "greater good" virtues like honesty and morality.

Slander against Christ's teachings and other teachings in Scripture is nothing new. Pseudo-scholar Jean Levie illustrates:

Scientific ideas current in those [biblical] days, but which have now been abandoned, may enter into the formulation of teaching [i.e., main message] which alone the inspired writer wishes to assert. It is, moreover, of little consequence whether he did or did not believe in the ideas current in his time, for they are not what he is claiming to assert.²

Jean Levie isn't alone in his denial of Scripture's inerrancy. More recently, Peter Enns has added sophisticated suggestions that Genesis incorporates ancient creation myths by sanitizing pre-scientific pagan myths and turning them into stories with the Jewish God portrayed as Creator.³ This history-denying accommodationism mischaracterizes Christ, as if He accommodated the erroneous thinking of His "pre-scientific" audiences with an end-justifies-the-means rationale.

Disagreeing with the student challenger's bluff, I replied, "Christ refused to accommodate false teachings of His genera-

tion, regardless of how much He offended His audiences, as He clashed against their popular fallacies."

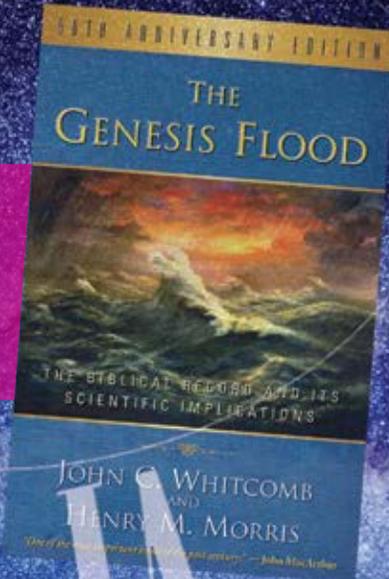
To teach, and subsequently to force conflict, Christ healed on the Sabbath.⁴ Likewise, He prioritized time with children, clashing with Pharisaic teaching that conversations with little children, like talking to ignorant commoners, were a waste of time.⁵ Christ went out of His way to speak to a Samaritan woman, despite cultural rancor between Jews and Samaritans.⁶ Knocking over temple money-changer tables, to shame such religious scam-thievery, was not very accommodating.⁷ The list goes on. Genesis is not myth. Jesus taught it as true history—and He never accommodated falsehood. ✂

References

1. Morris, H. M. 2004. Christ and the Writings of Moses. *Days of Praise*. Notice that the Lord Jesus repeatedly treated Genesis as real history: Matthew 10:15; 19:3-6; 24:38-39; Mark 10:3-9; Luke 11:50-51; 17:28-32; John 5:44-47.
2. Levie, J. 1961. *The Bible, Word of God in Words of Men*. S. H. Treman, trans. New York: P. J. Kennedy & Sons, 216-217.
3. Peter Enns alleges, "The reason that [Genesis] account is different from its ancient Near Eastern counterparts is not that it is history in the modern sense of the word and therefore divorced from any similarity to ancient Near Eastern myth... God adopted Abraham as the forefather of a new people, and in doing so he also adopted the mythic categories within which Abraham—and everyone else—thought. But God did not simply leave Abraham in his mythic world. Rather, God transformed the ancient myths so that Israel's story would come to focus on its God." Enns, P. 2005. *Inspiration and Incarnation: Evangelicals and the Problem of the Old Testament*. Grand Rapids, MI: Baker, 53-54.
4. Luke 6:1-11; 13:10-17; 14:1-6.
5. *Pirké Abôth* 3:10 (Dosa ben Harchinas), discussed in Johnson, J. J. S. 1987. When Jesus Took Time Out to Bless the Children. *Biblical History*. 1 (3): 50-55.
6. John 4:5-27.
7. Matthew 21:12-13; Mark 11:15-18.

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

Commitment to a Timeless Message



article highlights

- *The Genesis Flood* started the modern creation movement.
- This book showed how science supports the Genesis creation narrative.
- The ICR Discovery Center will continue this timeless message to a new generation.

The book *The Genesis Flood* has rightly been credited as the catalyst of the modern revival of scientific biblical creationism. Published in 1961 and still in print, no other work has had such a profound effect on Christian thought concerning the theological and scientific credibility of biblical creation in particular and the veracity of Scripture in general. Its magnificent apologetic is stunning—and each of us owes a great debt of gratitude to Drs. John Whitcomb and Henry Morris for providing this powerful weapon in the defense of the faith.

At the time, no organization existed that was wholly dedicated to creation science research. But the enthusiastic fervor that quickly followed led to the founding of the Creation Research Society in 1963 and the Institute for Creation Research in 1970. Many fine organizations have sprung up since, but these two original ministries, still in existence, continue to provide the bulk of the technical research essential for the creation science movement.

The unique pairing of a theologian (Whitcomb) and a scientist (Morris) played

a part in the effectiveness of *The Genesis Flood*. I'm convinced that the reason for its unrivaled influence—aside from God's direct blessing—was the authors' frank acceptance of the Genesis record as absolutely and literally true, showing that Genesis offered a better basis for understanding the scientific data relating to Earth's history than any evolutionary model. This conviction has been the dominant theme of all of ICR's ministries.

ICR's highly successful creation conferences and publications have all shown that the literal Genesis record of supernatural creation is the foundation of the gospel of Christ and all crucial aspects of biblical Christianity. True education, true science, and the institution of marriage and family are also based on the truths found in Genesis. In fact, all truth in every area of life finds its beginning in the Genesis record—the very word means “beginning.” God placed it first in the Bible for a good reason. It is the foundation of all that comes after it.

But while Genesis is the foundation, it's not the complete structure. Jesus Christ

is our Creator, and He became our Redeemer and will one day be acknowledged by all as King and Lord. Thus, pointing the world back to God is our ultimate goal. No organization could achieve such a task alone, and it will never be fully accomplished until Christ returns to “make all things new” (Revelation 21:5). But we earnestly work toward that end—doing what we can to meet this great challenge.

This has always been ICR's purpose, and by God's grace it will continue to be until Christ comes again. Almost 60 years since *The Genesis Flood* was first published and 13 years since our founder Dr. Morris went home to heaven, ICR is committed to the same timeless message of the truth of God's creation and His loving work of redemption. Soon, the ICR Discovery Center for Science & Earth History will become the public face of this ministry and will reach the next generation with the evidence that the Bible is right and its message is true. ✨

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



PRAYERFULLY
CONSIDER
SUPPORTING
ICR

GALATIANS 6:9-10

Online Donations	Stocks and Securities	IRA Gifts	Matching Gift Programs	CFC (Federal/Military Workers)	Gift Planning • Charitable Gift Annuities • Wills and Trusts
------------------	-----------------------	-----------	------------------------	--------------------------------	--

Visit ICR.org/give and explore how you can support the vital work of ICR ministries. Or contact us at Stewardship@ICR.org or 800.337.0375 for personal assistance.

ICR is a recognized 501(c)(3) nonprofit ministry, and all gifts are tax-deductible to the fullest extent allowed by law.



I debate a lot online, and [my opponents] cannot stand ICR because of your great scientific work. I only got kicked out of one group....I posted a lot of your articles there. **I love Acts & Facts and the well-done articles that the average person can read**...can't wait to go to the Discovery Center.

— J. R.



[In response to your article "How Has ICR Changed Your Life?" in the June 2019 Acts & Facts], it's been a journey of many decades. A search



for truth and honesty. As a young man, I was an agnostic and a Darwinian evolutionist. Until I studied probability and statistics during my undergraduate years at Princeton, where I learned *how to think, rather than what to think*. That was more than half a century ago.

Since then, I have come to the realization that evolution is nothing more than a prayerful fairy tale designed to allay the fears of materialistic dogmatists as they spend their lives whistling past very real graveyards, ignoring the inevitable consequences of their Faustian bargain. **As for me, to quote the aphorism: "I do not have enough faith to believe in evolution."**

— S. K., Ph.D.



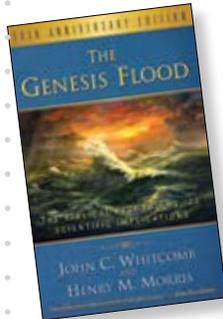
Thank you for your article on Mount St. Helens in your June [2019 Acts & Facts] issue. We lived in the path of St. Helens'

ash on May 18, 1980. It turned pitch black at 2:30 in the afternoon. The next morning it looked like a moonscape outside.



We managed to dig ourselves out and start over, and it was amazing how the landscape recovered. A few years later, we visited the Mount St. Helens site, and a ranger told us the first signs of life on the flow were frogs, thousands of them. Today, it looks as though nothing ever happened. **We are constantly amazed and reminded of how our Creator replenishes and restores that which seems lost and destroyed.** He truly is the Creator of all things.

— S. S.



We became interested in creation science when we were given a copy of The Genesis Flood in 1973.

We became ICR supporters in about 1974 when I was in the Navy. Through the decades that followed, we have prayed for your organization, and in recent years we have been able to contribute small amounts (we are missionaries with limited income). So, just realize that there are many who support you in prayer, even if they cannot contribute financially. Don't give up! Your labor is not in vain in the Lord!

— Chaplain J. B.



Dr. Randy Guliuzza and Dr. Tim Clarey on a recent ICR Black Hills trip.



From a Christian high school science teacher's perspective...

I doubted the truth of the creation account for decades...even though I am the daughter of a Christian school science teacher, Baptist preacher, and a Wycliffe Bible translator. I knew in the depths of my heart Genesis 1-3 was true but was lacking the ability to use the same scientific evidence that the evolutionists had to state the case for creation.

So, how grateful I am for the countless hours of blood, sweat, and tears that Dr. [Tim] Clarey and Dr. [Randy] Guliuzza, along with many others, have put into this work. **Know that one high school science lesson at a time, I joyfully build upon the expertise and foundation of your work to take part in the preparation of young Christians to turn hopelessness into the hope of eternal life through Jesus Christ, our Creator and Savior.**

I am a creationist junky—I confess! Our children today are so blessed to have the tools in their own hands that have come from ICR. May we live as astute creationists, fully prepared and confident as we encourage others with God's plan of redemption. In the beginning, God.... To believe or not to believe....That's life's most important question, isn't it?

— S. S.





P. O. Box 59029, Dallas, TX 75229
ICR.org

