ACTS & FACTS

INSTITUTE FOR CREATION RESEARCH

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FEBRUARY 2018

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

Cover image: Dinosaur tracksite, Colorado.

from the editor

Studying the Works of Our Creator

As believers, we enjoy the privilege of studying the works of the Lord. Creation reveals our Creator's character. "His work is honorable and glorious, and His righteousness endures forever. He has made His wonderful works to be remembered; the LORD is gracious and full of compassion" (Psalm 111:3-4). One of His greatest works was sending redemption to His people because He cares for us (Psalm 111:9). His wonderful works remind us that He is indeed full of grace and compassion.

Have you taken the time to study His works? All of creation reveals mysteries of the God who was here before the foundations of the world, allowing us to know Him more intimately. Have you pondered His works, displayed in the reliability of the seasons and demonstrated in the uniqueness of each created kind of animal? Have you wondered how the stars found their place in the heavens? Have you ever been in awe that the very breath of God is housed in humans made of dust?

The Institute for Creation Research spotlights the works of God we see all around us. But our scientists also bring to light the intricacies we would never discover in day-to-day living. In this issue, Dr. Vernon Cupps examines the elusive properties of subatomic particles to show the limits of scientific knowledge in many areas: "Science is a wonderful tool for investigating the natural world we live in, but we should always remember that science is performed and interpreted by fallible human beings. Thus, there is always a place for faith in the human soul" ("Measuring the Proton's Radius," page 10).

Have you observed evidence of God's works in dinosaur footprints? Brian Thomas and Dr. Tim Clarey take a close look at them and conclude that "places like Dinosaur Ridge represent hundreds of trackway sites all over the world that confirm the global Flood" ("Dinosaur Tracks Back Noah's Flood," page 14).

> When we study His works, we get a glimpse of Him. We peek into the mind of a holy, awesome God and witness the power of our Creator.

Did you know the genetic principles you learned in high school biology were oversimplified? Discover the complexity of God's works hidden in human DNA in Dr. Jeff Tomkins' article, "Human Traits Not So Simple After All" (page 15), and explore the intricate engineering design of God's living creatures in Dr. Randy Guliuzza's article on sensor triggers: "We see in Amazon stores, bacterial flagella, epigenetics, or túngara frogs a full internal capacity that is consistent with intelligently designed systems" ("Sensor Triggers Affirm Intelligently Designed Internalism," page 19).

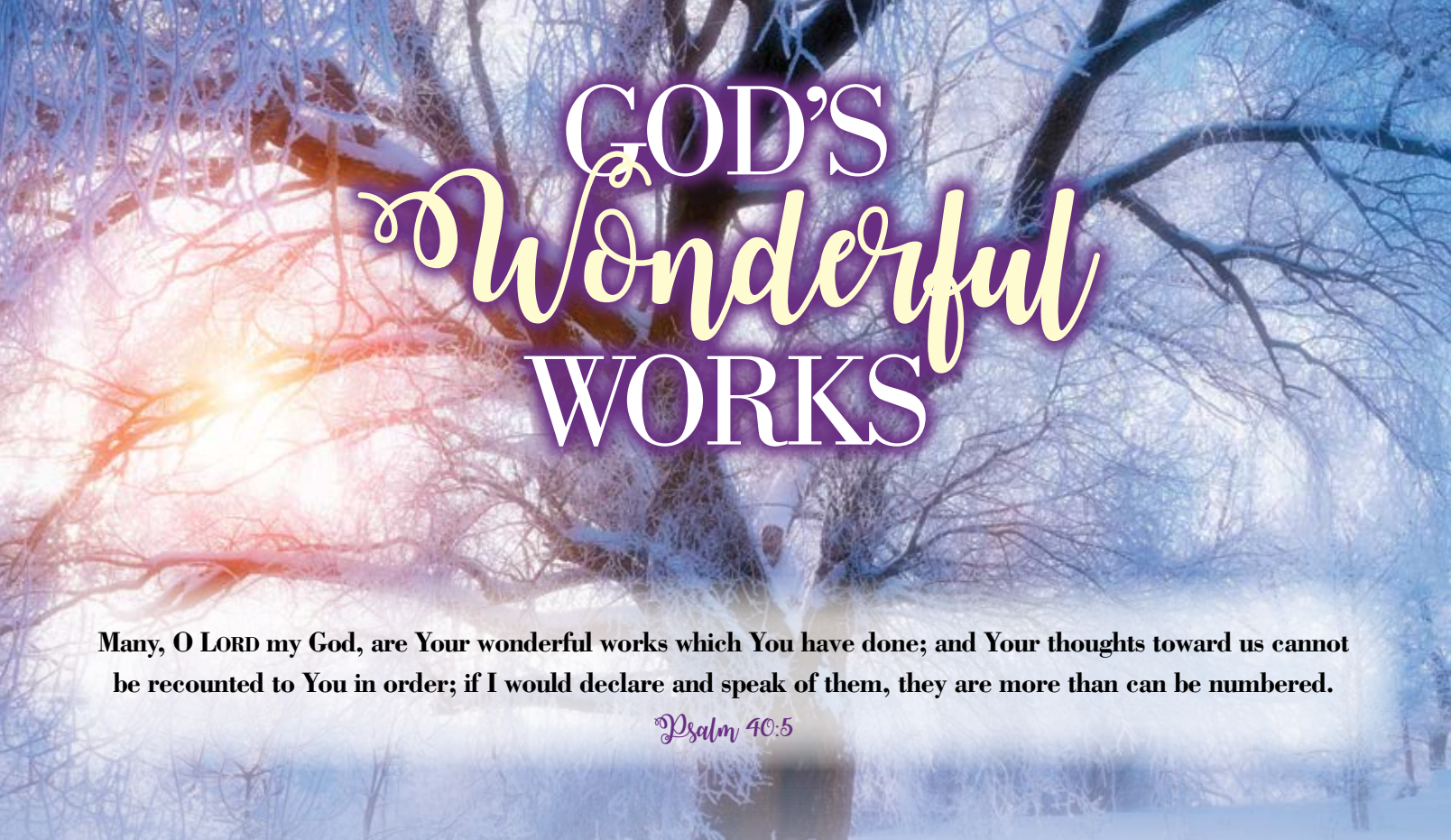
As Dr. Henry Morris III points out in his feature article "God's Wonderful Works," the Lord is the One who enables ICR to do the work of this ministry (pages 5-7). The Lord's wonderful works are exhibited in the people who serve on staff and the friends who partner with us in prayer and support. We are grateful for the opportunity to study the wonders of His works and to join you in declaring His truth.

When we see intricate design in creation, we know that it didn't happen by chance. When we study His works, we get a glimpse of Him. We peek into the mind of a holy, awesome God and witness the power of our Creator. Studying His works—both obvious and hidden—leads us to worship. Every time we study what our God has done, we are left with nothing but praise for Him.

"The works of the LORD are great, studied by all who have pleasure in them." (Psalm 111:2)

Jayme Durant

Jayme Durant
EXECUTIVE EDITOR



GOD'S Wonderful WORKS

Many, O LORD my God, are Your wonderful works which You have done; and Your thoughts toward us cannot be recounted to You in order; if I would declare and speak of them, they are more than can be numbered.

Psalm 40:5

HENRY M. MORRIS III, D.MIN.

Recently, I had the chance to teach a series of messages on the Psalms that promise our blessings come through our expected lifestyle in the Kingdom. One of those provided a challenge to brag about the way the Lord has blessed us. It wasn't long before I was listing the spectacular blessings God has allowed ICR to enjoy in addition to our exciting progress in building the ICR Discovery Center for Science and Earth History (see page 16 for an update).

ICR EVENTS

ICR's core mission centers on scientific research into the vast storehouse of empirical evidence that confirms the accuracy of the Scriptures. The seminars, conferences, and speaking engagements we conduct are our more direct public presentations of the "wonderful works" God has allowed us to participate in.

In 2017, ICR speakers were featured in over 100 different venues from classroom events to large auditoriums. The tens of thousands of attendees included many folks who had never heard the creation evidence, adding multiple thousands of readers to ICR's free publications *Acts & Facts* and *Days of Praise*. During these public events, ICR gives away far more books than we sell—mostly to pastors and other Christian leaders who, we pray, will use the material to teach others.

ICR incorporated fossil walks into our weekend seminars during 2017. In these, we set up life-size replicas of fossil dinosaur bones and host community schoolchildren and their parents to a series of short lectures around the individual dinosaur exhibits. These fossil walks are always jammed and have become a sought-after feature of our area seminars.

In April, the Lord enabled us to hold a beautiful groundbreaking ceremony as we officially kicked off construction of the ICR Discovery Center. Dr. Robert Jeffress of First Baptist Dallas was gracious to openly endorse the center and lead in public prayer at the ceremony. A short video of that event is available for viewing on our ICR.org website. You might enjoy hearing from some of the key Christian leaders who participated that day.

article highlights

- The Institute for Creation Research's core mission is to search out and proclaim the vast scientific evidence for biblical creation.
- For over 47 years, our knowledge base, reach, and readership have grown as God has blessed and guided our efforts.
- Each of the 48 people on staff—the ICR family—plays a vital role in our ministry.
- God has also blessed ICR with exceptional volunteers and donors, whose help and support have enabled us to reach many with the creation message. We couldn't do this work without them.

ICR RESEARCH

Although these wonderful works do

not get much publicity, this really is the core of what ICR does. Without the ongoing research by our dedicated science staff, ICR (and many other creation ministries) would not have the evidences of the truth of Scripture to show.

Dr. Jeff Tomkins heads up our life sciences research. His definitive analysis of human-chimpanzee DNA similarity used over 2.5 million raw chimpanzee DNA sequences matched onto the human genome. The research showed that chimpanzee DNA can be no more than 85% similar to humans. His research also revealed that many chimpanzee data sets likely contain significant levels of contaminating human DNA and that the chimpanzee genome is not accurately constructed, not only because of human DNA contamination but also due to the fact that the human genome was used as a template to stitch together the chimp DNA sequences.

Without the ongoing research by our dedicated science staff, ICR (and many other creation ministries) would not have the evidences of the truth of Scripture to show.

Dr. Randy Guliuzza continues to emphasize a design-based approach that demonstrates an organism's engineered adaptability. He has uncovered a wide variety of highly regulated genetic and physiological mechanisms that produce rapid, repeatable, and often reversible adaptations that fundamentally change our understanding of living organisms. Evidence shows that living things are active, problem-solving creatures that continuously track environmental conditions to fill new ecological niches, rather than passive units shaped by the environment, as natural selection portrays. Dr. Guliuzza also developed an article series on major evolutionary blunders that highlighted the missing evidence for evolutionary expectations, the resulting blunders, and why they continue to happen.

Dr. Jake Hebert demonstrated the fallibility of an iconic 1976 paper published in the journal *Science* that constitutes the primary evidence in favor of the dominant secular ice age theory, the astronomical (or Milankovitch) theory. That paper is so important to secular scientists that two very prestigious science journals, *Nature* and *Science*, both recently ran articles commemorating this paper's 40th anniversary. Dr. Hebert mathematically proved that the calculations used to support the Milankovitch theory are wrong! While the cause and timing of Ice Age events might seem to be a small issue, in reality they are a key element of the evolutionary story of Earth history, now thrown into question by Dr. Hebert's research.

Dr. Tim Clarey has completed the compilation and input of stratigraphic column data across three continents (North and South America and Africa) and is actively making progress across Europe. Much of this represents oil company data widely respected by the geological community. These efforts allow Dr. Clarey to chart the global Flood's progression across multiple continents. His research provides strong evidence that the Flood was global, with each continent showing similar patterns for the beginning stages of the Flood, successive sedimentary depositions, and the recession of the floodwaters.

Dr. Clarey has also published a variety of articles on various aspects of the controversial cache of bones known as *Homo naledi*, widely proclaimed to be a human ancestor. He has concluded that these bones were most likely deposited by an Ice Age cave flood and that *H. naledi* was another type of ape-like *Australopithecus*, like the famous "Lucy" fossil.

Nuclear physicist Dr. Vernon Cupps' work on the nature of matter and his analysis of the significance of the ICR RATE project have been a wonderful work for those in our ICR family who are technically educated. And Brian Thomas and Frank Sherwin have become fossil and soft-tissue experts, as well as two of the more popular and sought-after speakers among our scientists.

Dr. Jerry Bergman joined ICR at the first of January. We look forward to how God will use his expertise here to further the creation message.

ICR RESOURCES

ICR's regular periodicals, books, DVDs, CDs, ebooks, websites, radio and media production, and social media involvement are a large, wonderful work that God has enabled ICR to engage in. The *Acts & Facts* monthly magazine has an active readership of over 250,000, and the *Days of Praise* quarterly devotional is read by over 500,000.

We offer many resources to reach people with the scientific evidence demonstrating God's creation truth. In the last 14 months, ICR produced 12 new books, two four-episode DVD series, six DVD presentations, five CDs, seven *That's a Fact* videos, seven ebooks, and 77 radio programs. There were 104 news articles released on the opening page of ICR.org. The ICR Facebook page has over 150,000 active followers now, and ICR maintains a highly active presence on Twitter, Instagram, LinkedIn, Pinterest, and Google+. The ICR communications effort has been marvelously empowered by our loving heavenly Father.

ICR DIRECTORS

I must brag about the wonderful works the Lord has given to me through those men and women who look directly to me for leadership. Eileen Turner is my Chief Financial Officer. Jayme Durant is the director of our communications department. Chas Morse is responsible for our public events. My earthly son, Henry Morris IV, is charged with donor relations and has recently been heavily involved in design and negotiations for the discovery center exhibits.

Don Barber is the operations director and is the one responsible for the day-to-day interface with the Beck architectural firm now building the discovery center. Chris

Kinman heads up sales and distribution at ICR, and Dr. James Johnson is both the chief counsel for ICR and the director of our online educational programs. He is also responsible for coordinating the hundreds of data points that will be absorbed into the exhibit displays, touchscreens, and data tables in the discovery center.

ICR BOARD MEMBERS

Obviously, my most personal interface is with the ICR Board members. Rather than try to tell you how much they have been the wonderful works of our Lord to me, I will give you their names so you can pray for them—Dan Arnold, Richard Bliss, Jack Brady, Mac Brunson, Dan Farrell, Walter Guillaume, Dan Mitchell, and Rober Stadler.

ICR SUPPORT STAFF

Although these wonderful works of our Lord Jesus operate mostly behind the scenes, ICR would be unable to function without the help of our faithful staff. Our business office people (Beau Patterson, Elizabeth Bearry, Nathan Berryman, Cara Hennessey, and Ruth Ann Wilhoit) keep us within our means and provide an absolutely clean audit each year. The editors and other communications specialists (Beth Mull, Susan Windsor, Michael Hansen, James Turner, Michael Stamp, Truett Billups, and Christy Hardy) make the written efforts "sing," the videos and visuals beautiful, and the social media offerings pithy and relevant.

Michael Hansen is also my executive assistant and manages social media. He travels with me on most of my speaking engagements and has been a tremendous help—as a wonderful work of God on my behalf.

The ICR School of Biblical Apologetics support staff (Mary Smith, Rebecca Barber, Ernie Carrasco) keeps our online educational efforts working. The internet team (Seth Trotman and Steve Yearian) keeps our multiple millions of website users happy. The operations staff (Daryl Robbins and Bill West) makes sure the ICR employees are happy! The sales and distribution employees (James Muysenberg, Michael Lane, Trey Bowling, and Andrew Infinger) keep our ICR store stocked, functioning, orders fulfilled, and ICR events prepared.

The donor relations folks (Margie Medford, Eric Bowyer, Kristen Mitrisin, Steve Hopper, Kelli Morris, and Abby Thomas) keep the mailing list up to date, and handle donor contributions and trusts, CGA documents, and personal wills for our ICR donor family.

And finally, our events team (Joel Kautt, Will Perry, and David Sikorski) competently manage the myriad details involved in organizing speaking engagements ranging from single-speaker talks to major conferences.

> As new donors join our family of supporters, many have commented that ICR is one of the "best-kept secrets" in the Kingdom.

ICR VOLUNTEERS

Another wonderful work the Lord has given ICR is a rapidly growing team of volunteers. These are the families and college and seminary students who answer an email "trumpet" to come stuff envelopes, prepare giveaway packets for the many events, and do the kind of hands-on labor that saves ICR tens of thousands of dollars each year. A few of these folks have become regular helpers working within the routine of our administrative needs or with our science researchers, digging through the internet and/or government databases to pull out the various pieces of information that must be incorporated into our ministry.

As near as we can calculate, these folks have organized 610,000 packets of information over the decade that we have been in Dallas! And as if their volunteer labor is not enough, a majority of these gracious people have become financial donors to ICR as well.

ICR DONORS

If any showpiece were needed for God's wonderful works at ICR, it would surely be the faithful donors God has raised up to enable this ministry, now going into its 48th year of service.

As new donors join our family of supporters, many have commented that ICR is one of the "best-kept secrets" in the Kingdom. Each year brings new evidence of God's supply through His twice-born children. ICR does not have an endowment or some bucket of extra money that we can draw from regularly. About 80% of our annual budget comes directly out of the mailbag each day. The other 20% of the operational needs are mostly cash-flow items like seminar fees, travel reimbursement, and resource sales.

All capital projects (such as the discovery center) that God has convincingly led us to begin require extra cash—every dollar of which must come *in addition to* the regular operational needs of ICR. If you have been part of the ICR family for a while, you will certainly know that we do not use professional fund-raisers or PR firms to continually promote those projects. We have attempted to let our readers and donors know of the missions we believe God wants us to complete, and then expect Him to move hearts as needed.

That has been part of His wonderful works ever since the beginning back in 1970. There are times when our faith is challenged, but God's track record is unfailingly successful. When ICR leadership has spent time seeking God's will for our ministry, God has always rewarded those decisions with sufficient resources to complete the task. We are resting in God's works as we move forward.

Thanks for letting me (and ICR) brag a little bit about the wonderful works of the Lord to and for ICR. To the degree we have accomplished anything, the Father in heaven gets the glory and honor and praise.

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

FEBRUARY

11, 18 & 25 — Dallas, TX | Discipleship University at First Baptist Dallas | (H. Morris III) 214.969.0111

18 — El Segundo, CA | Origins Seminar at Oceanside Christian Fellowship | (R. Guliuzza) 310.414.4555
Note: This is a round-table discussion on origins with various perspectives represented.

20 — Plano, TX | Child Evangelism Fellowship: Children's Discipleship Summit | (J. Durant) 903.217.6387

24-25 — Milan, MI | Milan Baptist Church | (F. Sherwin) 734.439.8180

MARCH

4

4 — Ft. Worth, TX | Lakeview Fellowship | (R. Guliuzza) 817.236.7274

13 — Dallas, TX | Pastors' Luncheon at ICR Campus | (H. Morris III) 214.615.8325

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ICR offers a unique and creative learning experience—a broad array of presentations on everything from the basics of creation science to ICR's latest research, presented by our scientific experts.

You can choose your own event track and even hike the Palo Duro Canyon with ICR scientists or walk with dinosaurs before the conference begins.

Join us in Amarillo on the campus of The Church at Quail Creek and learn more about the truth of biblical creation!

Blessings, Chas Morse
Director of Events

VERNON R. CUPPS, PH.D.

Measuring the Proton's Radius

article highlights

- The realm of subatomic particles is an unseen world we're still struggling to understand.
- Even with modern high-tech equipment, scientists can't readily measure a proton's radius and reconcile it with current theoretical physics models.
- Despite mankind's advancing knowledge, it appears we'll never uncover all the mysteries God's universe holds.

When we want to measure something in our everyday lives, we set a ruler against the object in question and read its dimensions from the markings. Things are not so simple when we attempt to measure objects as small as a proton or neutron (1×10^{-15} meters, or 1 fm). It's particularly important to measure the radius of the proton since it is the only known stable baryon (particles made of three quarks) in nature.

Because protons and neutrons are so small, we cannot directly observe their interaction with any measuring device. We must observe the results of that interaction and *infer* their dimensions from those results. Indeed, at subatomic levels, the results of a measurement not only depend on how the measurement is done but on the energy at which it is made and the type of probe used to make the measurement. In an earlier *Acts & Facts* article, we saw explicitly how these things can affect a measurement of the proton's radius.[1]

A recent article in *Physics Today* attempted to reconcile the differences between two earlier measurements of the proton's radius.[2] Several months later, a follow-up article in *Science News* indicated that the differences between the two measurements—i.e., direct electron scattering off the proton vs. measurement of the Lamb shift in muonic hydrogen—still remained after extensive efforts at reconciliation with theoretical models.[3]

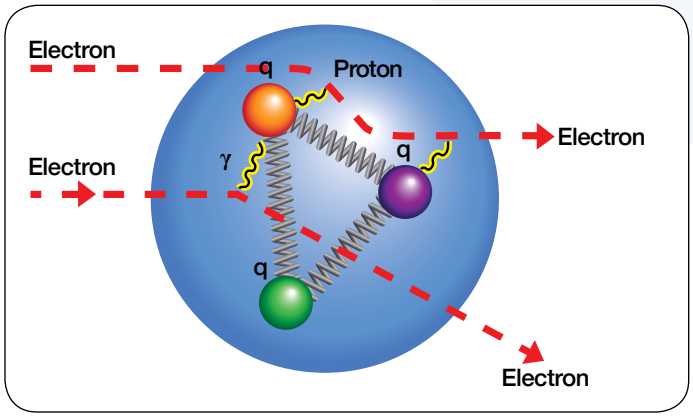

Figure 1. *A schematic diagram of two possible events that could occur when an electron scatters off the quarks that make up a proton. The two different events illustrated will produce different results in a detector.*

So, why all the uncertainty about the dimensions of a proton's radius? The proton is a composite particle made up of two up quarks and one down quark, with gluons continually exchanged between the quarks (see Figure 1). If we use a fermion particle, e.g., an electron or muon, to measure the radius of the proton, we will be effectively measuring the extent of the proton's *electromagnetic field* and therefore its electronic radius (~ 0.9 fm) rather than its actual radius. On the other hand, if we use an electrically neutral hadron particle, e.g., a neutron or a neutral pi-meson, we are effectively measuring the extent of the proton's *strong field*, or the range of the strong nuclear force (~ 1.4 fm), rather than the actual physical radius.

The gravitational force is many orders of magnitude too small at subatomic distances to be a suitable probe. The weak nuclear force is approximately three orders of magnitude (10^{-3}) too small to be an effective probe for this measurement.

There are many ways an incident electron can interact with the target proton.[4] It can hit a quark head-on and recoil backward. It can be diverted around an up quark (+ charge) or away from a down quark (- charge). Or it can interact with two or three of the constituent quarks before it exits the nucleus' electromagnetic field. If the photon emitted by the electron in interacting with the quarks has sufficient energy, it can "pair produce" an electron and positron in the nucleus' electromagnetic field. All these potential interactions are theoretically possible and thus must be accommodated by any model/hypothesis attempting to explain the observational results and extract the proton's radius from the data. To date, no proposed model/hypothesis has been able to adequately account for the observed discrepancies between the two data sets. Clearly, the Standard Model of physics doesn't yet explain everything.

Science is a wonderful tool for investigating the natural world we live in, but we should always remember that science is performed and interpreted by fallible human beings. Thus, there is always a place for faith in the human soul. The ultimate question for every human is, in what are you going to put your faith—man or God?

References

1. Cupps, V. R. 2014. Proton Problems: Faith in Theories or Reality? *Acts & Facts.* 43 (4): 9.
2. Blau, S. K. 2017. Proton structure seen in a new light. *Physics Today.* 70 (5): 14-15.
3. Conover, E. 2017. Proton size still perplexes despite a new measurement. *Science News.* 192 (8): 14.
4. The proton in an atom is thousands of times smaller than the atom itself, and electrons and quarks are thousands of times smaller than the proton, possibly infinitely smaller if they are point particles.

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

Dinosaur Tracks Back Noah's Flood

BRIAN THOMAS, M.S., AND TIM CLAREY, PH.D.

article highlights

- Preserved dinosaur tracks are a type of fossil.
- These tracks require a unique set of circumstances in order to preserve the soft earth impressions.
- A global flood is the best scientific explanation for the billions of dinosaur tracks we see all over the world.

There's nothing quite like seeing first-hand dinosaur tracks made in mud or wet sand long ago. But how long ago were they made, and how did they form? No process quite like that happens today. We recently photographed similar tracks made in similar sediments from sites in the American South and West. What links them together? Did these dinosaur tracks really form according to the evolution-based story printed on the state-sponsored placards we saw at some of the sites? First some facts, then some answers.

Tracks near San Antonio, Texas

At Government Canyon State Natural Area, large three-toed theropod tracks are embedded in limestone and match the clawed feet (Figure 1B) of a 38-foot-long *Acrocanthosaurus*—a *T. rex* look-alike with a small head crest. The limestone layer directly above it contains sauropod tracks assigned to a teenage *Sauroposeidon*, a long-neck dinosaur about 55 feet long. Scientists use the size and spacing of the footprints to estimate animal sizes. These sets of tracks occur near the top of the Glen Rose Limestone, close to the southernmost exposures of this particular limestone bed.[1]

B. Thomas

B. Thomas

Figure 1. *Dinosaur tracks in the Glen Rose Limestone at the Government Canyon site near San Antonio, Texas.* ***A.*** *Sauropod tracks likely representing* Sauroposeidon. ***B.*** *Theropod tracks likely representing* Acrocanthosaurus.

Tracks near Glen Rose, Texas

Two hundred miles north of Government Canyon, the same basic geology and footprint combinations occur at Dinosaur Valley State Park where the Paluxy River flows near Glen Rose, Texas. There, tracks of a similarly large *Acrocanthosaurus* and a few other dinosaur tracks, including those of *Sauroposeidon,* appear near the bottom of the Glen Rose Limestone (Figure 2).[2] The dinosaur-track layers at Glen Rose stack in repeated beds. The boundaries between the limestone beds and between limestone and sandstone look flat and sharp. Throughout central Texas, this same limestone unit has cavities and fossilized hollow tubes that likely represent worm and clam burrows. The fact the layers contain such short-lived features like burrows shows just how fast these sediments settled and hardened. "These thin track-bearing layers extend over huge segments of ancient coastal plain," according to dinosaur trackway expert Martin Lockley.[3] This one limestone unit holds dinosaur tracks from near El Paso, Texas, to Nashville, Arkansas—a distance of some 700 miles.

Figure 3. *Dinosaur tracks in a limestone-rich bed of the Dakota Group near Dinosaur Ridge, Morrison, Colorado. Trackways include small theropods, crocodiles, and ornithopods. Inset picture shows one of the theropod prints near a placard that says, "*Ornithomimus *track." (B. Thomas)*

Figure 2. *Brian Thomas' daughter Verity investigates an* Acrocanthosaurus *print in limestone on the Paluxy River during a dig hosted by the Creation Evidence Museum of Glen Rose, Texas. (B. Thomas)*

Tracks near Morrison, Colorado

Tracks at Dinosaur Ridge near Morrison, Colorado, about 790 miles northwest of San Antonio, occur in a claystone bed sandwiched inside the Dakota Sandstone Group. Both the Dakota and Glen Rose Formations bear evolutionary age assignments of about 100 million years, and both hail from Lower Cretaceous rocks. The tracks include small theropod *Ornithomimus* and ornithopod tracks that match *Iguanodon* feet (Figure 3), plus birds and crocodiles whose foot marks are indistinguishable from those of their modern counterparts. They represent the northern end of a famous "Dinosaur Freeway" with tracks that extend from Colorado southward to New Mexico and then bend toward Oklahoma.[4]

Stories on Placards

Now to the question of where these tracks came from. A placard at Government Canyon (Figure 4) reads:

> The [ancient inland] shallow sea would rise and fall over time, occasionally exposing new shoreline. Dinosaurs would walk along the moist, fine-grained, clay-like mud and leave tracks which would then harden in the sun. When sea level would rise again, the prints were buried under new sediments.

This story stirs up some serious difficulties. First, why do most beaches today consist of sand rather than finer-grained clays and muds? Wind and water constantly sift away finer grains while larger sand grains are heavy enough to settle. Are we supposed to imagine that an ancient shallow sea

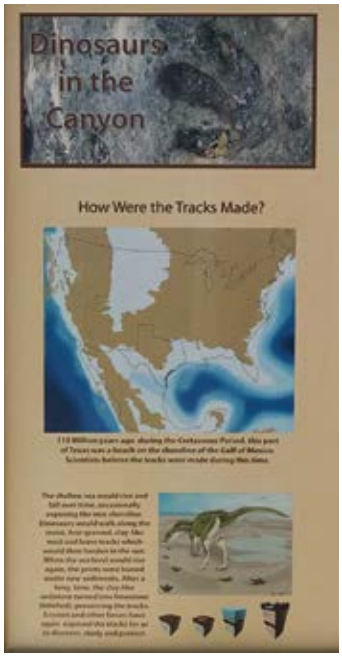

Figure 4. *Part of the sign on display at Government Canyon State Natural Area near San Antonio, Texas. Its story does not explain how sea level could change rapidly enough to preserve the trackways.*

had no tides or wave activity to wash away the mud that hardened and preserved creature tracks? Second, today's shorelines have short slopes down to the water, whereas these dinosaur-tracked limestones lie flat as a pancake for hundreds of miles. The placard's explanation does not match basic observations.

How to Make Tracks

Are similar tracks preserved anywhere today, let alone along a shoreline? Recent road construction near Interstate 10 just north of Tucson, Arizona, revealed dozens of human prints in hardened mud. *Western Digs* reported that the tracks record barefooted farm labor in an irrigated cornfield several thousand years ago. Archaeologists surmise that "a sudden flood from a nearby creek" covered the footprints. Apparently, "the creek overran its banks soon after the prints were made, covering them in its uniquely mica-rich sandy sediment, forming a kind of mineralized cast."[5] These clues supply a recipe for track preservation that includes five essential ingredients:

1. Sediment spread over a flat plain;
2. Some means of keeping the sediment wet, such as irrigation, rain, or recent watery deposition;
3. People or animals to walk across the soft sediment;
4. A means for the soft sediment to harden soon after receiving the tracks;
5. A sudden flood with a specific flow rate—not so fast that it would erode the ground and destroy the tracks, but fast enough to cap and preserve the tracks.

Which of these ingredients involves known shorelines? The shoreline story for these dinosaur footprints appears difficult to defend.

The Government Canyon placard's tale of slowly rising and falling sea levels also strains the imagination. Tracks require rapid preservation. If exposed for months or even mere days, what would prevent worms, clams, fish, crabs, and especially rain (if exposed to air) or tidal action (if near a sea) from obliterating them?[6] In theory, sea level changes take decades to centuries. Track preservation needs an erosion-preventing blanket of material on the order of hours.

A Flood Answer

Scenarios that include Noah's world-covering Flood accommodate all five track-making ingredients, plus they explain why so many tracks are found in the same wide swath of land extending from Colorado to Texas. It seems the dinosaurs were able to survive through the early Flood partly because as the floodwaters advanced they could congregate and scramble to the elevated remnants of pre-Flood land—places the earliest sedimentary deposits had not yet reached or were not as thick.

Figure 5 labels this pre-Flood land "Dinosaur Peninsula."[7] We believe this narrow land mass extended roughly north to south from the Canadian border to New Mexico and possibly into isolated areas of Texas. It likely represented a pre-Flood swampy environment that possibly included some islands. It's also possible some of the larger dinosaurs were swept alive by floodwaters to sites off the peninsula, where they left tracks before eventually dying as the rising water encased their footprints in sediment.

The map in Figure 4 indicates that the location of the Dinosaur Peninsula coincides with the Dinosaur Freeway and even many of the dinosaur-fossil quarries across the West.[8] We believe these areas were not fully inundated until strata representing the later Mesozoic units were deposited as the floodwaters peaked. The sedimentary record shows very few or only thin early Flood deposits across this peninsula.[9] In other words, the earliest Flood deposits occurred off the pre-Flood shore and captured sea creatures, while the later deposits engulfed land creatures as water levels rose. In this way, many dinosaurs escaped death and burial in the early weeks or months of the Flood, survived long enough to make tracks, and then succumbed later when the Flood reached its zenith.

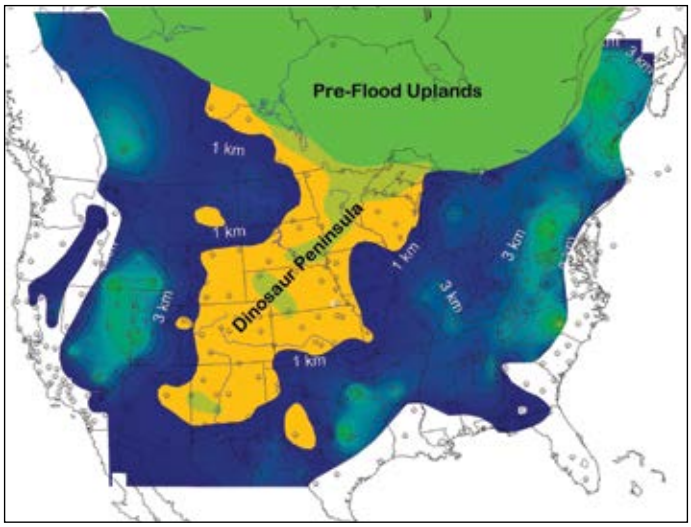

Figure 5. *Isopach map from hundreds of drill cores showing thicknesses of pre-Mesozoic sediments across the U.S. and the outline of Dinosaur Peninsula. Many of the dinosaur trackways and fossil quarries across the West straddle this pre-Flood land mass. Map courtesy of Davis J. Werner.*

Genesis 8:3 describes water washing back and forth as the floodwaters receded.[10] With no above-water continents or mountains to impede tides, water would have swept in violent sheets across Earth. As God allowed sand and mud flows to scrub animals off Earth's surface, flow rates at certain times and across certain regions were energetic enough to transport sediments that filled in and capped tracks made perhaps only hours earlier. The short time between the Flood's sedimentation events helps explain the flat contacts between layers, as opposed to the jagged, rutted contacts that millennia of ordinary erosion would have generated. Plus, the worldwide scale of the Flood helps explain broad, flat mud or sand

Figure 6. *Illustration of sauropods wading. Most dinosaur tracks were made in mud exposed to air, but dinosaurs did wade at times during high floodwaters. Image from the ICR video series* Uncovering the Truth about Dinosaurs, *Episode 3: Dinosaurs and the Flood.*

plains with so many dinosaur tracks in them on every continent except the largely unexplored rocks of Antarctica. If these reptiles all had hardy, thick skin, were strong swimmers, and could survive a long time without eating (features that characterize crocodiles), they stood a better chance of enduring the influx of sediment on which they walked or the water through which they waded during the early Flood's torturous times (Figure 6).

The flooding of Dinosaur Peninsula even explains two more mysteries. First, where are the baby dinosaur tracks? We have not seen any at these or other sites. Early Flood tsunamis likely carried away the baby dinosaurs while leaving their larger, heavier elders. Second, when modern animals make tracks (which almost never get preserved), they wander around, sniffing and foraging. But these dinosaurs were walking straight and in one direction, like animals fleeing danger do today. Dinosaur tracks do not record these creatures' normal, everyday lives. Perhaps they were fleeing from dangerous tsunami-like Flood episodes.

Dinosaurs definitely tromped across freshly deposited sediment that muddy water quickly covered. Noah's Flood has all the requirements to explain the tracks we find. Places like Dinosaur Ridge represent hundreds of trackway sites all over the world that confirm the global Flood.

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Too Many Tracks for Noah's Flood?

Critics of Noah's Flood assert that Flood layers like these limestones contain far too many tracks to have been made during the first Flood months by the relatively few late-surviving dinosaurs. Since the 1990s, researchers have uncovered hundreds of track sites with billions of dinosaur prints all around the world. Anti-Flood arguments propose millions of years' worth of chances for dinosaurs to make these billions of tracks. But mere talk of odds ignores the special circumstances required for dinosaur footprints to be preserved.

Humans can take several thousand steps in an hour. Creation researcher Mike Oard wrote, "A rough calculation shows that if a dinosaur made one track every 3 seconds [a very slow pace] while trying to escape the relative rises in the Floodwater by walking on BEDS [briefly exposed sediments] for five days, it would make 144,000 tracks, assuming it was so stressed it did not stop."[11] Several tens of thousands of dinosaurs making a week's worth of tracks could easily account for the billions of tracks on Earth. Overall, dinosaur tracks actually help confirm the Flood model.

JEFFREY P. TOMKINS, PH.D.

Human Traits Not So Simple After All

article highlights

- Geneticists once thought earlobe attachment and skin color were nothing more than simple inherited traits controlled by only one or a few major genes.
- New research shows that even these seemingly simple traits are determined by a complex array of genetic programming.
- Discoveries of intricate genetics consistently contradict Darwinian evolution.

Many people were told in biology class that some basic human traits reflect simple genetic principles. One example is how earlobes are attached. When I was in high school, our biology teacher told us to examine each other's ears and see how many had attached versus unattached earlobes. Attached earlobes do not have a lobe that dangles. In general, there were many more students with unattached than attached earlobes. We were told the attached variant is an example of a classic single-gene recessive trait, an explanation that makes genetics appear overly simple.

However, some scientists have been questioning this oversimplified paradigm since well before the days of modern genomics and DNA analysis. As early as 1937, one scientist pointed out that earlobe attachment could be a multi-gene trait.[1] Thanks to modern research techniques that help reveal the mysteries of the genome, we now know that even the concept of what clearly defines a single gene is blurred by unimaginable and unexpected complexity.[2] A recent research report on the classic textbook idea that a single gene controls earlobe attachment has once again reached the standard conclusion of the genomics era—genetic activity appears to be far more complex than previously thought.

In this new earlobe genetics study, researchers used DNA sequencing data and earlobe measurements from 74,660 people with European, Latin American, or Chinese ancestry. By associating DNA sequences across the genome with the ear development patterns in people, the researchers identified 49 genomic regions related to the attached earlobe trait. They also sequenced the products of genes turned on during ear development, which confirmed that the many different genes they discovered in their DNA trait association study were in fact located among many different associated regions in the genome. The authors of the paper state, "These genes provide insight into the complex biology of ear development."[3]

This study follows close on the heels of two other human genetics studies that debunk the previously held belief that skin color is controlled by only a few major genes.[4,5] Both studies used human subjects from countries in Africa, the continent with the largest spectrum of skin color diversity in the world. One study found that six major genes contribute to 30% of the total variability in skin color.[4] The other 70% of the genetic contribution to color variability was from numerous other genes and regions around the genome. In the second study, researchers found that 15 different genes make major contributions to skin color.[5] These skin color studies fit well with the biblical narrative of how human people groups developed as a result of the dispersion at the Tower of Babel, as discussed in a recent ICR news post.[6]

The oversimplified evolutionary paradigm does not fit well with human genome studies that consistently show ever-increasing levels of complexity. Seemingly simple traits turn out to be not simple at all due to the networked interconnectivity of genes in complex dynamic systems throughout the genome. Only an all-wise Creator could be responsible for engineering these amazing systems.

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ICR DISCOVERY CENTER
SCIENCE AND EARTH HISTORY

ICR Discovery Center Update

The planetarium's interior walls under construction

Beck's team works through the winter cold

In winter, we usually think of hunkering down, staying in, and slowing the pace. But even when Dallas got colder than Antarctica, crews were hard at work building the ICR Discovery Center for Science and Earth History!

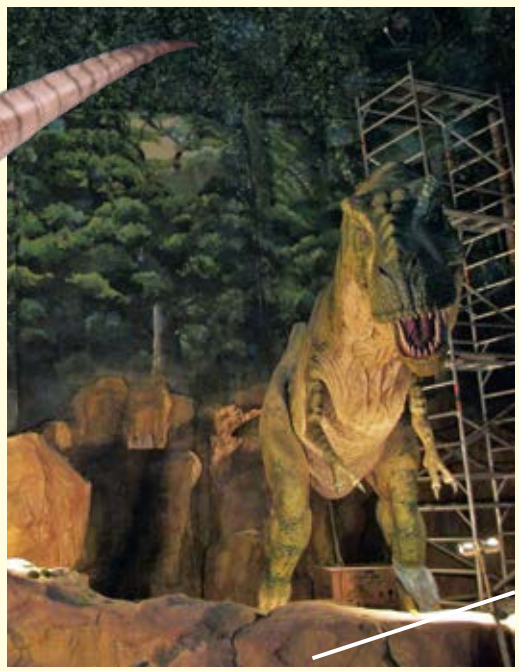
(Okay, we'll admit it was the South Pole's summer.)

But the crews' faithful perseverance is paying off. The planetarium's interior and exterior walls are nearing completion. You can see the planetarium framed out in these photos—it's the circle of steel beams within the larger ellipse of the structure. The builders pictured in bright orange and green help show the scale of this project.

The east side of the lobby and planetarium

Advanced Animations is constructing several animatronic creatures for us. The animals will appear in the pre-Flood world, Ark, and Ice Age exhibits. You may even spot a few in the lobby. These two dinosaur photos offer a small glimpse into our future exciting displays.

A life-size Velociraptor



And a life-size T. rex*!*

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

Help Us Complete the ICR Discovery Center

As we build the discovery center, we still need funds for the interior exhibits. We're working to develop the most educational and moving exhibits possible. Your gift will help us bring this vision to fruition. Together, let's point people to the truth of our Creator, the Lord Jesus Christ.

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

Sensor Triggers Affirm Intelligently Designed Internalism

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

In December 2016, Amazon unveiled a high-tech, brick-and-mortar store where customers can swipe the "Amazon Go app to enter the store, take the products you want, and go! No lines, no checkout."[1] Engineers were able to "weave the most advanced" technology into "the very fabric of a store" so any given product is added to a customer's virtual cart when picked up and deleted if put back.[2]

Customers don't notice this going on. Unseen sensors integrated into the store's environment detect an identifier for everything a customer takes, and programming links its price to their account. Amazon touts how they do it, saying in an introductory online video, "We used computer vision, deep learning algorithms, and sensor fusion."[2] The big selling point is the unhindered activities of customers, but without the sensors, the store's owners would be blind to their products' whereabouts…and would soon be out of business.

article highlights

- Man-made devices regularly use sensors to capture vital information.
- A sensor acts as a trigger that sets a specific response as needed.
- Organisms have innate sophisticated sensors that track environments and allow creatures to adjust to changes.
- Organisms are more than simply active in their own adaptation—they're proactive, while the environment is passive, the opposite of evolution's model.

Sensors trigger many life-saving processes within both human-made devices and living creatures. They also enable human-engineered entities to adapt. We know organisms make suitable self-adjustments to solve multitudes of environmental challenges, a process that allows them to colonize new niches.[3] What if that adaptive process begins with their sensors? The ongoing Engineered Adaptability series of articles frames sensors, logic algorithms, and response mechanisms "woven into the fabric" of organisms as elements that enable organisms to continuously track environmental changes—just as Amazon uses them in a similar way to track products and customers.

Current biological training usually doesn't cultivate a mindset tuned to see these correlations. Biological functions are framed as originating from random genetic changes fractioned out in unpredictable struggles to survive. But, a recent report on two remarkable studies may help with the correlations.

Some microbes transform themselves from a free-swimming form to one that colonizes surfaces. What triggers the differentiation at only the right time? The two studies reported in *Science* illustrated sensor-initiated systems by discovering "separate mechanisms that allow bacteria to recognize a surface by mechanosensation [internal detection of mechanical stimuli] and initiate a cellular response that allows them to attach and multiply."[4]

One study examined *Caulobacter crescentus*, which swim using organelles called *flagella*. A single flagellum is a molecular motor rotating an attached filament in a propeller-like fashion. This microscopic motor has parts corresponding to an engineered motor that include a rotor, stator, bearing, and more. It is powered by a flow of hydrogen ions like an electric motor is driven by a flow of electrons. The scientists found an additional purpose in which "inhi-

bition of rotation of the *Caulobacter* flagellum can also work as a surface sensor."[4] When the filament whips against a surface, the motor stalls and hydrogen ion flow ceases. Innate programming interprets this change as signifying detection of a solid surface, which triggers a cascade of events such as the rapid production of a surface adhesive or the expression of surface motility traits and virulence factors.

Thus, this research found dual purposes for the iconic bacterial flagellum as both a propulsive motor and a sensor. What characteristics describe sensors and identify them as the true triggers of self-adjusting mechanisms?

Sensor Design 101

Engineers find it challenging to design sensors that are accurate, precise, and consistent. Sensors are more than change detectors. If you were asked to design a sensor for an organism, then two additional purposes should come to mind: data acquisition and triggering an appropriate chain of events. Nearly all organisms have defined boundaries, so your design would place some sensors there (like surveillance cameras on a building) as vital links to its environment.

The mechanisms controlling how organisms relate to exposures can be explained using design principles. Two characteristics of sensors clarify that relationship. They also help distinguish between organisms as active problem solvers of environmental challenges as opposed to being passively molded by those challenges.

First, sensors are exquisitely designed to be sensitive to certain environmental conditions and insensitive to others. For instance, can you identify something in your surrounding area that, if detected, would not serve as a stimulus? That could be anything. The reason why myriads of exposures aren't stimuli is because internal programming *specifies for itself* what constitutes actual environmental signals, cues, or stimuli.

Second, active surveillance usually acquires data. One specialist commented on how sensors initiate data collection:

> A sensor does not function by itself; it is always a part of a larger system that may incorporate many other detectors, signal conditioners, signal processors, memory devices, data recorders, and actuators….A sensor is always a part of some kind of a data acquisition system….Depending on the complexity of the system, the total number of sensors may vary from as little as one (a home thermostat) to many thousands (a space shuttle).[5]

Sensors Are the True Triggers of Self-Adjusting Mechanisms

The room housing your furnace can be warm or cold, quiet or noisy, and well-lit or dark. Yet, none of these circumstances in and of themselves cause your furnace to turn on. Conditions are only present or not. It is the furnace system design that specifies a specific amount of heat to be a stimulus and integrates a heat sensor to trigger the furnace.

Accordingly, an important engineering principle is that an adjustable system will have a trigger engineered as an integral part. This relationship may be difficult to see since sensors can be located remotely. Whatever trigger the designers incorporate in adaptable devices—be it mechanical, electronic, etc.—will be 1) a sensor and 2) the initiating element of self-adjusting processes.

For example, last month's article considered basic design characteristics of epigenetic mechanisms.[6] These facilitate an organism's rapid expression of suitable traits that enable it to "flex" in response to a range of suddenly changed conditions. Some of these extraordinary mechanisms allow embryos to detect "signals" from parents and self-adjust their own development—potentially expressing traits better suited to their parent's current environment, which the baby will soon enter. Engineers see these as highly targeted solutions to specific environmental changes.

Sensor-Condition Complementarity: A Higher Layer of Design

A sensor displays one level of sophisticated design, but it functions within a larger system that reveals an even higher level. A yet higher layer exists in how that system then relates to external conditions. A human-designed communications system has a transmitter and a receiver working together. But, the system's design information isn't found in the schematics/specifications of either the transmitter or the receiver individually. It exists at a level higher than each element. An intelligence—with upfront knowledge of the characteristics of each part and how they can harmonize into a wider-ranging system—devises it.

To transfer information, engineering principles dictate two more preliminary conditions. The transmitter and receiver must be tuned to the same frequency, and then the communicators must use the same code-decode protocol (i.e., speak the same language.)

For illustration, when a male túngara frog (*Physalaemus pustulosus*) makes chucking calls, the sound in and of itself is neither information nor a signal to other túngara frogs. Noise detected by auditory sensors is initially only data that must be processed internally. Researchers demonstrated this by finding "evidence that males and females differ in the relaying of auditory information to the forebrain" via a "gating" mechanism.[7] Initially, the frog's midbrain pro-

Túngara frog from Panama

cesses complex auditory data. After data are decoded and interpreted per an as-yet-unidentified innate protocol, it then becomes information and a signal within both sexes…which go on to exhibit different responsive behaviors.

But, neither sex reacted to chucks made by males of a different species, no matter how loudly they were expressed. Their systems weren't designed for that, and they therefore didn't respond.

The Question of Sensor Origins Affirms Design

Sensor-condition relationships show highly restricted specificity, shared protocols—sometimes between markedly diverse organisms—and well-integrated systems to achieve function. The question of how these specifications originated has profound research implications for the conclusions that are reached. Since design-based explanations for origins were off the table before one sensory biologist's investigations even began, he wove together an evolutionary account.

> A classic hypothesis of sensory biology is that signals and senses co-evolve….This co-evolution seems an intuitive hypothesis, and it is obvious that a signal must be detectable to function. In addition, we have marvelous examples that show an intimate connection between sensory function and signals. For example, one species of stomatopod [e.g., mantis shrimp] has the rare ability to discriminate the circular polarization of light [a very rare phenomenon that is produced by unique tissues in the tail of fellow shrimp].[8]

He answers the implicit question of which came first, specialized tail or eye tissue:

> In my own informal survey, it appears that most sensory biologists, including myself, are more willing to accept that signals evolve to better be detected by sensory systems than that sensory systems evolve to better detect a given signal.[8]

Yet, scientifically sketchy, trial-and-error explanations for the origin of sensors sound like products of vivid imaginations that must invoke heaping amounts of pure luck. Why? Well, organisms cannot adapt until they have innate mechanisms enabling adaptability, but sensors are an indispensable element of adaptable systems. Compounding that dilemma is explaining how it is reasonably probable that out of an environment flooded with conditions of potential stimuli, an organism will hit on the precisely needed interconnected triad of detector-condition-stimulus specificity that organisms possess.

Instead of being the result of some unexplained co-evolution, the precise fit of biological sensors to specific conditions, as well as their complicated designs, reflects significant amounts of foresight and planning for a specific purpose.

Sensors Stand at the Crossroads

Sensors are strategically located at the organism-environment boundary but are also at a crucial point along the philosophical divide between evolutionary externalism and intelligently designed internalism. Why? Because whatever is credited for initiating an adaptive change is usually credited for causing the result.[9] Thus, when someone reads evolutionary literature, they should notice that overwhelmingly these researchers don't even look for an organism's sensors. Their externalistic philosophy conditions them to visualize external conditions mystically "inducing" expression of genes within organisms and then to declare that new traits are "due to" those conditions. Design-based internalism, however, begins with conditions detected by sensors that initiate an organism's own response.

In summation, when causality is objectively determined by an approach like engineers use—one that identifies all biological elements in a process and omits mystical events—the observed elements of a self-adjusting process confirm internalism and conflict with externalism.[10] Thus, an organism's surveillance systems seem to actively acquire data that they process into information; they aren't "sent instructions" by the environment. Their internal programming specifies what conditions will be a stimulus or a signal. An integrated sensor for that condition is the vital trigger of their response. Many responses appear to be highly targeted to specific conditions, not the hit-and-miss solutions conjectured by selectionism. Finally, these mechanisms don't appear to be randomly implemented but are highly regulated and characterized as rapid, repeatable, and sometimes reversible. We see in Amazon stores, bacterial flagella, epigenetics, or túngara frogs a full internal capacity that is consistent with intelligently designed systems.

The tight organism-environment relationship can be explained by populations of *active, problem-solving* organisms continuously tracking environmental changes via innate mechanisms to express heritable phenotypes bearing problem-solving potential—which *precede* environmental challenges. Biologists who overlook the engineered role of sensor triggers in an organism's adaptability are shooting themselves in the foot.

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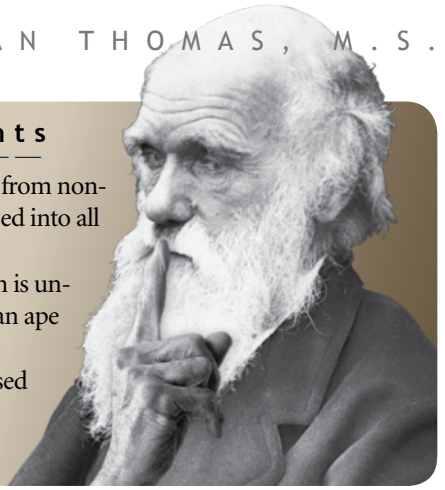
BRIAN THOMAS, M.S.

Q: Is Evolution a Lie?



article highlights

- If evolution is true, life came from non-living chemicals that developed into all the life on Earth.
- Evolutionists admit evolution is unobservable; no one has seen an ape change into a human.
- If the scientific method is based on repeatable observations, evolution isn't scientific.

A: In the view of modern culture, how could anyone be so foolish as to doubt evolution? After all, its defenders point to all kinds of examples to back their beliefs. A thoughtful look, though, at two categories of examples—past and present—reveals how far the grand story of evolution strays from reality.

First, it helps to know what the word "evolution" means to the person using it. If it merely means that certain animal traits change between generations, that's hard to refute. But most people use the term to recap a drawn-out cosmic story of how hydrogen formed stars, stars formed planets, living cells formed on planets, and single-celled life developed into every living thing on Earth. Now, that's tough to defend—but many still try.

Past Evolution?

Supposed examples of past evolution use circular logic. Adherents assume evolution before they conclude evolution. Take stars, for instance. How do astronomers assign "star formation rates" to galaxies? They can't use observational science, since nobody has ever seen a star form. So they argue like this: We see stars all across the sky. We see stars die in explosions. Billions-of-year-old galaxies should have run out of those stars that burn through their fuel in only millions of years before exploding. Therefore, some place out there must keep making stars.

Space dust (gas) doesn't contract into stars—it expands. Secular star formation rates hinge on the assumption of billions of years of stellar evolution, not observable science. Until experts give examples of new stars actually emerging, then our universe better fits "He made the stars also" from Genesis 1:16 than the circular logic about star formation.

Next, media, museums, and most biology textbooks use "ape-men" as examples of past evolution. But they fail to expose the fact that evolutionary experts disagree over whether each ape-man candidate belongs in human ancestry or in ape ancestry. Take the African fossil nicknamed Lucy, for example. Some experts say it became human, but others say it just became extinct. With its chimp-like size, skull, fingers, ribs, and legs, Lucy was clearly an ape. Similarly, many once taught that Java Man, one of several fossils evolutionists call *Homo erectus*, somehow became us. However, other evolutionists identify the *Homo erectus* fossil collection as just an extinct variety of humans, like the Neanderthals.

How do evolutionists get their "ape-men" amid so much dispute? They either upgrade an ape or downgrade a human. But if Lucy was clearly an ape and Java Man a human, then where's the evolution? Extinctions of created kinds or of their varieties show no evolution—they simply reflect the Genesis 3 curse of death.

Present Evolution?

What about the supposed modern examples of evolution in action? Each reduces to variation within a stable kind. Over 150 years ago, Charles Darwin described differences between pigeons' feathers to illustrate evolution. What do we have today? Still just pigeons. The passenger pigeon variety has gone extinct since then. So, if anything pigeons have devolved, not evolved. Yes, certain creature features can change between generations—like stripes on a zebra or zorse. None of these variations support big-picture evolution. Meanwhile, basic creature body plans, like the horse kind, remain true to their original design.

These stable kinds confirm Genesis 1:24: "God said, 'Let the earth bring forth every living creature according to its kind.'" God equipped each kind to express variations. Animals tweak their designed traits to fit into changing settings.[1] Different-looking people display God's love for creativity.[2]

No new stars form from gas clouds, no new humans from apes, and no new animals from pigeons or horses. Nobody has shown that particles-to-people evolution happened in the past or happens today. But for those willing to see it, evidence for Genesis creation abounds.

References

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2. Thomas, B. 2017. Who Were Cro-Magnon People? *Acts & Facts.* 46 (12): 20.

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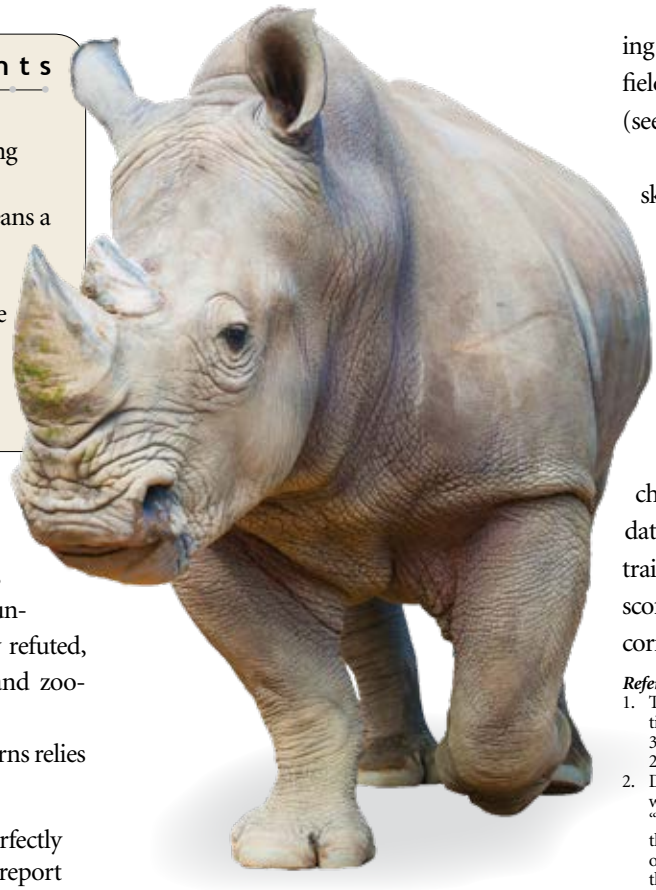
JAMES J. S. JOHNSON, J.D., TH.D.

Skeptics' Pointless Ridicule of the Bible's "Unicorns"

article highlights

- The word "unicorn" is found in nine verses in the 1611 King James Bible.
- The Hebrew term simply means a creature with one horn, or possibly two.
- Skeptics who accuse the Bible of being fanciful about unicorns simply aren't doing their homework.



Skeptics mockingly poke fun at the King James Bible's mention of unicorns, accusing the Bible of being unscientific.[1,2] Such ridicule is readily refuted, however, by Hebrew vocabulary and zoological history.

The scoffer's ridicule of unicorns relies upon this flawed reasoning:

> Assumption A: If the Bible is perfectly true and credible, it would not report unicorns as real animals.
>
> Assumption B: The Bible reports unicorns as real animals.
>
> Conclusion: Therefore, the Bible can't be perfectly true and credible.

Besides other sophistic sleights, this syllogism employs what is known as a straw-man fallacy,[3] implying that the English term unicorn is the core of the controversy—rather than determining what the Hebrew noun *re'ēm* actually means.[4]

Assumption A also contains the uniformitarian fallacy, assuming that *re'ēm* must match some animal alive today—ignoring extinction scenarios.[2]

Assumption B additionally contains a bait-and-switch fallacy, assuming that imaginary unicorns of fairy tales and cartoons must match the Bible's *re'ēm*. Yet, relevant Bible passages show *re'ēm* was more like a wild bovine or rhinoceros, never portraying some kind of spiral-horned horse.[4]

Could the unicorn of the King James Bible be a rhinoceros, perhaps a one-horned variety? Consider the primary definition of unicorn in the 1828 edition of Noah Webster's dictionary:

> Unicorn: 1. An animal with one horn; the monoceros. This name is often applied to the rhinoceros.[5]

Rhinoceros traits, it turns out, fit the traits of *re'ēm* as reported in Scripture. However, unlike the English word unicorn, which is based on a Latin term meaning "having one horn," the noun *re'ēm* does not demand a one-horned beast. So, maybe *re'ēm* was a two-horned rhino.[5,6]

Could the scriptural unicorn be a wild, horned bovine? A plausible candidate is the now-extinct aurochs[2] or one of its wild progeny, such as bison.[7] Both are horned (see Psalm 22:21; Deuteronomy 33:17), powerfully built (Numbers 23:22), and biologically comparable to domesticated bovines (Psalm 29:6; Isaiah 34:7). Harnessing such undomesticated bovines to plow field furrows would be a farmer's futile folly (see Job 39:9-10).

So, what does this prove? First, the skeptic's uniformitarian fallacy disqualifies anachronistic criticisms of Job 39:9 and other Scriptures that refer to *re'ēm*.

Second, the skeptic's attempt to equate the English term unicorn as used in 1611, when the King James Bible was translated, to a spiral-horned horse is a bait-and-switch-facilitated straw-man challenge because there are plausible candidates among real-world animals that fit the traits of the Bible's *re'ēm*. Consequently, the scoffer's narrow caricature of biblical unicorns misses the point, pardon the pun.

References

1. The King James Bible uses the English word "unicorn" nine times in Scripture: Numbers 23:22 and 24:8; Deuteronomy 33:17; Job 39:9-10; Psalms 22:21 (v. 22 in biblical Hebrew), 29:6 and 92:10; Isaiah 34:7.
2. Dr. Henry Morris concluded that the unicorn of Job 39:9 was a wild, ox-like bovine, the aurochs, that became extinct: "The unicorn is supposedly a mythological animal; actually the creature referred to here is the extinct aurochs, or wild ox, a fierce animal that once inhabited this region. Many of the animals mentioned [in Job 39], as well as other parts of the Old Testament, are of very uncertain identity, and various translators have tied them to a considerable diversity of modern animals. The probable reason for this uncertainty is that many of the animals, like the 'unicorn,' are now extinct." Footnote to Job 39:9, Morris, H. 2012. *The Henry Morris Study Bible.* Green Forest, AR: Master Books, 822. Zoologist George Cansdale concluded that *re'ēm* was the now-extinct aurochs. Cansdale, G. S. 1976. *All the Animals of the Bible Lands.* Grand Rapids, MI: Zondervan, 82. Aurochs appear repeatedly on the Ishtar Gate of Babylon, now located in the Pergamon Museum in Berlin.
3. Johnson, J. J. S. 2012. Staying on Track Despite Deceptive Distractions. *Acts & Facts.* 41 (5): 9-11.
4. A related inquiry is why Bible scholars seeking to translate *re'ēm* into Greek, Latin, and English used words like "unicorn" in their translations. The Septuagint, a Greek translation of the Old Testament, translated *re'ēm* as *monokerôs*. Jerome's Latin Vulgate translated *re'ēm* as *rinocerotis* in Deuteronomy 33:17 and *rinoceros* in Job 39:9, and *unicornes* in Isaiah 34:7! This indicates that at least some translators thought that *re'ēm* had one horn, perhaps the one-horned rhinoceros.
5. Webster, N. 1995. *American Dictionary of the English Language.* San Francisco, CA: Foundation for American Christian Education; facsimile of Noah Webster's 1828 first edition, unpaginated. See also Dinerstein, E. 2003. *The Return of the Unicorns: The Natural History and Conservation of the Greater One-Horned Rhinoceros.* New York: Columbia University Press.
6. Although the English term "unicorn" implies a one-horned beast, the word used in Deuteronomy 33:17 does not, so *re'ēm* may refer to two-horned rhinos.
7. Bison are powerful and inherently dangerous bovines. Another candidate is the one-horned Arabian oryx antelope, but its less-intimidating traits compared to those of rhinos, bison, and aurochs seem less likely to fit the Bible's *re'ēm*.

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HENRY M. MORRIS IV

Godly Asking

article highlights

- God wants us to ask Him for what we need.
- God wants our wills to align with His, and our prayers help do this.
- God promises to give us the desires of our heart if our greatest desire is Him.

Near the beginning of Christ's ministry, He taught us a profound principle: "Ask, and it will be given to you; seek, and you will find; knock, and it will be opened to you. For everyone who asks receives, and he who seeks finds, and to him who knocks it will be opened" (Matthew 7:7-8). What a remarkable and powerful statement! But is this a blanket promise with no conditions, or are Christ's words to be understood in light of other revelation?

In context, Christ was specifically instructing His disciples about God's desire to give good things to His children. Sadly, some today have misconstrued Christ's words. This great promise is not a divine blank check given to everyone, nor is God some sort of "cosmic genie" who exists to grant our every whim.

God will not fail to "give good things to those who ask Him" (Matthew 7:11), but He also will not give bad or injurious things, no matter how fervently we want them. And herein lies a condition to this great promise: what we ask for must be good in God's eyes, not ours.

In the complementary account in Luke 11:9-12, Jesus used several purposely absurd analogies to drive home His point: no good father, earthly or otherwise, would ever give his child anything harmful. The child might be frustrated or unhappy when he doesn't receive exactly what he asked for. But when the child asks for something the father knows is beneficial, he will happily provide it because he loves his child. As such, the best gift our heavenly Father can give us, aside from salvation through Christ, is the gift of "the Holy Spirit to those who ask Him" (Luke 11:13). The Holy Spirit, as our teacher and helper (John 14:26), will guide us in understanding what God considers good and cultivate in us a desire for what He wants for us. Thus, our prayers work to align our "asks" with God's "good"!

Prayer is a tremendous resource, but it can be neglected or even misused by some Christians. This is certainly nothing new, as we see in James' counsel to first century believers: "You ask and do not receive, because you ask amiss, that you may spend it on your pleasures" (James 4:3). But as long as nothing stands between us and the Lord (e.g., selfish motives, sin, unbelief, etc.), He has promised to act when we ask by giving us our request—or something far better. Not only does God promise to give good things to us, at our request He will also give us wisdom, joy, pleasure in His commandments, and many other precious things (James 1:5; John 16:23-24; 1 John 3:22).

Perhaps the most important condition of all is that we "ask according to His will" (1 John 5:14). If we are abiding in God's commandments, thinking His thoughts, focused on His priorities, and asking in faith and in Jesus' name, our desires will align with God's will. Then we have "the confidence that…He hears us" and will grant "the petitions that we have asked of Him" (1 John 5:14-15).

ICR's ministry is a marvelous testimony to these wonderful promises of God. For nearly 50 years, God has not only supplied our financial needs, He has also granted us wisdom in our decisions, joy in good times and bad, and pleasure in His Word as we have sought His will.

The Lord certainly hasn't given ICR everything we've asked for—far from it. But we've learned to rest in His timing and His answers. We are thankful for our readers and supporters who faithfully lift ICR up in prayer, asking God for His blessing, provision, and protection on our ministry while He tarries.

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

The Bible study I attend did the 12-DVD Genesis study [*Unlocking the Mysteries of Genesis*] and the 4-DVD study on how God created our bodies [*Made in His Image*]. **I would recommend them for group home studies and even for personal study....** Genesis is under attack like never before, and the Church needs to be built up in the true understanding of our origins. These studies are a great help in achieving that goal.

— D. T.

I first heard of ICR when I worked for a Christian school and they used [resources] by ICR. I have enjoyed learning from them ever since. **This past Thanksgiving, several family members were looking through my *Act & Facts* magazine, and they all contacted ICR to be added to their mailing list!**

— Y. L. F. G.

I received the universe DVD collection [*The Universe: A Journey Through God's Grand Design*] a few days ago. I have watched all of it twice already. **I currently own all your video series and have trouble keeping up with them due to "borrowers."** I have purchased the 12-set [*Unlocking the Mysteries of Genesis*] series three times now, and [*Made in His Image*] twice. I left them with ministry partners in Ecuador. Pardon me for gushing; I am just thrilled with this information!

— T. B.

For many years our family has been greatly blessed by your ministry and the scholarly and beautiful resources you have made available to help us train our children in God's way. **I am excited to tell you that yesterday a cousin of mine who ministers in rural Colorado sent us an email about a new outreach they feel God is calling them to in their children's junior high and high schools, to start a science club to combat false teaching about evolution.** They are not science teachers but felt led to reach out to their schools in this way. We are able to send them a collection of back issues of *Acts & Facts* and have recommended they obtain their own subscription.

— A. C.

My wife and I are so excited about the progress in the construction of the Discovery Center [for Science and Earth History]. The ministry of ICR has had a profound impact on both of our lives. I was first exposed to your ministry right after I accepted Christ as my Savior—22 years ago. **The person who shared the gospel with me also exposed me to your resources, knowing that evolution had been a stumbling block to me.** Your resources helped to put the nail in the coffin of evolution and boosted my confidence in the truth of the Bible.

— D. D.

My grandson will enjoy his Christmas gift and learn about stars and dinosaurs, thanks to you folks. **This is the 4th generation of our family to profit from your books and research.** God bless you as you continue to expertly support biblical creation and the Flood.

— E. L. K., M. D., M. S.

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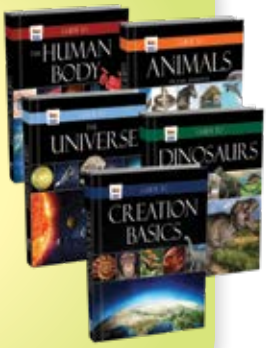

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