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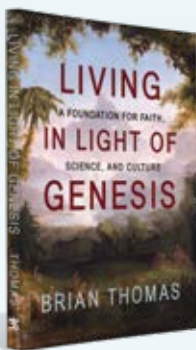
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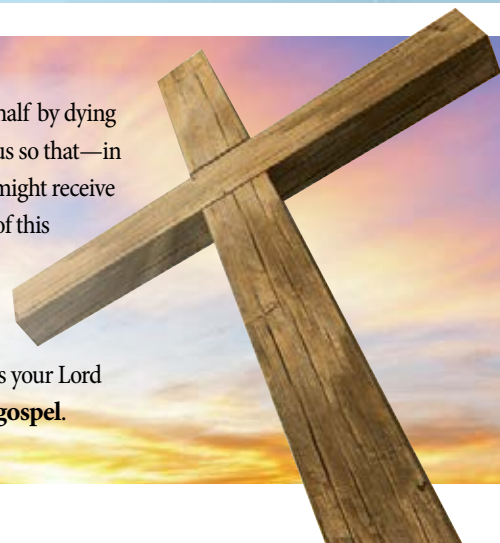


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DESIGNER
Dennis Davidson

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

(Colossians 1:15–20)

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Front cover: Crocodile caiman eye
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JESUS—

There's Just Something About That Name

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

A nurse who worked with me would pleasantly call in patients by saying, “Mr.____, it’s checkup time!” Periodic checkups are good. As an Air Force physician taking care of combat pilots, I cared about all areas of their health—including their marriages.

One informative question I asked was, “What’s your first thought when you hear the name [his wife]?” His spontaneous feelings reflected his relationship, so I’d listen but mainly observe. There’s a one-of-a-kind look on a guy’s face when he hears the name of the woman he deeply loves. That look was a clue as to whether all was well.

It’s checkup time! Like in the clinic, honesty is essential. What’s your first thought upon hearing the name Jesus?

The Sweetest Name

There’s never been another name—alone—that carries so much power or elicits such emotional extremes. Thinking frequently on the Lord Jesus and speaking about Him are *reinforcing* actions in cultivating a close, affectionate relationship with Him. A Christian songwriter put to words the connection between love for Jesus and love for His name.

Jesus is the sweetest name I know,
And He’s just the same as His lovely name,
And that’s the reason why I love Him so;
Oh, Jesus is the sweetest name I know.¹

How does that name resonate with you? Is there a stirring of warm affection for Jesus’

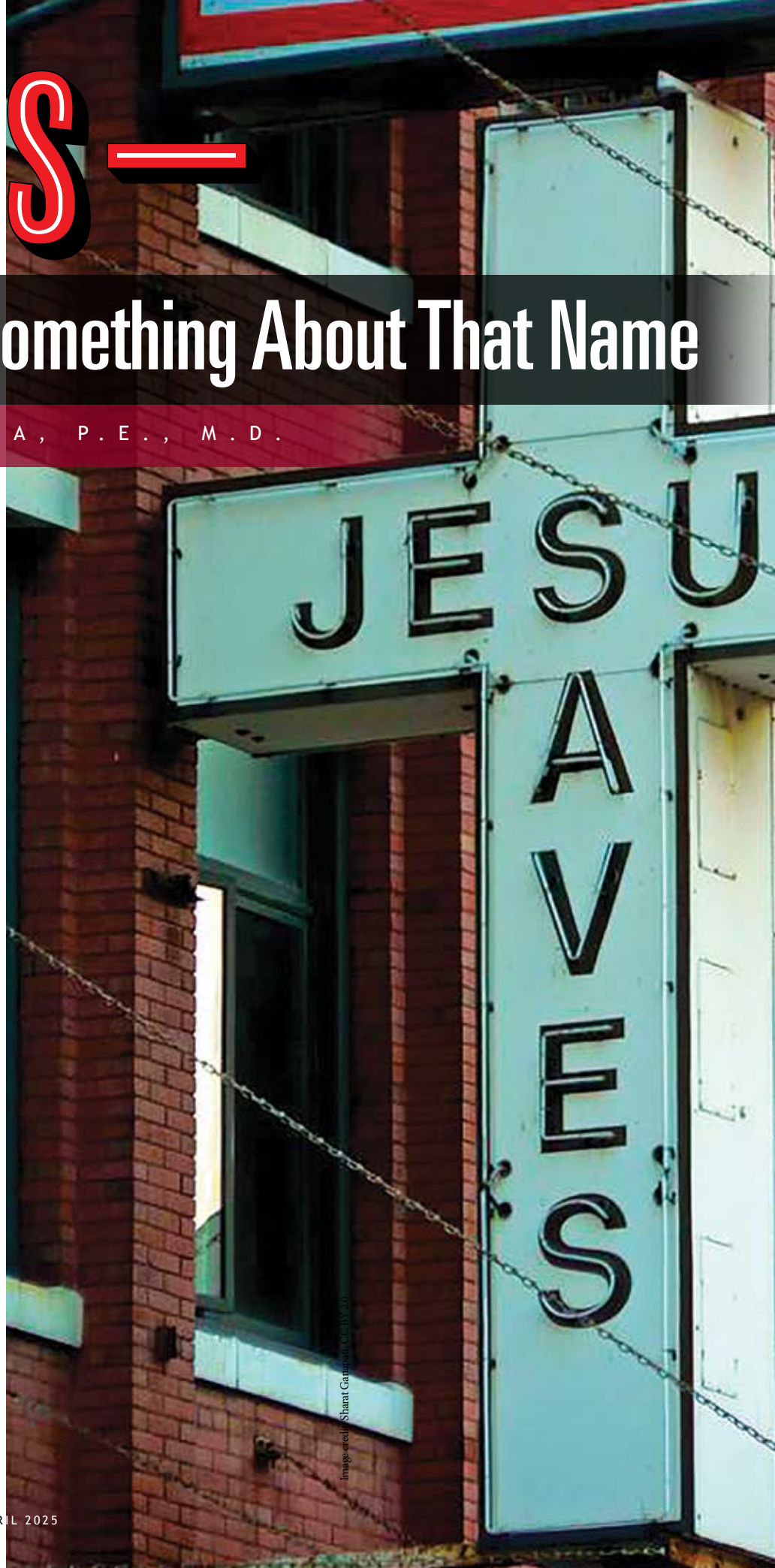


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work and for Him personally?

Parents feel a swell of sweet emotion when they hear their child's name. Likewise, Scripture affirms that the Father loves the Son and honors His name.

Therefore God also has highly exalted Him and given Him the name which is above every name, that at the name of Jesus every knee should bow, of those in heaven, and of those on earth, and of those under the earth, and that every tongue should confess that Jesus Christ is Lord, to the glory of God the Father. (Philippians 2:9–11)

Clearly, the Father delights in hearing His beloved Son's name.

...at the name of Jesus every knee should bow, of those in heaven, and of those on earth, and of those under the earth.

— Philippians 2:10 —

So, it must please the Father when He hears Christians take the name of His Son upon their lips not only for Jesus' glory but also as an indicator that they identify with Him. That's a powerful witness. Therefore, Christians should never miss an opportunity to lift high the name of Jesus.

Why am I writing about this? In my positions as ICR's national representative and now president, I've visited hundreds of churches. In many cases, the name of Jesus has not been mentioned once by the leaders or members. His name was replaced by simply saying "God." Is this an indicator of waning affection? A symptom of an underlying spiritual condition in today's church? Is this an insignificant trend, or does the *name* of Jesus matter?

Others Watch and Listen to Those Who Deeply Love Jesus

Why credit Jesus whenever possible? A powerful influence that helped bring Jesus into my life was the *routine conversations* of

Christians I knew. As a non-Christian teen, my observations of Christians in the 1970s were similar to those centuries earlier by Saul of Tarsus. Through interactions with people zealous for Christ, Saul (later renamed Paul) and I discovered that Jesus purposefully arranged for outspoken Christians to cross our paths.

Recall Paul's testimony to King Agrippa. While he was on the road to Damascus, the Lord Jesus appeared to him, saying,

"I have appeared to you *for this purpose*, to make you a minister and a witness both of the things which *you have seen* and of the things which I will yet reveal to you." (Acts 26:16, emphasis added)

Jesus knew exactly what He purposed for Paul—and it didn't begin on that road. Paul had seen the composed dedication of persecuted Christians like Stephen (Acts 7:55–60). That's powerful no matter who

sees it. Stephen's *words* were as vital as his behavior. We can't be a witness for Jesus unless we talk about *Him* and His work—not only in the gospel but as an active presence in our lives.

Let's consider two life-changing observations that likely are not unique to me and then do an eye-opening Bible study. The goal is to enhance our collective testimony by crediting Jesus for His actions in our lives.

Observing Friends Talk Like Jesus Was Real

Many only know about Jesus as a Jewish teacher from 2,000 years ago. I was one of them. But sometime around ninth grade, I started taking note of passing comments from a few Christian classmates. I'd hear "Jesus answered my prayer," "Jesus helped me," or "Jesus opened a door." Whenever one friend's mom got distressed, she'd say, "Ohhh, *sweet Jesus*, please..."

These statements were foreign to me. I believed in God, but they weren't talking

about “God”; they were talking about Jesus. One high school friend, Gene Smith, always talked about Jesus like He was an ever-present companion. These casual references to Jesus became the first step on my path to salvation. Why? Because they got me wondering, Was Jesus *really* alive today? How come they talk about Him all the time? Can Jesus actually be involved with people?

So, when an acquaintance invited me to church, I wasn’t resistant. After a few months I asked Christ to forgive my sins and be my Savior and Lord. In 1979, about two years later, my wife, June, and I were off to Moody Bible Institute. My Old Testament survey teacher there, Mr. Clausen, was very Christlike. As a young Christian I greatly respected him. He, too, often spoke of Jesus as orchestrating his life.

Once after class I asked him why he referenced Jesus specifically. He showed me several Scriptures describing how Christians are part of *Christ’s body*. One was Ephesians 4:15–16, which says Christians should “grow up in all things into Him who is the head—Christ—from whom the whole body [is] joined” together. Then in 1 Corinthians 12:27, Paul forthrightly states, “Now you are the body of Christ, and members individually.” He reminded me that in Matthew 16:18 Jesus said, “I will build My church” (emphasis added). As a member of Christ’s body, Mr. Clausen knew that Jesus was directing his earthly affairs.

*Now you are the body of Christ,
and members individually.*

— 1 CORINTHIANS 12:27 —

Mr. Clausen told me to remember two exceedingly important realities: (1) Jesus is and always will be head of His body and Lord of His church, and (2) when it comes to Jesus, there’s just “something about His name.” He explained that from his experi-

ence, speaking about Jesus as the intimate person He is was a credible witness all by itself, and the name of Jesus often elicits an emotional response.

The Lesson from Acts: Jesus’ Name Is Central to Everything

Is Mr. Claussen correct? Does the name of Jesus matter? A study through Acts 1–11 shows that the name of Jesus—not as a magic wand but as the symbol of His person and work—repeatedly stimulated four responses.

Response 1, Resistance: “We Command You Not to Teach in This Name”

It wasn’t enough that “Jesus of Nazareth” was “taken by lawless hands...crucified, and put to death” (Acts 2:22–23) by religious leaders, but the same were “greatly disturbed that [the apostles] taught the people and preached in Jesus” (4:2). To stop this message from spreading, the gathered leaders decided to “severely threaten them, that from now on they speak to no man in this name. So they called [the apostles] and commanded them not to speak at all nor teach in the name of Jesus” (4:17–18).

But they kept teaching, so the council called for them again and told them, “Did we

not strictly command you not to teach in this name? And look, you have filled Jerusalem with your doctrine, and intend to bring this Man’s blood on us!” (5:28). And yet again, “when they had called for the apostles and beaten them, they commanded that they should not speak in the name of Jesus” (5:40). Their rage was relentless, not against God but against the name of Jesus.

The religious and even secular establishment will rarely protest when we claim that God—a safe name that can broadly include many religions—works in our lives,



or that we want to bring glory to “God.” But crediting “Jesus”? Well, that’s always another story.

Response 2, Salvation: “There Is No Other Name Under Heaven”

Peter recognized in his sermon at Pentecost that “this Jesus, whom you crucified, [is] both Lord and Christ,” and he called unbelievers to “repent, and let every one of you be baptized in the name of Jesus Christ for the remission of sins” (2:36, 38). Salvation is only in the name of Jesus, and there is not “salvation in any other, for there is no other name under heaven given among men by which we must be saved” (4:12).

The early believers proclaimed Jesus’ name, such as when “Philip went down to the city of Samaria and preached Christ to them” and “the things concerning the king-

dom of God and the name of Jesus Christ” (8:5, 12). Later, he “opened his mouth, and beginning at this Scripture, preached Jesus” to an Ethiopian eunuch (8:26-39). After Paul’s salvation, he “preached the Christ in the synagogues, that He is the Son of God” and always “spoke boldly in the name of the Lord Jesus” (9:20, 29). And Peter said to Cornelius’ household, “To Him all the prophets witness that, through His name, whoever believes in Him will receive remission of sins” (10:43).

Since salvation is “through His name” and there is “no other name,” the enemy will do all he can to silence mention of the saving name of Jesus.

Response 3, Power: “In the Name of Jesus Christ”

As a youngster, I’d say to my brother hiding behind our bedroom door, “Open up in the name of the law.” Later I learned that “in the name of” was an appeal or reference to authority. When Peter said to a lifelong paralyzed man, “Silver and gold I do not have, but...in the name of Jesus Christ of Nazareth, rise up and walk” (3:6), he petitioned a real and unimaginably great power.

Upon examination by religious authorities, Peter candidly testified that the source of power was “His name” and that “faith in His name, has made this man strong” (3:16). Later he added, “Let it be known...to all the people of Israel, that by the name of Jesus Christ of Nazareth...this man stands here before you whole” (4:10).

What’s in Jesus’ name? The real authority of Jesus Himself. May we join in the same prayer of those early believers and call upon that power “through the name of Your holy Servant Jesus” (4:30).

Response 4, Union: “They Were Counted Worthy to Suffer Shame for His Name”

When two people strive together to make it through hard times, their cords of

affection grow strong. When Stephen lay dying from being stoned, he said, “Lord Jesus, receive my spirit” (7:59), and it seems that the Father has wisely ordained that our relationship to His beloved Son deepens when we share in His reproach. Like our Christian ancestors, may we never blush to take the name of Jesus.

Before his conversion, Saul was breathing out threats, seeking “to bind all who call on [Jesus’] name,” and then he “destroyed those who called on this name” (9:14, 21). We’ll face today’s Saul if we take Jesus’ name to our lips. Does Jesus care? A convicting truth was revealed to Saul on the road to Damascus when he discovered that it wasn’t *only* Christians he was terrorizing. Saul saw the Lord in a vision, and He said, “I am Jesus, whom you are persecuting,” and then Saul learned that he, too, “must suffer for My name’s sake” (9:5, 16).

“For I will show him how many things he must suffer for My name’s sake.”

— Acts 9:16 —

Just as “the disciples were first called Christians in Antioch” (11:26), all of us who are Christ’s today join that long line of faithful Christians who have borne His name from the beginning. We have the opportunity to follow the example of the very first believers who, after being threatened to “not speak in the name of Jesus” and then were beaten, departed “rejoicing that they were counted worthy to suffer shame for His name. And daily in the temple, and in every house, they did not cease teaching and preaching Jesus as the Christ” (5:40–42).


Institutional and Personal Applications

Clearly, the name of Jesus is always provocative, influential, and powerful. Chris-

tians must never miss an opportunity to honor the name of Jesus. He truly is head of His body and Lord of His church. The Institute for Creation Research exists to support His church. The first tenet of ICR’s mission statement motivates us to give Jesus rightful credit *by name* for His work in creation as our way of lifting high His name. We’re honored that our scientific study of creation reveals Jesus’ incredible genius, unfathomable wisdom, and infinite power. These glorious attributes of Christ are intended to bring great confidence to Christians.

On a personal level, the name of Jesus does matter. What I saw in my childhood friends wasn’t just them speaking the name of Jesus but having a real relationship with Him. Mr. Clausen was deeply in love with Jesus. That relationship was naturally vocalized as these Christians spoke of Jesus, and it changed my life.

May we cultivate an affection for the Lord Jesus who can “sympathize with our weaknesses” (Hebrews 4:15) and is that ever-present “friend who sticks closer than a brother” (Proverbs 18:24). We talk about the people we love. I love hearing the name “June” because it belongs to my precious wife. Similarly, a Christian brother, Frederick Whitfield, said that hearing the name Jesus “sounds like music in my ear, the sweetest name on earth. Oh, how I love Jesus.”²

What are your first thoughts when you hear the name Jesus? It always provokes an emotion—for there’s just something about that name. 

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2. Julian, J., ed. 1892. *Dictionary of Hymnology*. New York: Charles Scribner’s Sons. “There Is a Name I Love to Hear” by Frederick Whitfield (1829–1904) was published in 1855.

Dr. Guliuzza is president of the Institute for Creation Research. He earned his doctor of medicine from the University of Minnesota, his master of public health from Harvard University, and received an honorary doctor of divinity from Southern California Seminary. He served in the U.S. Air Force as 28th Bomb Wing flight surgeon and chief of aerospace medicine. Dr. Guliuzza is also a registered professional engineer and holds a B.A. in theology from Moody Bible Institute.



FEBRUARY 28-MARCH 2

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MARCH 8-9

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MARCH 15-16

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MARCH 23

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Fairhaven Baptist Church
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MARCH 28-30

Jonesboro, GA
Berachah Bible Church
(B. Thomas)
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APRIL 2-6

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APRIL 4-6

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MAY 2-4

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Foundations of Creation Seminar
(R. Guliuzza)
ICR.org/HarrisMN or 214.615.8325



MAY 9-11

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SEQUOIA NATIONAL PARK

Giant Trees Exhibit Expert Engineering

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

article highlights

- Giant sequoias are the most massive trees on Earth, and the oldest clock in at just about 3,400 years. This matches the timeline of the Genesis Flood and subsequent Ice Age.
- These trees are designed to thrive in an environment fraught with forest fires. Thick, spongy bark protects mature sequoias, while the fires' heat dries the seed cones, leading them to open and release seeds. The flames clear undergrowth and deposit ash, providing access to sunlight and mineral-rich soil that seedlings need to survive.
- In a feat of remarkable engineering, hundreds of gallons of water flow hundreds of feet upward through the sequoia's specialized bark, defying gravity with stiffer-walled tubes in the tree's upper portion and active pressure-responsive cells.
- Coordinated, planned features work in concert to enable these majestic giants to thrive for thousands of years, pointing to the design of their Creator.

Image credit: NPS / Kiel Maddox

Question: What are the biggest trees on planet Earth? Answer: Giant sequoias (*Sequoiadendron giganteum*).¹ They grow on west-facing slopes of California's southern Sierra Nevada mountains. Visitors to Sequoia National Park and nearby places marvel at these wooden behemoths. Where did giant sequoias come from? When did they land in the Sierras? Sequoia National Park offers three pointers to biblical creation and the Flood.



A boy hugs a giant sequoia in Sequoia National Park

Image credit: SKNP / Devin Monas, public domain

Collaboration

Where do new giant sequoias come from? Three tree traits collaborate to allow them to propagate through forest fires.

First, sequoia seeds do not release from their strangely small pine cones until the cones get hot enough. A forest fire does the trick. Second, a giant sequoia seed germinates



A small giant sequoia cone lies on fire-scorched ground. Sequoia seeds germinate on burned ground.

Image credit: NPS / Joe Suarez



Image credit: NPS / Ivan Mendoza



Sequoia seedling

only after it detects recently burned ground.² Fires can clear paths for suitable sunlight to reach young trees that would otherwise be overshadowed by thick growth and tall neighbors.

Sequoia bark is the third collaborating trait. These majestic mammoths produce a uniquely spongy bark layer that's over a foot thick! The thickness and sponginess combine to provide excellent fire resistance. This is just as well since what good would it do if the fires needed for germination destroyed the very trees that were trying to reproduce?

These three aspects work in concert:

Flames rise in Sequoia Grove during the 2021 KNP Complex Fire. Sequoias sense and use fires to propagate.

Image credit: NPS / Joe Suarez



cones wait for fire to release their seeds, seeds wait for charred ground to germinate, and bark protects the mother tree from the necessary fires. Someone thought this through.

Water Pumps

Just one giant sequoia transports over 500 gallons (1,890 liters) of water over 275 feet (83 meters) skyward per day.³ Could human engineers devise a silent pump that could push that much fluid that high for thousands of years?

University of California, Berkeley biologists studied sequoia sap flow. They wrote in 2017,

Total relative water content at the turgor loss point (total RWC_{TLP}) is controlled by three underlying variables: osmotic potential at full turgor, bulk tissue elastic modulus and apoplastic water fraction.⁴

The turgor pressure loss point refers to the water pressure at which leaf tissues begin to wilt. The “three underlying variables” are actually tactics that keep wilting at bay. The ways that tree tissues tightly manage each one clearly show creation.⁵

Ions control “osmotic potential.” In this first tactic, cell systems pump ions into the spaces where water needs to go. Water follows the ions, passing from cell to cell up the



Author marvels at how high these trees pump water against gravity to feed their lofty leaves

Image credit: Brian Thomas

trunk. However, this only works so far, so the other tactics kick in.

“Elastic modulus” refers to the stiffness of the tiny side walls that contain sap. Tissues higher in the tree have stiffer walls. Floppy vessel walls would collapse at the low pressures way up there, so water would not reach the leaves, spelling tree tragedy.

The last tactic concerns “apoplastic water.” This refers to water stored in separately managed small spaces. Cells can inject these water stores into the sap when pressure wanes. Giant sequoias dynamically adjust these three tactics to accommodate daily and seasonal changes in sunlight direction and intensity.

It's all so ingenious! Geologist Bill Hoesch rightly wrote, "The sheer size of the sequoias drives us to consider them as marvels of engineering."⁶ We confidently credit our Creator with the craftsmanship required here.

Timing

Experts count growth rings on long, thin cores extracted from the center of the trees' trunks. Dendrochronologist Edmund Schulman counted sequoia rings, and he wondered why these trees are not older. He wrote in 1954, "Does this mean that shortly preceding 3275 years ago all the then living giant sequoias were wiped out by some catastrophe?"⁷

Many assume that each ring represents one year, but research has disproven this.⁸ But even assuming one ring per year, some giant sequoias are 3,400 years old. These would have sprouted soon after the Exodus

of the children of Israel from Egypt. Does this and Schulman's observation align with biblical history?

Bible chronology places Noah's Flood at about 2500 BC.⁹ Inferences from Scripture, ancient history, and Earth's surface support a single Ice Age that lasted some centuries after the Flood.¹⁰ Early Ice Age years saw California's 373-mile-long Sierra Nevada mountain range buried beneath ice.

Melting alpine glaciers later carved the wide U-shaped valleys that cascade toward today's sequoia groves. Plants couldn't pioneer the Sierra Nevada until this ice melted. A Bible-based Ice Age likely waned by about 3,800 years ago. No sequoia should be older than 3,800 years under this biblical timeline. Expectation met!

Collaborative propagation traits and balanced water pump tactics clearly point to creation. And the ages of these trees match sensible inferences from the Bible's timeline. What did our all-wise Creator say to us

through that very Bible? "Blessed is the man who trusts in the LORD, and whose hope is the LORD. For he shall be like a tree planted by the waters."¹¹ 🌳🌳

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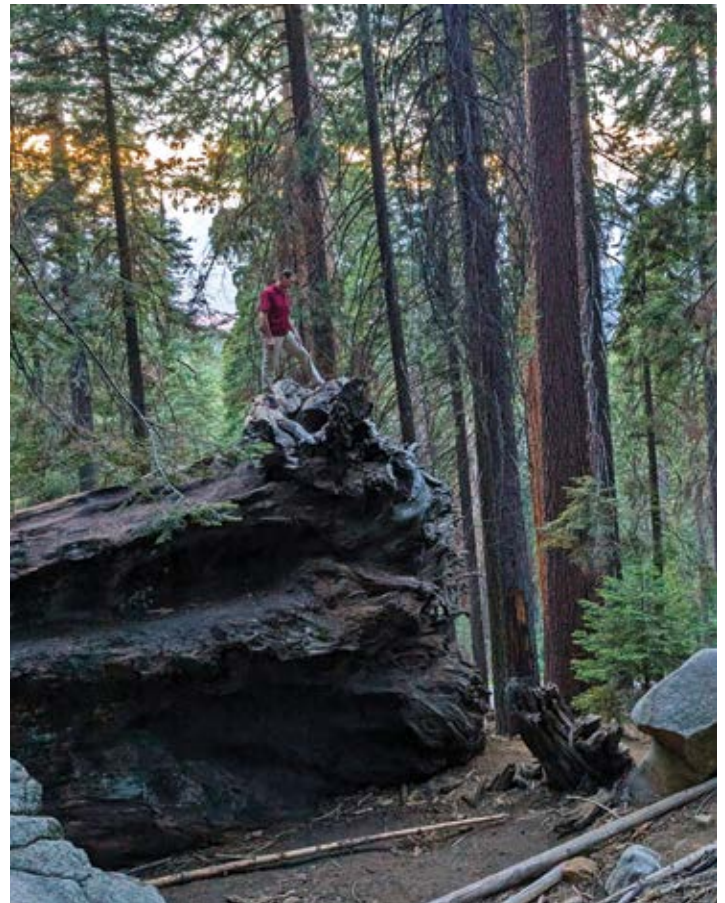
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Dr. Thomas is a research scientist at the Institute for Creation Research and earned his Ph.D. in paleobiochemistry from the University of Liverpool.



Felled giant sequoia shows thousands of years' worth of growth

Image credit: Benjamin Trotman



Author stands on a rare fallen giant sequoia

Credit: Benjamin Trotman

THE 3-D GENOME

A Marvel of Adaptive Engineering

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

In eukaryotes, which are organisms with nucleated cells, the vast majority of hereditary and coded information is stored, copied, and replicated in the chromosomes within the nucleus.¹ In human beings, the genetic (chromosomal) material within a single cell is about six feet in length. This needs to fit within an incredibly small space, so our Creator designed an elaborate packaging system to organize and compact the DNA of a chromosome at multiple levels.

In the design solution for this challenging spatial problem, the genome must be organized and compacted in such a way that cellular machinery in the nucleus can properly access the DNA. This allows the implementation of numerous gene expression programs that need to be executed at the right time and in the right tissue and cell type. This arrangement couldn't have come about through random, hit-or-miss natural processes. It must have been engineered from the beginning.

Exploring the Function and Structure of the Genome

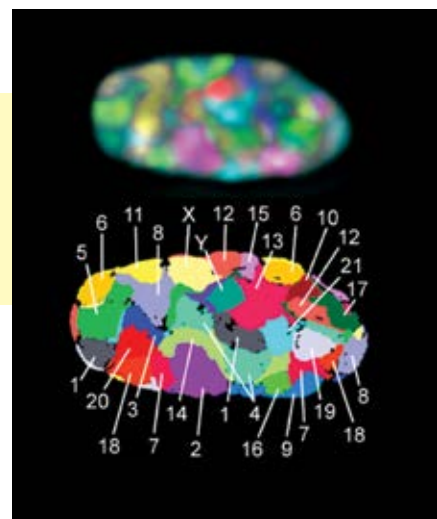
Various microscopy techniques have documented an array of features that provides insights into how the genome is organized in

a cell's nucleus. One technique called chromosome painting involves using specific fluorescent probes that light up a single chromosome.² After highlighting individual chromosomes, a color can be assigned to each one. This generates a composite image of the nucleus showing a chromosome's specific territory. Figure 1 depicts the territory for each human chromosome in a fibroblast cell.³

Figure 1. Chromosome territories in a human fibroblast cell nucleus. Each number or letter is the specific identifier for each of the 23 chromosomes.

Image credit: Andreas Bolzer et al., CC BY-2.5

Other technologies zoom in and provide even more detailed information about the structure of the genome beyond the level that microscopy reveals.





article highlights

- Our Creator designed an elaborate packaging system for organizing and compacting chromosomal DNA in the nucleus.
- Various microscopy and other techniques have provided insights into the genome's function and 3-D structure.
- Specialized regions called transcription factories process in both three-dimensional space and time in an ongoing, elegant, four-dimensional genetic dance.
- Researchers seek to integrate the three-dimensional aspect of the genome with its activity in time and understand adaptive genomic modifications in response to environmental change.
- All these intricate genetic features reflect the Creator's engineering of His created living creatures.

Most of these approaches are based on a technique called crosslinking that chemically fixes (binds together) areas of chromosomes that interact with each other.^{4,5} These crosslinked, interacting sections of different chromosomes can be isolated and their DNA sequenced.

This DNA sequence can then be used to determine the locations or addresses on each of the interacting chromosomes that were captured together during the crosslinking phase. The various types of interacting genes or regulatory switches can be determined from the DNA sequence. This technology is called chromosome conformation capture and can involve a wide variety of technical variations.

Genome Architectural Design

Before getting into some of the principal functional features of the 3-D genome, another important point to discuss is the various levels of organization in the way the DNA is packaged and structured.³ Eukaryotic genomes are organized via several common architectural design features. The basic organizational elements of the genome are the DNA fibers, loops, domains, and compartments that chromosomes form.

The packaged and organized DNA of a chromosome is called chromatin. A chromatin fiber contains a stretch of 146 base pairs of DNA wrapped around a cluster of eight proteins called histones (Figure 2). Each one of these so-called “beads on string” are termed nucleosomes. This packaged form of DNA can be highly condensed or folded into higher-order features, such as chromosomal territories or domains, as noted above.

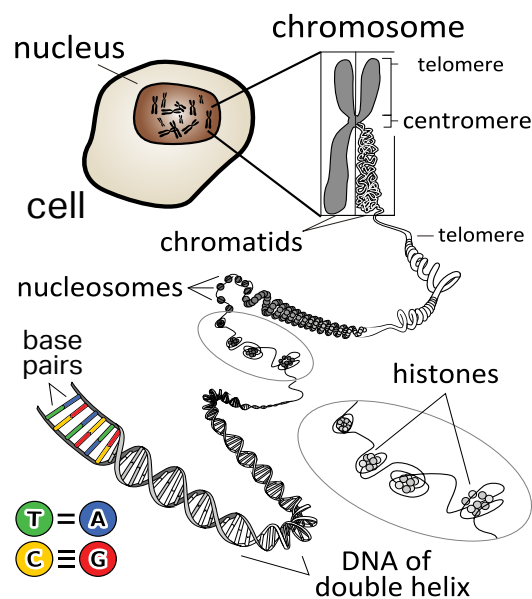


Figure 2. The different levels of chromatin packing and organization

Image credit: KES47, CC BY-3.0

The Specific Locality of Genes and Transcription Factories

As mentioned earlier, chromosomes occupy specific regions within the nucleus. These are termed chromosome territories, and they can be further subdivided into specified chromosomal compartments referred to as topologically associating domains (TADs). Here the chromosomes can form loops that interact with loops from other chromosomal regions (Figure 3). These loops then bring together a group of genes that are used in a common cellular process in what is called a transcription factory (Figure 3).^{6,7}

In light of all this, it's important to understand that active genes and regulatory sequences are not randomly dispersed within the nucleus. It is now widely accepted that the location of co-regulated genes on different chromosomes is not accidental but highly specified since they occupy the same functional locations within the nucleus. This well-documented observation undergirds the concept of nuclear territories, in which a section on a particular chromosome exhibits repeated spatial connections with other chromosomal sections in response to a certain cell type or a specific functional process, such as those related to cellular and organism adaptive responses.

In a previous article, I explained how alternative splicing generates incredible diversity in gene products from a single gene.⁸ A single gene can produce over a hundred different messenger RNA variants

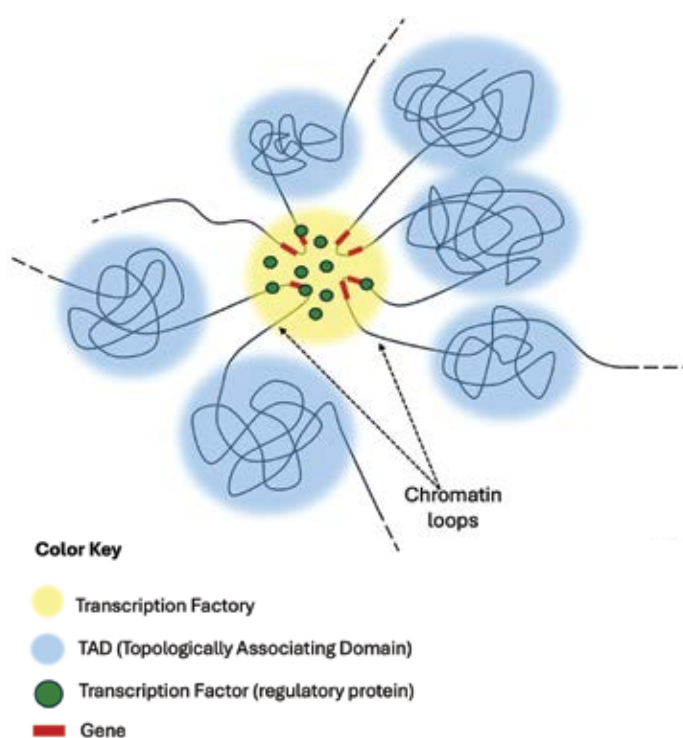


Figure 3. Depiction of a transcription factory

Image credit: Jeffrey P. Tomkins

(transcripts). Another interesting feature of alternative splicing is that it can also occur between messenger RNAs produced between genes located on completely different chromosomes.

The transcription factory regions and the machinery within them appear to remain relatively stationary while the DNA is moved into place and reeled through like film through a projector. For all of this to occur, genes in different regions of the genome are dynamically positioned within close physical proximity to each other and are transcribed in highly complex gene factory zones, as noted above.⁹⁻¹³ This is why gene activity (transcription) is not widely dispersed throughout the nucleus but is gathered in the transcription factories where approximately 10 genes at a time can be engaged and co-regulated.

The 4-D Nucleome

Not only is the genome arranged in highly ordered and specified configurations in three dimensions within the cell nucleus, but the dimension of time can be added to the mix as well. In this respect, researchers are trying to integrate the complexity of the three-dimensional aspect of the genome (spatial) with its activity in time (temporal) in various tissues and in response to external stimuli. This involves simultaneously studying thousands of genes and their physical positions in the genome using a variety of genomic technologies in which the data must be integrated and analyzed with elaborate statistical models.

In a 2015 study, researchers performed part of their analyses

using the chromosome conformation capture technique, which I mentioned in a previous article.¹⁴ They combined these results with additional information from 3-D microscopic imaging and millions of messenger RNA sequences captured across the genome to develop an integrated picture of activity in the 3-D genome in the nucleus (nucleome).

As if three dimensions were not enough, the researchers repeated these experiments across multiple time points in response to the body's day/night timekeeping system, called a circadian clock, thus adding the fourth dimension of time to the study. Amazingly, they discovered thousands of genes across the 3-D genome dynamically and precisely regulated by the body's internal clock, a stunning orchestration of complex genetic activity. The researchers wrote,

Genomic movements in 3D space provide a geometric picture of gene regulation in the context of circadian clocks, one that may give insight into the mechanisms regulating biological time.¹⁴

Not only are thousands of genes coordinately regulated together in 3-D space in a precise manner according to cell type and relevant physiological processes, but they also function within the context of time, the fourth dimension, in a wondrously precise genetic dance.

Studies like this actually led to the establishment of a federally funded 4-D nucleome project at the U.S. National Institutes of Health (NIH).¹⁵ The agenda for this was initially stated in a high-profile scientific paper published in 2017, in which the authors wrote:

To determine how the genome operates, we need to understand not only the linear encoding of information along chromosomes, but also its three-dimensional organization and its dynamics across time, that is, the '4D nucleome'.¹⁶

In a 2024 paper, a group of largely European scientists describe how an international 4-D nucleome project funded in part by the European Union was also started in 2015. It works alongside the NIH-funded project in the U.S. The authors wrote, "It is essential to visualize the genome in space and time."¹⁷

Adaptation and 3-D Genomic Response

So, what role does the 3-D genome play in the adaptation of living creatures? Amazingly, scientists have recently been able to decipher the dynamics of the 3-D structure of the genome in a diversity of creatures that can live in a variety of environments that provide extreme adaptive challenges.

Oysters are ecologically and economically important bivalve mollusks that inhabit the wide part of a river where it interfaces with the ocean (estuarine) and coastal regions where the ocean meets the land between high and low tides (intertidal zones). These environments experience sharp fluctuations in temperature and salinity because of the tide cycle.

In addition, oysters are sessile creatures, incapable of active movement since the mature oyster will cement itself to rocks. Because

of these factors, oysters and other intertidal or shallow sea organisms have been designed with high levels of genetic diversity and built-in plasticity to cope with rapid environmental changes. Thus, they make excellent models for adaptation and genomic responses.

In a recent study, researchers analyzed the 3-D genome architectural response of oysters that were transferred from the northern coast of China to the southern coast of China, two locations with radically different environments.¹⁸ Amazingly, the translocated oyster immediately underwent significant changes in its 3-D genome structure that created new TADs and areas of active gene function in response to environmental conditions, especially water temperature.

Not only were new, active regions of DNA configured, but the researchers found that several chromosomes were highly specialized to respond to environmental change.¹⁸ These chromosomes had designated 3-D response regions that exhibited a large amount of transcriptional adaptive plasticity. And many of the genes involved in the adaptive responses were related to metabolism and muscle movement that not only enable the oysters to rapidly reconfigure their metabolism but also alter their ability to close and open their shells. Another standout feature of this research is that many regions of the oyster genome that contained areas lacking protein-coding genes were critical

to the formation and regulatory activity of the 3-D genome. This provides more evidence to debunk the myth of junk DNA.¹⁹

While the oceans offer challenging environments for life, so does land. In another recent study, researchers analyzed the 3-D genome in chickens that have the ability to adapt to both warm and humid tropical environments and cold and frigid

northern locations.²⁰ Because of their short growth and reproductive cycles and their wide geographic distribution, chickens are ideal model creatures for studying adaptive genome modifications.


The researchers chose to examine liver cells in two different breeds of chickens—one adapted to the tropics and one adapted to frigid conditions.²⁰ The results showed that in response to its environment, each chicken had developed unique 3-D genome configurations with different TADs. These environment-specific TADs allowed for precise sets of genes to be expressed in transcription factories specifically tailored to each environment. The variability in gene path-

ways was connected to traits such as heat tolerance, cold adaptation, immune responses, and metabolic changes. In adaptation to cold and hypoxic conditions, gene pathway alterations were associated with smooth muscle contraction, vasoconstriction, and vasodilation.

Conclusion

Genes and regulatory elements are not randomly dispersed within the cell's nucleus. They occupy precise locations with respect to the nuclear meshwork of structural fibers (lamina) and to each other. This important observation provides the fundamental basis of the well-accepted concept of highly specified and regulated nuclear territories.

These specialized chromosomal configurations exhibit reproducible connections within space and time according to cell type and even inputs from environmental conditions related to adaptation. As a result, gene transcription is not widely or randomly dispersed throughout the nucleus but is organized into specified nuclear sites called transcription factories that typically accommodate about 10 different genes concurrently transcribed as a group. And if this were not complex enough, this incredible activity is adaptably responsive and variable in time.

No random processes could result in such optimal function and intricate organization. This phenomenal complexity can only be attributed to the engineering of an all-wise and all-powerful Creator, the Lord Jesus Christ. 

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Croc Fossils Hint at Extreme Longevity

ICR research continues to discover evidence that at least some fossil creatures experienced extremely long lifespans like those recorded for the early Genesis patriarchs. A recent ICR *Creation Science Update* article discussed small extinct fossil mammals that lived much longer and took longer to mature than similar-size living mammals.¹

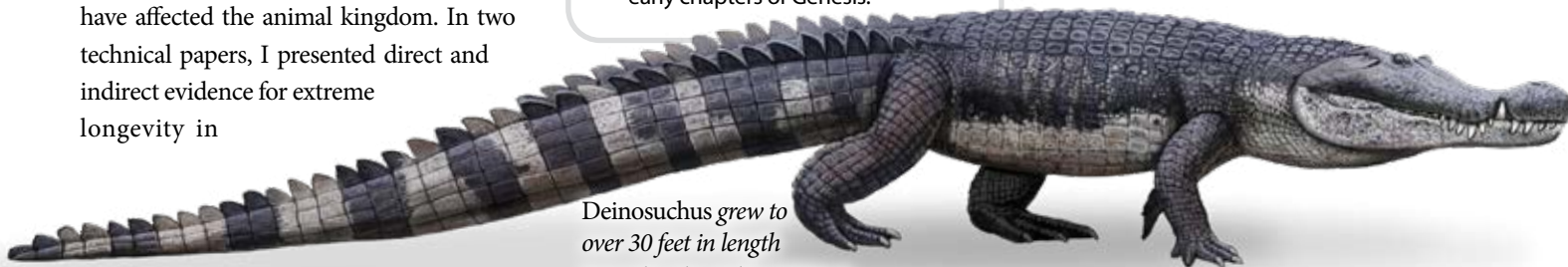
This makes sense. Assuming that this early longevity was not miraculous, any mechanism or mechanisms that enabled extreme human longevity would likely also have affected the animal kingdom. In two technical papers, I presented direct and indirect evidence for extreme longevity in

article highlights

- Some giant fossil crocodiles likely took at least half a century to reach adulthood.
- In living animals, delayed maturation and larger body sizes are often associated with greater longevity.
- Giant fossil oysters, giant fossil sharks, and small fossil mammals all show indirect and/or direct evidence of greater longevity.
- These findings match human life history patterns recorded in the early chapters of Genesis.

Euthecodon brumpti both had long, narrow snouts that are very similar to the snouts of living gharials. Evolutionary scientists attribute this similarity to “convergent evolution,” in which the same body features coincidentally evolve in unrelated creatures.

But what if *G. croizati* and *E. brumpti* are simply giant pre-Flood gharials? Given that they had body sizes comparable to those of *Deinosuchus* and *Sarcosuchus imperator*, they very likely *also* had comparable lifespans and ages at maturity. Likewise, *Purussaurus brasiliensis* had a body shape



Deinosuchus grew to over 30 feet in length

Image credit: Andrey Atuchin, CC BY-SA 4.0

giant fossil oysters and sharks.^{2,3} And a new paper describes how giant fossil crocodilians also show indirect evidence of great longevity.^{4,5} By counting growth bands in bony skin plates called osteoderms, paleontologists have concluded that the giant crocodile-like animals *Deinosuchus* and *Sarcosuchus imperator* took at least 50 to 60 years to attain their full adult body sizes.

Genesis strongly hints that pre-Flood humans took longer to sexually mature since the youngest two ages at which Genesis 5 patriarchs are listed as having sons are 65 and 70.⁶ It is difficult to imagine pre-Flood humans undergoing puberty around 13, like today’s humans, and choosing to wait 50 years or more to get married!

If pre-Flood humans experienced delayed sexual maturity, they may have also experienced delayed skeletal maturation. Biologists have long noted that biological timescales, such as ages at sexual or skeletal maturity, lifespans, etc., tend to vary as adult body mass raised to the $\frac{1}{4}$ power.⁷ So,

one would expect delayed skeletal maturity to accompany delayed sexual maturity. Moreover, longevity studies of living animals have shown that delayed maturation and larger adult body sizes are often linked to greater longevity. Hence, the delayed skeletal maturation of these giant fossil crocodilians is indirect evidence of greater past longevity.




Indian gharial

Image credit: Matěj Batha, CC BY-SA 3.0

These two giant fossil crocodilians may or may not be ancestors of today’s crocodiles and alligators since they had some unique anatomical features not found in today’s crocodilians. However, the giant fossil crocodilians *Gryposuchus croizati* and

very similar to that of living caimans. Was it simply a giant, long-lived, pre-Flood caiman?

I am very encouraged by this research, and I hope you are, too. As former ICR President Dr. John Morris used to say, “It’s a great time to be a Bible-believing Christian!” 

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Dr. Hebert is a research scientist at the Institute for Creation Research and earned his Ph.D. in physics from the University of Texas at Dallas.



What Is Truth?

Pilate therefore said to Him, "Are You a king then?" Jesus answered, "You say rightly that I am a king. For this cause I was born, and for this cause I have come into the world, that I should bear witness to the truth. Everyone who is of the truth hears My voice." Pilate said to Him, "What is truth?" (John 18:37–38)

What is truth? Jesus said that He's "the way, the truth, and the life." He is the only way to God; no one can come to the Father except through Him (John 14:6). He is the truth, the Word of God through whom all things were made (1:1–3). And Jesus is the life. While the thief comes to steal, kill, and destroy, Jesus came to Earth that we may have life abundantly (10:10).

As stated in the Bible, many will come falsely claiming they have the truth (Matthew 24:11), but Jesus already told us that He is the truth. Anything contrary to who He claimed to be and the message He taught is a lie that must be resisted.

At the Institute for Creation Research, Jesus' truth is at the center of what we do. Our mission is to expose the Darwinian lies that have infiltrated our society, to give the Creator the glory that belongs to Him, and to communicate the science that affirms Scripture. ICR seeks to equip believers with the answers they need to defend the gospel, uphold the authority and accuracy of God's Word, and proclaim His truth to a culture that desperately needs it.

Some ask why a creation ministry like ICR is needed. They claim it doesn't matter what people believe about origins because there are more important battles to fight. But I'd argue that origins is actually one of the greatest issues of our time. ICR's intention isn't to win a debate but to oppose the deification of nature and restore glory to the Lord Jesus, who created everything in six 24-hour days. Whatever we

believe about truth informs how we live. And if we hold to the Bible as ultimate, final truth, that means living in light of everything it says.

For over a year, I've had the joy of serving as the special events coordinator for the ICR Discovery Center in Dallas, Texas. I plan events that connect ICR to the community and engage people with the biblical creation message, helping them grow in the knowledge of their Creator. In my time here, I've witnessed God move in magnificent ways. I've seen hearts changed, faith strengthened, and passion for the gospel soar.

This ministry's outreach isn't possible without our faithful supporters, who generously supply their love and resources to keep our work going. I don't just organize ICR programs. My job gives me the incredible opportunity to learn more about how God created the world and to be inspired by His special plan for mankind. I get to tell others about the good news of Jesus so they, too, can know there's purpose to this life and that we're not the consequence of chance.

ICR leads people to the glorious truth of God's Word, which consequently points them to Jesus, and I get to be a part of it! Thank you for joining us to accomplish this vital mission. Together, we're building the kingdom of God—and that's the greatest joy of all.

Ms. Ajayi is the special events coordinator at the ICR Discovery Center.



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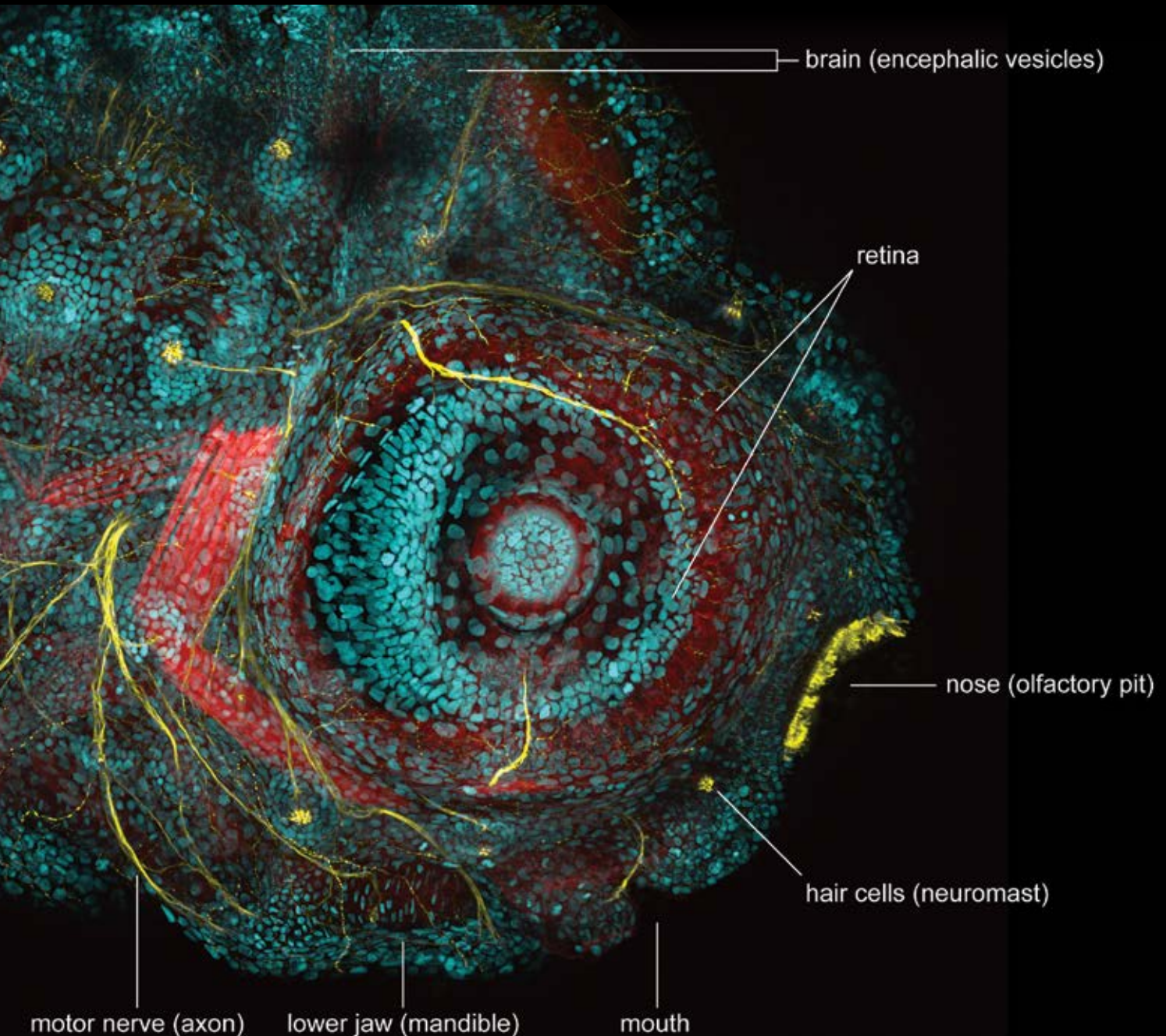
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*“If the whole body were an eye, where would be the hearing?
If the whole were hearing, where would be the smelling? But now God has set
the members, each one of them, in the body just as He pleased.”*

— 1 CORINTHIANS 12:17-18 —



*Confocal laser scanning micrograph showing lateral view of right eye in a surface fish of *Astyanax mexicanus* at 3.5 days of development. The visual system with retina and centralized lens (inner circle) is functional. Microscopic structures include muscle fibers (red), DNA (cyan), and cilia and nerves (yellow).*

Image credit: Micrograph captured and edited by Michael J. Boyle, Ph.D., The William B. Dean, MD Imaging Center of the Institute for Creation Research

When Is Dry Desert a Navigable River?

Dry arroyo in Las Cruces, New Mexico

Image credit: All2humanuk, public domain

Should a desert's dryland arroyo that goes a year or more without any rainfall be called a "wetland" or a "navigable river"?¹

Consider the baffling case of Ocie and Carey Mills, a father-son pair sentenced to \$10,500 in fines and 21 months of jail time because they doubted that their tree-bearing dryland lots qualified as a navigable river.

This case presents the disturbing implications of the expansive jurisdiction which has been assumed by the United States Army Corps of Engineers under the Clean Water Act. In a reversal of terms that is worthy of *Alice in Wonderland*, the regulatory hydra, which emerged from the Clean Water Act, mandates...that a landowner who places clean fill dirt on a plot of subdivided dry *land* may be imprisoned for the statutory felony offense of "discharging pollutants into the *navigable* waters of the United States."¹

In other words, in the *Alice in Wonderland* world of federal politics, dry land such as a rain-deprived desert arroyo or a wooded lot can be jurisdictionally deemed a "navigable river" regulated by the U.S. Army if that dry land can be topographically linked to a navigable river or an ocean coast.^{1,2}

Politicians are not alone in using disorienting and deceptive terminology. In fact, manipulating, mystifying mumbo-jumbo is a typical trick of the trade for evolutionists.³ Consider these perplexing, loaded terms with distorted definitions that distract more than inform.

Natural Selection. This Darwinian phrase presupposes an agent who "selects" something or someone. But there's no selection unless a true selector considers relevant information against comparative values (i.e., better or worse options) and then consciously chooses (i.e., selects) an option.³ But inanimate geophysical environments can't prefer, favor, or select anything.

Prokaryotic vs. Eukaryotic Cells. Eukaryotic means "true nucleus," and prokaryotic denotes "before" a nucleus. This terminology implies that primordial bacteria and viruses evolved their nucleic acids before any proper cell nuclei evolved, whereas eukaryotic cells (e.g., mammal cells, plant cells) evolved late enough to have developed a proper nuclei inside their cells.

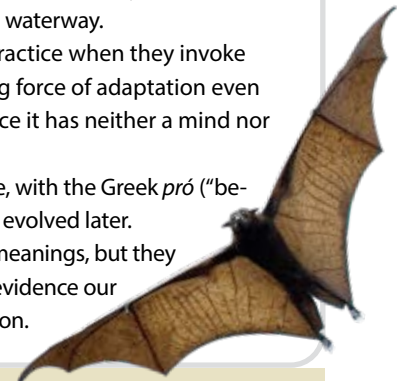
Cambrian Explosion. Evolutionists recognize that some of the earliest geologic sediments contain fossils of all kinds of life, so they assume that all major biodiversity categories of life forms phylogenetically "exploded" from a common-ancestry family tree.

This clashes with events of the creation week, when Christ created a pristine "forest" of different created kinds of ancestral life forms. Instead of fully developed creatures inexplicably appearing on a "tree of life" with no trace of evolutionary ancestors, these created kinds all show up as fossils within the earliest Flood-burial zone of Cambrian sediments.⁴

Homology and Convergence. Evolutionists say that forelimbs of humans and animals

article highlights


- A term can sometimes be twisted beyond its simple meaning to serve a slanted purpose, such as legally defining a usually dry riverbed as a navigable waterway.
- Evolutionists engage in this practice when they invoke natural selection as the driving force of adaptation even though nature can't select since it has neither a mind nor the ability to act.
- Another example is prokaryote, with the Greek *pró* ("before") implying nucleated cells evolved later.
- Evolutionary terms may twist meanings, but they can't obscure the clearly seen evidence our Creator has placed in His creation.



Flying fox (fruit bat)

(e.g., birds, bats, bobcats, bears) are similar in form and function because they all trace back to a universally common phylogenetic ancestor. This supposedly "homologous" common ancestry, plus later imagined independently converging traits, are invoked to explain why humans and animals have comparable body parts and traits.⁵

But evolutionists ignore the purposeful wisdom of the Creator, who designed humans and animals to share the same planet (Isaiah 45:18; Psalm 104) and use the same air, water, and food for proteins, carbohydrates, salts, etc. They have a common Designer—not a common ancestor.

Don't be swayed by the implied assumptions baked into evolutionist vocabulary! No semantic shenanigans can erase the clearly seen evidence the Creator placed into His creation (Romans 1:20). 

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Dr. Johnson is the associate professor of apologetics and chief academic officer at the Institute for Creation Research.





Our family had so much fun @ICRDiscoveryCenter! Thank you to all the amazing staff that made it possible! If you've never been to the ICR Discovery Center in Dallas, I highly encourage it!

— Y. R.



Institute for Creation Research (ICR) has lots of great resources for everything science.

— J. M.

If you haven't been here, you have been missing out! **Come to one of the coolest places in DFW!**

— D. B.



★★★★★ 5 STAR REVIEWS

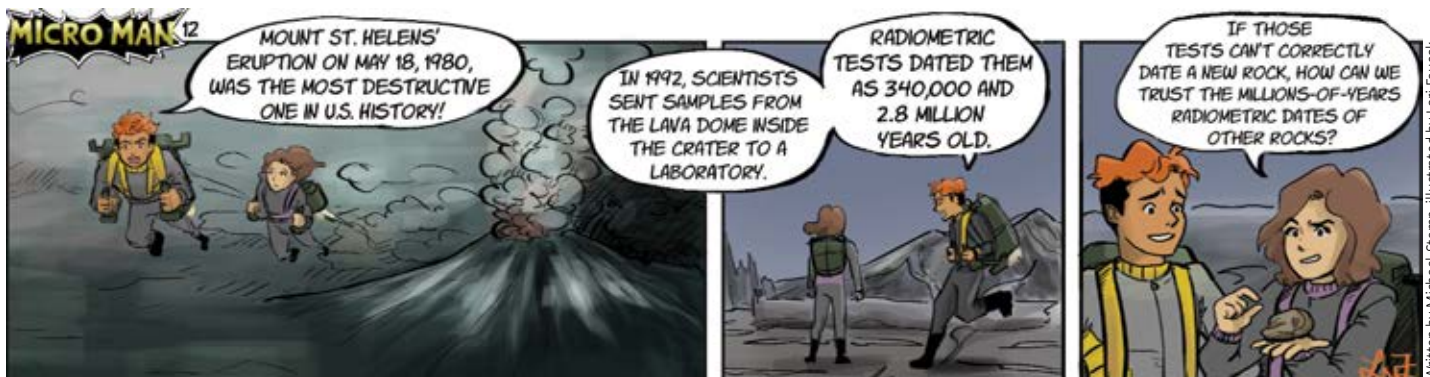
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ICR is a hidden gem in DFW! Of all the exploring that I've done in the region, this place tops it all. **Having traveled the world and enjoyed various museums, I found ICR's bringing to life world and human history to be priceless.** Now, if only an ICR existed in every city to present their findings...[to] empower people to choose their scientific worldview.

— D. L.

My son's 5th-grade class went here for a field trip. Wonderful movies/videos on how God created the earth/universe. He is *Elohim*, the purposeful Creator God, and this museum explains how God accomplished creation in six days, the Ark, Ice Age...and so much more! Wonderful! Wonderful! Wonderful!

— E.



Written by Michael Stamp, illustrated by Lori Fausak



ICR has been so faithful in sending me material for many years, and it's wonderful! **I have used the knowledge from these materials in teaching afterschool Bible club and now added it to Bible studies at a nursing home....**After

Mount St. Helens' eruption, my interest truly picked up because it proved previous "findings" wrong! My old *Acts & Facts* are taken to a place near Cleveland to go to "Love Packages"—materials sent around the nation and the world.

— M. W.



Image credit: USGS

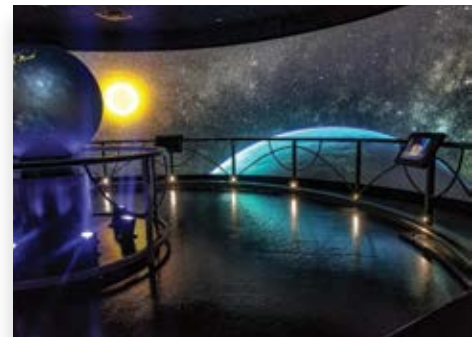
Editor's note: We invite you to check out our Creation Collection book *Volcanoes: Earth's Explosive Past* to see what Mount St. Helens and other volcanoes reveal about the history and shaping of our planet.



The Creator God of the universe will not be kicked out of His creation. **He designed Himself into His creation so that there is no logical explanation for how the universe got here or how it works without Him....**

Thank you ICR for your witness for Jesus Christ and the verity of His Word. ICR has played a huge role in shaping my view of the Creator and His creation since the days of [Drs.] Henry Morris and Duane Gish. And your voice for truth is stronger today than ever.

— C. V.



Have a comment?

Email Editor@ICR.org or write to

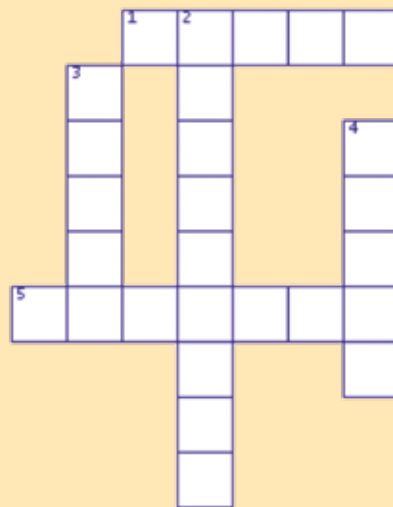
Editor, P. O. Box 59029, Dallas, TX 75229.

Unfortunately, ICR is unable to respond to all correspondence or accept unsolicited manuscripts, books, email attachments, or other materials.

What's the flashiest thing across Earth's skies? You guessed it—lightning! Whether in the clouds or zipping toward the ground, these huge sparks of electricity highlight God's incredible power. Although lightning is found mostly in thunderstorms, it's also produced by extreme conditions like volcanic eruptions, forest fires, and blizzards. Now, that's shocking! Did you also know...

- ✓ About 100 lightning bolts strike Earth every second.
- ✓ One streak of lightning can measure up to five miles long.
- ✓ Lightning reaches upward of 50,000°F—hotter than the sun's surface!
- ✓ Thunder comes when air heated by lightning rapidly expands and contracts. Light travels faster than sound, so you usually see lightning before you hear thunder.

Lightning Crossword



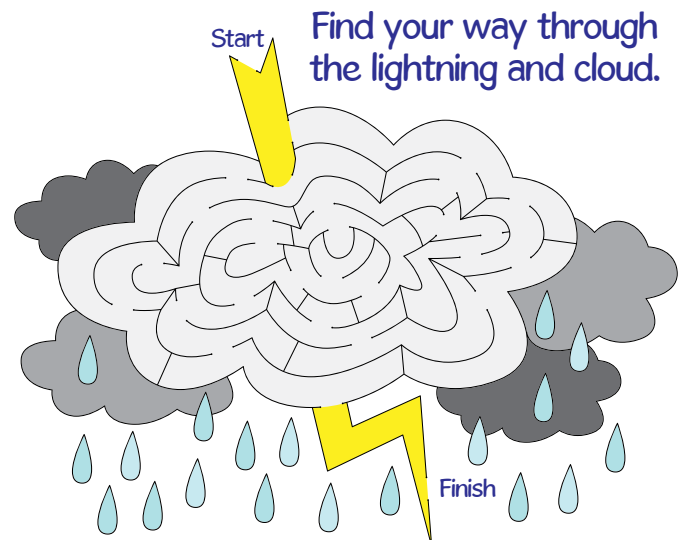
ACROSS

1. Rain falls out of a _____.
4. Earth orbits the _____.
5. _____ follows lightning.

DOWN

2. _____ is a giant spark of electricity.
3. We live on the planet _____.
4. A _____ often has rain and wind.

Circle 3 differences in the pictures below.



Answers to crossword: Across: 1. cloud 4. sun 5. thunder; Down: 2. lightning 3. Earth 4. storm

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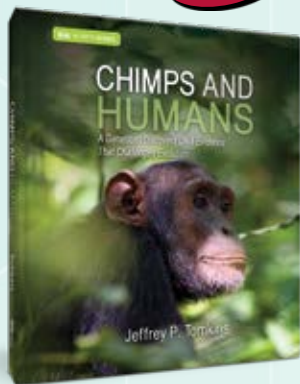
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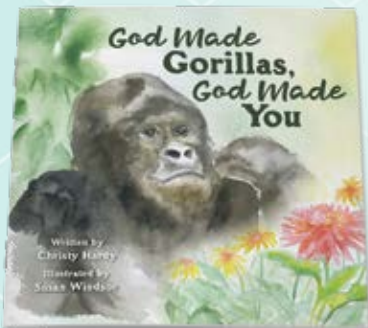


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