

ACTS & FACTS

INSTITUTE FOR
CREATION RESEARCH

www.icr.org

APRIL 2017

VOL. 46 NO. 4

LESSONS FROM AMOS

page 5

**Radiocarbon Dating Can't
Prove an Old Earth**

page 9

The God of Infinities

page 10

**DNA Variation Widens
Human-Chimp Chasm**

page 14

**Stunning Protein Fossils
Confirm the Flood**

page 15



STUDENT RESOURCES



Buy all five *Guide to* books for **\$67.96!**



Perfect for homeschoolers. Save 20% when you buy the whole set!
PBGTB

BOOKS



Dinosaurs and the Bible
\$4.99
BDATB1



Creation Basics & Beyond
\$9.99
\$7.99
BCBAB



Big Book of History
\$19.99
BBBOH



The Geology Book
\$16.99
\$12.99
BTGB



Dinosaurs: Marvels of God's Design
\$29.99
BDMOGD



The Design and Complexity of the Cell
\$19.99
\$15.99
BTDACOTC



The Scientific Approach to Evolution
\$9.99
BTSATE



The Global Flood
\$19.99
\$15.99
BTGFO

DVDs



That's a Fact (DVD)
\$9.99
\$7.99
DTAF



Made in His Image (DVD)
\$39.99
DMIHI



Uncovering the Truth about Dinosaurs (DVD)
\$39.99
DUTTAD



Unlocking the Mysteries of Genesis
Groundbreaking 12-DVD series!
\$129.99 - \$89.99
DUTMOG01



Unlocking the Mysteries of Genesis Student Guide
\$14.99 - \$12.99
BUTMOGSG

BOOKS FROM DR. RANDY GULIUZZA



Clearly Seen: Constructing Solid Arguments for Design
\$9.99 - \$7.99
BCS



Made in His Image
\$9.99 - \$7.99
BMIHI

TRUTH ON TOUR DVDS

\$7.99 Each!

We have a wide selection of educational DVDs. Many are on sale while supplies last!



Call **800.628.7640** or visit **ICR.org/store**

While supplies last. Please add shipping and handling to all orders. Prices available through April 30, 2017.

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

EXECUTIVE EDITOR
Jayme Durant

SENIOR EDITOR
Beth Mull

EDITORS
Michael Stamp
Truett Billups
Christy Hardy

DESIGNER
Dennis Davidson

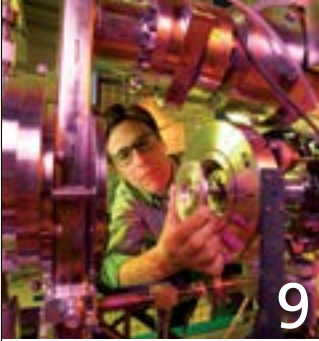
No articles may be reprinted in whole or in part without obtaining permission from ICR.

Copyright © 2017
Institute for Creation Research

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



5



9



10



16



22

FEATURE

5 Lessons from Amos

HENRY M. MORRIS III, D.MIN.

RESEARCH

9 Radiocarbon Dating Can't Prove an Old Earth

VERNON R. CUPPS, PH.D.

IMPACT

10 The God of Infinities

JASON LISLE, PH.D.

BACK TO GENESIS

14 DNA Variation Widens Human-Chimp Chasm

JEFFREY P. TOMKINS, PH.D.

15 Stunning Protein Fossils Confirm the Flood

BRIAN THOMAS, M.S.

16 Evolutionists Strike Out with Imaginary Junk DNA, Part 1

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

20 An Evening at Campbell University

BRIAN THOMAS, M.S.

APOLOGETICS

21 Thank God for Earthworms!

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

STEWARDSHIP

22 The Heavens Declare

HENRY M. MORRIS IV



Any Place

We often tie our most vivid memories to key places in our lives. You may wistfully remember your childhood home, where your mother rocked you before bedtime, or Easter at your grandparents' house. Maybe you long to go back to that vacation cabin where your family made s'mores under a starry sky or the church where you worshiped as a teen. You may recall the exact time and place where you first surrendered your heart to the Lord.

It's easy to get sentimental about a location, to think we need to be at a certain spot to experience the presence of God. The people of Amos' day were much the same. They were distracted by riches and rituals. They often practiced religious activity without a heart for God, and they deceived themselves into thinking that places of worship could substitute for a relationship with their God. And yet our feature article in this issue reminds us that the place isn't important. Dr. Henry Morris III says, "We do not find God in a *place* but in a *Person*" ("Lessons from Amos," page 6).

The Institute for Creation Research has traveled to many places in the United States, and even some locations overseas, sharing the scientific evidence that confirms the Bible. And by God's provision we are about to build a place, the ICR Discovery Center for Science and Earth History, that will provide a new outlet for us to spread the message of biblical creation.

But our ministry will never be dedicated to this or any place—only a Person, the Lord Jesus Christ. Our scientists research the latest findings to bring you accurate information that isn't forced into an evolutionary worldview. Everything they see and discover points to Christ as our omnipotent Creator.

Our science writer, Brian Thomas, recently carried this information to a place ICR had never visited before. In his report "An Evening at Campbell University" (page 20), Mr. Thomas tells how he shared the scientific evidence for creation with over 700 college students and several professors. He says, "The remarkable students who invited me understand why creation matters. They regularly defend their Christian beliefs." They wanted a speaker who could "present evidence for biblical creation to the hundreds of students who may never have considered how well the Bible explains the origins of the world and all it contains."

And thanks to the work of our science staff, we can offer you information confirming that the Bible explains origins very well indeed. In this issue, Dr. Jeffrey Tomkins tells how advances in DNA sequencing support the creation account: "Most of these variants were likely built into the genomes of the original created couple, Adam and Eve—easily accounting for the diversity we see in humans across the globe and fully supporting the biblical narrative" ("DNA Variation Widens Human-Chimp Chasm," page 14). Dr. Randy Guliuzza explains that "scientific evidence has shown the widely touted 'junk DNA' argument, which evolutionists anticipated being a Darwinian home run, is really a blundering swing-and-a-miss" ("Evolutionists Strike Out with Imaginary Junk DNA," page 17). And Dr. Jason Lisle shares how infinity reflects our infinite God: "Infinity is one aspect of God's nature. He is limitless in power, knowledge, and majesty" ("The God of Infinities," page 13).

In his feature article, Dr. Morris discusses Bethel, Gilgal, and Beersheba—places of wonderful heritage, and yet God said don't go back there (pages 5-7). God simply said to seek Him and live. Places can be meaningful and effective, but they don't save us. Rituals don't save us. Only our Lord Jesus Christ can save us. God's Word still challenges us to seek Him today. And *any place* is where you can meet the *Person* of Jesus Christ.

Jayme Durant
EXECUTIVE EDITOR



LESSONS FROM AMOS

*But do not seek Bethel, nor enter Gilgal,
nor pass over to Beersheba; for Gilgal shall
surely go into captivity, and Bethel shall
come to nothing. Seek the LORD and live.*

(AMOS 5:5-6)

By the time you read this, the Institute for Creation Research will have determined the starting date for construction of the ICR Discovery Center for Science and Earth History. I would love to have you share the joy of the official groundbreaking with us, but whether you can be here or not, many of you have shared your gifts and your prayers with us and can surely rejoice with us as the hopes of many are now becoming a reality.

But as with any major event in the life of God's people, there are warnings from Scripture about the dangers to avoid as the blessings of God become a focal point for the future. The prophet Amos records a series of history lessons that will help us evade the pitfalls of the wrong perspective.

A number of parallels could be drawn between the Israel of Amos' day and our time, but it is sufficient to say that the nation had deteriorated spiritually to the point where they "did wicked things to provoke the LORD to anger" (2 Kings 17:11). Amos urged the godly folks to "seek good and not evil,

that you may live; so the LORD God of hosts will be with you, as you have spoken. Hate evil, love good; establish justice in the gate. It may be that the LORD God of hosts will be gracious to the remnant of Joseph” (Amos 5:14-15). They had a chance to regain God’s favor, but the great events of history could also be a hazard.

Do Not Seek Bethel

Bethel, in Hebrew, is the House of God. Abraham camped near Bethel when he first entered the land of Canaan (Genesis 12:8), and he “called on the name of the LORD” at Bethel when he returned from Egypt (Genesis 13:3-4). Bethel was something of a major starting point in the history of God’s people—and a very important place where God did wonderful things. Jacob’s dream of the ladder was at Bethel (Genesis 28:10-12).

When he returned there after his exile, he called the place El-Bethel (Genesis 35:6-7) and formally named the place Bethel (Genesis 35:15). In

fact, Jacob had his name changed to Israel at Bethel (Genesis 35:9-15). The nation Israel consulted with God at Bethel during the times of the Judges (Judges 20:18; 21:2). The Ark of the Covenant was kept at Bethel for many years (Judges 20:26-28), and Samuel held one of his circuit court houses in Bethel (1 Samuel 7:16). Bethel played an important role in the development of God’s chosen nation.

However, Bethel later became Beth-aven, the House of Idols (Hosea 4:15). Jeroboam I established a temple to the golden calves at Bethel (1 Kings 12:28-33), and after the destruction of Israel, Assyria left false priests at Bethel to corrupt the land (2 Kings 17:27-34). Bethel became the *place* to worship God!

Here’s the subtle shift. God becomes fixed to a place or an event. The place or the event substitutes for God. The place or event is used to verify God’s way. The place is where “I feel comfortable” worship-

ing God. Result? There is more concern for property than people. The kind of place substitutes theology for truth. The experience gives more credence to intuition than inspiration. Ultimately, worship of a place or an event supersedes the worship of God.

Do Not Enter Gilgal

Gilgal was the place of new beginnings. As Israel prepared to begin the conquest of Canaan, Joshua commissioned 12 men to take 12 memorial stones from the

bed of the Jordan River to commemorate the people’s miraculous crossing of the river (Joshua 4:3). Gilgal was the first place Israel camped in the land of promise (Joshua 4:19). It was at Gilgal that the people were circumcised in preparation for their possession of the land (Joshua 5:5), the Passover was celebrated (Joshua 5:10), and the manna ceased (Joshua 5:12).

The Ark of the Covenant returned to Gilgal every day after encircling the city of Jericho during its siege (Joshua 6:11), and Gilgal served as headquarters for all the battles during the conquest. The Gibeonites came to Gilgal to make their treaty (Joshua 9:3-6) and to ask aid against the Amorites (Joshua 10:6). The subsequent great battle against the Amorites was directed from Gilgal (Joshua 10:15), and the entire victorious campaign in the hill country of Judea extending

to Kadesh Barnea and Gaza was conducted from Gilgal (Joshua 10:15). Gilgal was the site for many important “firsts” during Israel’s history.

But *activity* at Gilgal began to obscure the revealed

Word of God. Saul, Israel’s first king, disobeyed God at Gilgal when he thought the need for activity overruled the requirement to obey God. Saul was told to wait for God’s permission to start the battle against the Philistines. He waited for Samuel as instructed, but grew impatient and acted ahead of God’s instructions. He claimed the people needed his leadership and insisted that he forced himself to disobey, giving a religious reason for his disobedience, all the while claiming he had merely responded to the voice of the people (1 Samuel 13:7-24).

Zeal for righteous action often ends in disaster. When activity becomes the standard for holiness, the activity becomes necessary to preserve the ideal. Resolving to “right wrongs” can often create more wrong, just as determination to “get the bad guys” will cause some to stumble. After a while, the cause begins to justify the activity, and loyalty to the activity becomes the test for holiness. Ultimately, preservation of the activity overrides biblical truth.

Do Not Pass Over to Beersheba

The final warning from Amos concerns Beersheba, an extremely important part of Israel’s earliest history. It was at Beersheba (the Well of the Oath or the Well of the Sevens) that Hagar was rescued by God after Sarai banished her (Genesis 21:14-19). Hagar later became the mother of many nations through Ishmael (Genesis 25:12-18), as well as the biblical type of the outcast and the bondswoman against the freeborn (Galatians 4:22-31).

Abraham improved the well at Beersheba and settled there during the time he made a covenant with Abimelech, the Philistine king (Genesis 21:23-31). At Beersheba, Abraham built a grove and “there

We do not find God in a *place* but in a *Person*.



called on the name of the LORD, the everlasting God” (Genesis 21:33). He was living at Beersheba when God told him to sacrifice Isaac in the land of Moriah (Genesis 22:1-4, 19). Moriah, the site of that willing sacrifice, may well be the very spot on which Jesus was crucified or perhaps the place of the resurrection (Hebrews 11:17-19).

Beersheba figured prominently in the long life of the nation. Isaac made a covenant with the Philistines there, re-dug the well, and lived at Beersheba for some time (Genesis 26:17-33). Jacob was encouraged at Beersheba on his way to live in Egypt with his entire family (Genesis 46:1-4). Elijah hid in Beersheba when Jezebel sought to kill him (1 Kings 19:3).

But just as the other places of great importance dwindled in time and memory, Beersheba became a place often associated with evil. Samuel’s wicked sons lived in Beersheba. They were entrusted with leadership as judges, yet they took bribes and perverted judgment (1 Samuel 8:1-3). They were the main reason Israel wanted a king (1 Samuel 8:4-5). Beersheba became known for political oaths (agreements) with the ungodly.

Lessons from Amos

As the country preacher used to say when he finished his sermon, “Well, so what?” Amos (who was a country preacher) said: Don’t seek Bethel or enter Gilgal or go into Beersheba—“for Gilgal shall surely go into captivity, and Bethel shall come to nothing. Seek the LORD and live” (Amos 5:5-6). As exciting as the beginning of the

new Discovery Center is, as important as it may become, no matter the role that it may play in the lives of many, we do not find God in a *place* but in a *Person*. We do not find God in a *campaign* but in a *commitment*. We do not find God in *promises* from men but in *power* from God.

God Looks Forward, Not Backward.

Historical places and events are *lessons*, not *laws*.

God Wants Obedience, Not Activity.

Past victories are to be *praises*, not *patterns*.

God Demands Truth, Not Compromise.

Successful negotiations are *details*, not *doctrines*.

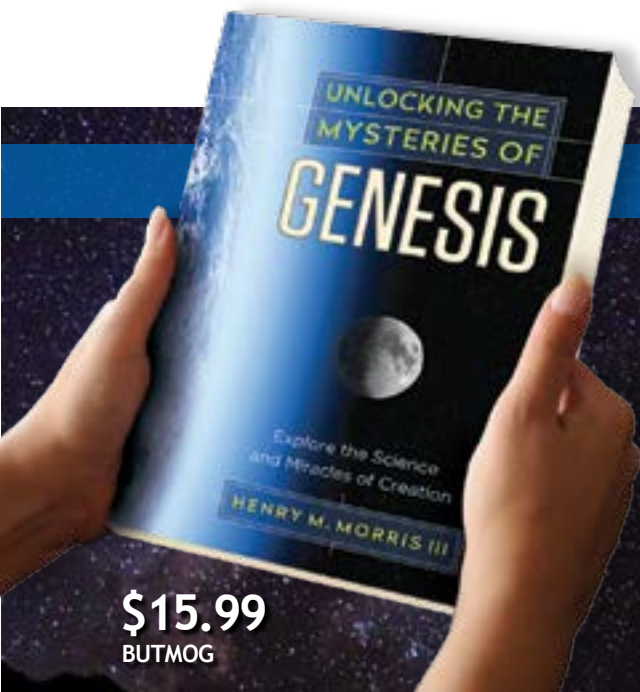
I hope you will get a chance to visit the new ICR Discovery Center for Science and Earth History. We will do everything we possibly can to make it a center of truth and encouragement. But the ICR Discovery Center is not an end in itself. It is really a new asset—a tool we will entrust to the Lord for His use and glory. We encourage you

to follow the progress over the next months as the ICR Discovery Center is being constructed. Pray with us. Share with us. And hold us accountable to use our common legacy tool so we can all rejoice in our Creator’s commendation when we celebrate together around His eternal throne. ✨

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



We encourage you to follow the progress over the next months as the ICR Discovery Center is being constructed. Pray with us. Share with us. And hold us accountable.



UNLOCKING THE MYSTERIES OF GENESIS

DR. HENRY M. MORRIS III

Based on ICR’s DVD series with the same title, this book is a great companion to our *Unlocking the Mysteries of Genesis* DVD series or as a stand-alone study!

How does the creation story of Genesis fit with the evolutionary theories of popular science? Many Christians wrestle with the seeming disparity between faith and science. Using the most current research, this book explores creation through the lens of faith-based science. The compelling evidence will challenge your intellect and reinforce your faith.

Call **800.628.7640** or visit **ICR.org/store**

Please add shipping and handling to all orders. Price available through April 30, 2017.

\$15.99
BUTMOG

APRIL
2

Forney, TX
 Creation Sunday at First Baptist Forney
 (H. Morris III, J. Lisle, T. Clarey, J. Hebert,
 J. Johnson, B. Thomas, F. Sherwin)
 972.564.3357

APRIL
5-9

Redding, CA
 Alpha Omega Conference at Shasta Bible College
 (H. Morris III, R. Guliuzza) 530.221.4275

APRIL
28-30

Big Rapids, MI
 St. Peter's Lutheran Church
 Back to Genesis Conference
 (Free event—registration required)
 (R. Guliuzza, T. Clarey, J. Hebert) 231.796.6684

For more information on these events or to schedule
 an event, please contact the ICR Events Department
 at **800.337.0375**, visit **ICR.org/events**, or email us at
events@icr.org

Back to Genesis

CREATION APOLOGETICS CONFERENCE



Randy Guliuzza, M.D.
 ICR National Representative
 Human Body, Apologetics,
 Engineering Science



Tim Clarey, Ph.D.
 ICR Research Associate
 Geology, Dinosaurs



Jake Hebert, Ph.D.
 ICR Research Associate
 Physics, the Ice Age,
 Problems with the Big Bang

APRIL 28 – 30, 2017

ST. PETER'S LUTHERAN CHURCH • BIG RAPIDS, MI



INSTITUTE FOR
 CREATION
 RESEARCH



ST PETER'S
 LUTHERAN CHURCH & SCHOOL

Radiocarbon Dating Can't Prove an Old Earth

Recently, I conversed with an educated man who maintained Earth must be millions of years old because radiocarbon dating proved it. Although this argument is common, it's simply inaccurate. Even evolutionary scientists acknowledge that radiocarbon dating cannot prove ages of millions or billions of years. Why?

Radiocarbon (^{14}C) is an unstable form of carbon that spontaneously decays into nitrogen over time.¹ The best instrument for detecting radiocarbon is an accelerator mass spectrometer (AMS),² which can typically detect one radiocarbon atom per quadrillion (10^{15}) carbon atoms.³ Most AMS devices cannot detect radiocarbon in something older than 57,000 years because the amount of ^{14}C will



have decayed to unmeasurable levels. Therefore, no rock formations, minerals, or organic material older than 57,000 years should contain detectable ^{14}C . Radioisotope dating with ^{14}C decreases in reliability with increasing age and cannot be reliably used without historical or archaeological artifacts to corroborate the dates obtained.⁴

Since the mid-20th century, evidence is increasing that ^{14}C exists in measurable amounts in carbon-bearing rocks and organic matter that secular scientists believe to be tens to hundreds of millions of years old.⁵⁻⁸ In an effort to explain the presence of ^{14}C in these materials, a noted old-earth biologist hypothesized that new, measurable ^{14}C can be generated in very old material from the decay of uranium isotopes in the earth.⁹

Is this a reasonable hypothesis or an unfounded rescuing device? For ^{14}C to be regenerated in the earth, some source of neutrons is necessary to induce the proton-to-neutron reaction on ^{14}N , which produces ^{14}C in buried living matter, which would lead to artificially young age estimates. This *neutron flux* can originate either from above (cosmogenic) or from below (subsurface).

Let's first look at the cosmogenic neutron generation of ^{14}C . Since neutrons do not penetrate very far into matter, cosmogenic

neutron flux will be at its maximum right on the earth's surface. Consider a 30-cm-diameter by 30-cm-long bone section sitting exposed on the ground and being bombarded by a cosmic neutron flux of approximately 6.4×10^{-3} neutrons/cm²-second. After 8,200 years, there will be approximately 1.86×10^{10} ^{14}C atoms present when equilibrium is reached between the conversion of ^{14}N into ^{14}C due to modern cosmogenic neutron flux and the decay of ^{14}C in the bone sample. At that point, the $^{14}\text{C}/^{12}\text{C}$ ratio will be reduced by approximately a factor of 10^4 —one order of magnitude below the detection limits of an AMS. Even on the earth's surface, it is highly improbable that contamination in rocks or organic matter by cosmogenically generated ^{14}C would result in artificially young ages.

What about subsurface generation of neutron flux? Neutrons can only be produced by secondary nuclear reactions of alpha particles on O, Si, Al, Fe, Ca, or Na.¹⁰ Geophysicist John Baumgardner showed that this process is also highly improbable for contaminating ^{14}C samples.¹¹

The old-earth biologist's attempt to explain away the existence of measurable amounts of ^{14}C in materials deemed to be hundreds of millions of years old is simply not a reasonable hypothesis. Carbon-14 exists in measurable amounts in even the most "ancient" rock formations, and this organic material points to a young earth that can be no more than 50,000 years old. ✎

References

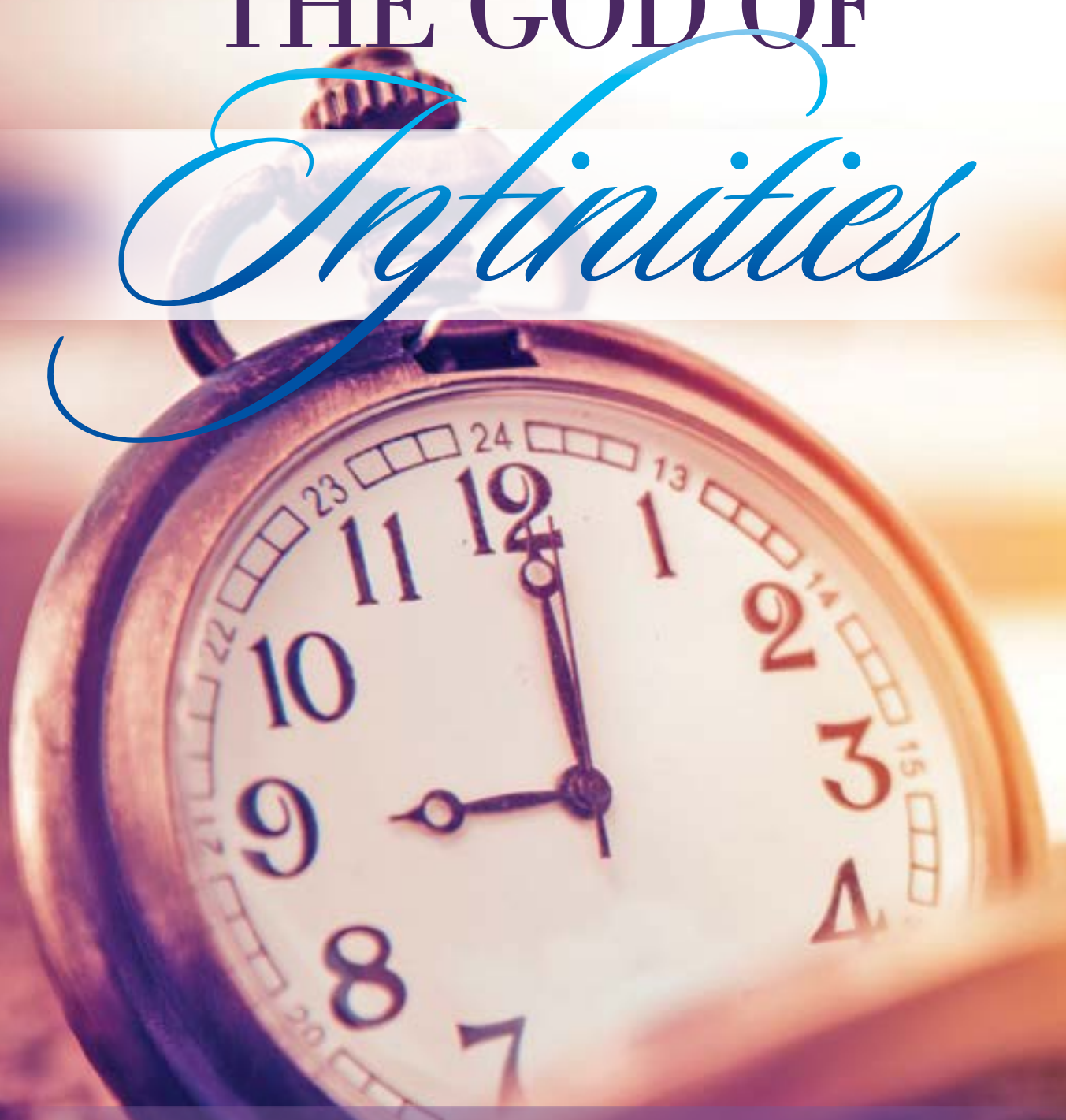
1. Although it is impossible to predict when a particular radiocarbon atom will transform into nitrogen, the behavior of a large number of radiocarbon atoms is very predictable. The *half-life*—the amount of time required for half of any starting amount of radiocarbon to change into nitrogen—is about 5,730 years. This means that 50% of the starting number of ^{14}C atoms will remain after 5,730 years, 25% will remain after 11,460 years, etc. In 57,300 years, 10 half-lives, the amount of remaining ^{14}C in any specimen is reduced by a factor of 2^{10} —a reduction in concentration of more than a thousand.
2. As stated by Beta Analytic Radiocarbon Dating, "Accelerator Mass Spectrometry (AMS) technology...gives the most advanced precision and accuracy for carbon-14 measurements." Posted on radiocarbon.com.
3. The Center for Accelerator Mass Spectrometry claims that the precision of AMS for detecting ^{14}C in organic material is between 0.5 and 1.0%. Holloway, C. A New World of Biomedical Research: The Center for Accelerator Mass Spectrometry. *Science & Technology Review*. November 1997, 4, 7.
4. Morris, J. D. 2007. *The Young Earth*. Green Forest, AR: Master Books, 64.
5. Baumgardner, J. 2005. ^{14}C Evidence for a Recent Global Flood and a Young Earth. In *Radioisotopes and the Age of the Earth: Results of a Young-Earth Creationist Research Initiative*. Vardiman, L., A. A. Snelling, and E. F. Chaffin, eds. El Cajon, CA: Institute for Creation Research and Chino Valley, AZ: Creation Research Society.
6. Hebert, J. 2013. Rethinking Carbon-14 Dating: What Does It Really Tell Us about the Age of the Earth? *Acts & Facts*. 42 (4): 12-14.
7. Snelling, A. 2008. Radiocarbon in "Ancient" Fossil Wood. *Acts & Facts*. 37 (1): 10-13.
8. Morris, *The Young Earth*, 63-70.
9. Rana, F. 2016. *Dinosaur Blood and the Age of the Earth*. Covina, CA: RTB Press, 49.
10. The necessary reaction for generation of subsurface neutrons is the (α, n) reaction on the most abundant isotopes in the earth's crust, such as ^{16}O , ^{28}Si , ^{27}Al , and ^{23}Na . Approximate threshold energies for this reaction to occur on these elements are 12.43 MeV, 8.39 MeV, 2.94 MeV, and 6.03 MeV respectively. This means that the alpha particles emitted in the uranium and thorium decay chains would need at least the listed kinetic energy to initiate the (α, n) nuclear reaction, but they do not. Note that the uranium decay chain alphas do not provide the requisite energy to initiate the (α, n) reaction on the two most common elements in the earth's crust since the highest energy alpha in the uranium decay chain is 7.83 MeV.
11. Baumgardner, *Radioisotopes and the Age of the Earth*, 614-616.

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.



THE GOD OF

Infinities



Did you know that more than one infinity exists—and some infinities are larger than other infinities? But if something is infinite, then how can something else be *more* infinite? These concepts are difficult for our finite mind to comprehend, but what's fascinating about infinity is that it reflects the nature of God.

The Strangeness of Infinity

Infinity is the concept of an unlimited quantity. Something is infinite if it goes on forever, having no end. We tend to think of infinity as a really big number—but it is much more than that. A number like one million is big, but it is not infinite. As tedious as it would be, we can at least imagine counting from one to one million, and then we would be done. That set of numbers has an end. But infinity does not.

For this reason, infinity has some strange and counterintuitive properties that finite numbers lack.¹ For example, imagine that you had one million pennies. Suppose that you removed one penny every second and gave it to someone else. Over time, your pile of pennies would shrink. After 11 days, 13 hours, 47 minutes, you would have no pennies left.

Now suppose that you had an *infinite* supply of pennies and gave one penny away every second. Not only could you continue to do this forever without running out of pennies, but your pile would be no smaller than when you started. This is one of the weird things about infinity—you can subtract any finite number from it and yet it remains the same.²

By the same logic, you can add to infinity without changing it. Infinity plus one is exactly the same as infinity. Likewise, infinity plus one million is no larger than infinity. Even when we multiply infinity by a finite number, it remains unchanged. Thus, twice infinity is no larger than infinity. And yet, we can also prove that some infinities are genuinely larger than other infinities!

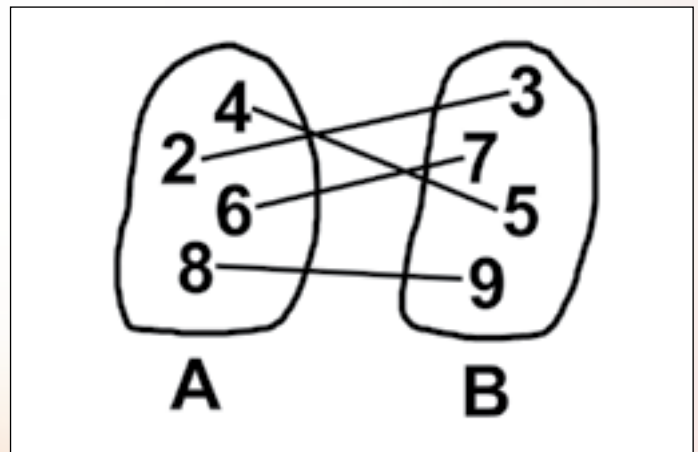


Figure 1.

Comparing Sets

To start, let us consider how we would compare sizes of sets of finite numbers. Consider the set of numbers 2, 4, 6, 8. We will call this set **A**. And suppose set **B** contains the numbers 3, 5, 7, 9 (Figure 1). In this case, we can say that set **A** and set **B** have the same size because we can count them both and they each contain exactly four elements. But we could also prove that they contain the same number of elements by showing that there is a one-to-one correspondence with each element in set **A** to exactly one element in set **B**. In other words, we can link the number 2 in set **A** with the number 3 in set

Infinity is one aspect of God's nature. He is limitless in power, knowledge, and majesty.

B. Likewise, we link 4 to 5, 6 to 7, and 8 to 9. For each element of **A** there is exactly one element in **B**, and vice versa. Therefore, these two sets are the same size. We can apply this same reasoning to infinite sets as follows.

We define **P** as the set of all positive integers (1, 2, 3, 4, 5...). We then define set **N** as the set of all non-negative integers (0, 1, 2, 3, 4...). This is identical to set **P**, except set **N** also includes the number zero. Clearly, set **N** contains every number that set **P** contains and one more—the number zero. So, you might at first think that set **N** is larger than set **P**. But a moment's thought shows that we can link every element in set **N** to an element in set **P** by adding 1. So we link 0 in **N** to 1 in **P**, we link 1 in **N** to 2 in **P**, and so on. For each element in **N** there is exactly one element in **P**, and vice versa. Thus, **P** and **N** are exactly the same size. Remarkably, infinity plus one is still infinity.³

Now, let's consider a very counterintuitive example. Suppose we compare the set of positive integers **P** (1, 2, 3, 4, 5...) to the set of all integers **A** (...-4, -3, -2, -1, 0, 1, 2, 3, 4...) (Figure 2). The former is

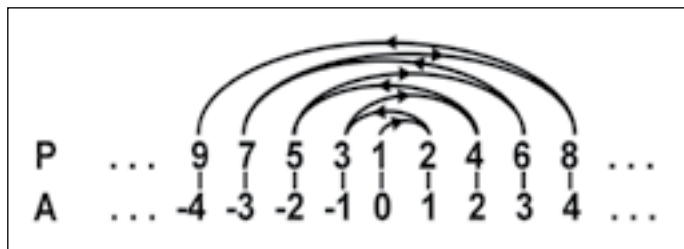


Figure 2.

infinite in only the positive direction, whereas the latter is infinite in both directions. So, set **A** contains all of set **P** as well as an infinite set of all negative integers. So, you might think that set **A** must be larger than set **P**. But it is not. We can link every element of set **P** with an element of set **A** as follows.

We start counting with 1 in set **P** and match it to 0 in set **A**. Then we move to the next number to the right in **A**, then the next number to the left, then right, then left, and so on. So, the numbers in **P** (1, 2, 3, 4, 5...) will link to the numbers in **A** (0, 1, -1, 2, -2...). Clearly, for every integer there is exactly one corresponding *positive* integer. Thus, set **A** and set **P** are the same size! Even

though set **A** contains all of set **P** as well as an infinite number of elements that are *not* in set **N**, nonetheless set **A** is the same size as set **P**. Apparently, infinity plus infinity is no larger than the original infinity.

Hilbert's Hotel

German mathematician David Hilbert illustrated the strange-but-true properties of infinite sets in a thought experiment we now call *Hilbert's Hotel*. He imagined a grand hotel with an infinite number of rooms (each labeled by a positive integer: 1, 2, 3, 4...) that could accommodate an infinite number of guests. Now, suppose that the hotel is full; every room is occupied. Then, one additional person comes to the front desk and asks for a room. You might suppose that the hotel manager would have to decline since every room is already booked. But in fact, the manager is able to accommodate the additional guest.

The hotel manager has each person in his hotel move into the room with the next number. That is, the person staying in the first room moves into the second. The person in the second room moves into the third, and so on. Since there is no “last room” in an infinite hotel, every person is able to move one number up, which leaves the first room empty. The hotel manager then puts the additional guest in the first room.

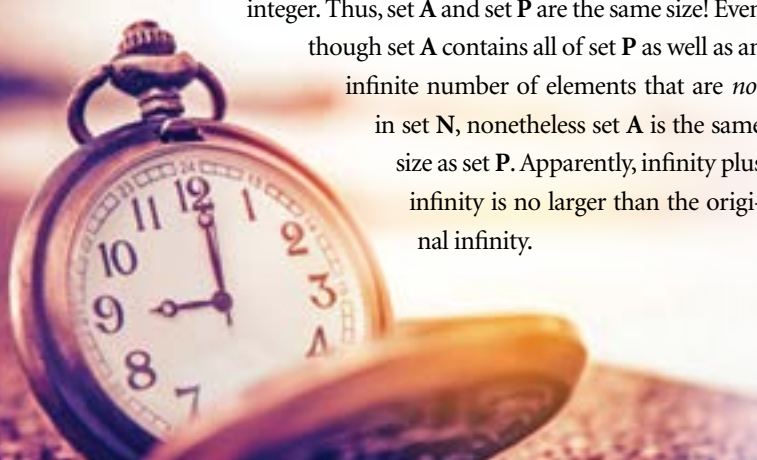
Suppose again that Hilbert's grand hotel is full, with an infinite number of guests occupying an infinite number of rooms. This time, an *infinite* number of people show up at the front desk asking for a room. Since the hotel is already full, surely it cannot accommodate an *infinite* number of additional guests, can it? Once again, the manager finds a solution by reshuffling his current patrons. He asks each guest to move from room **N** to room **2N**. That is, the person staying in room 1 goes to room 2, room 2 goes to room 4, room 3 goes to room 6, and so on. Since for every number **N**, there is a corresponding number **2N**, every person is able to find a new room.

But a moment's reflection shows that only the even-numbered rooms are now occupied (2, 4, 6, 8...). The odd-numbered rooms are empty, and there are an infinite number of odd-numbered rooms (1, 3, 5, 7...). So, the manager is able to accommodate each newcomer by assigning them to the odd-numbered rooms. Hilbert's Hotel can accommodate even stranger scenarios. Infinity is a baffling concept.

Rational Numbers

Mathematicians refer to rational numbers as any number that can be expressed as a ratio of two integers, as with a fraction **A/B**. Examples include: 1/2, 3/4, 5/10, 178,672/234,297. Integers are also rational numbers because they can be expressed as a fraction over 1. That is 3 = 3/1. There are an infinite number of rational numbers. Amazingly, the number of rational numbers is equal to the number of positive integers.

This seems peculiar because not only does the set of rational numbers *include* all the positive integers, but there are an infinite number of rational numbers *between* any two positive integers. For



example, between 1 and 2 we find fractions like $3/2$, $4/3$, $5/4$, $6/5$, $16,532/16,325$... Yet we can prove that these two infinite sets are the same size by plotting them on a plane as follows (Figure 3).

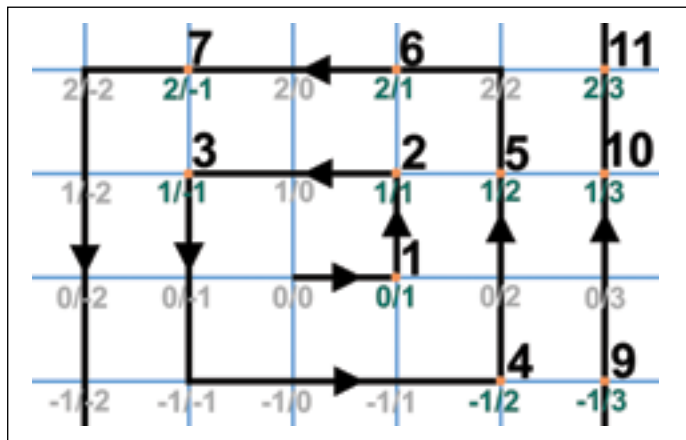


Figure 3.

Let X and Y be integers that are the coordinates of a point on a plane. Y represents the numerator of a rational number and X the denominator. Thus, every possible fraction exists as a point somewhere on this grid. Starting at the origin, we trace a spiral-like pattern for every point at X and Y , and count one positive integer each time we land on a unique fraction. (But we don't count duplicates such as $2/4$, which equals $1/2$, nor count division by zero—e.g., $0/0$ or $1/0$). Eventually, every X and Y combination will intersect the spiral and be assigned a positive integer. Thus, for every fraction (shown in green), there is a positive integer (shown in black). They are the same infinity.⁴

Uncountable Infinities

Paradoxically, all the infinite sets we have explored so far are the same size because each element in one matches an element in every other. Are any infinities genuinely larger than, say, the number of rational numbers? Amazingly, yes! All the aforementioned sets are *countably infinite*. This means if you systematically counted the elements of the set in the right order for all eternity, you will eventually hit them all. Countable infinity is the “smallest” infinity and is designated by the Hebrew letter aleph with a subscripted zero: \aleph_0 .

But there are also *uncountable infinities*. For these, it is *not* possible to assign one positive integer to each member of the set, and you could never count them all even if you had unlimited time. In other words, there are not enough positive integers to assign one each to an uncountable infinity. The set of all real numbers is uncountably infinite. Real numbers include all rational numbers *and* all irrational numbers like pi or the square root of two. (Irrational numbers are those whose decimal expression goes on forever without repeating and cannot be expressed as a ratio of two integers.)

God made human beings in His own image, and so we have a sense of the infinite without fully understanding it. Those who have repented of sin and trusted in Christ for salvation will experience infinite time in God's loving presence—eternity (John 3:16).



Mathematician Georg Cantor showed that the set of real numbers is uncountable and thus a larger infinity than the rational numbers. Cantor was a Christian and was motivated to study infinity because it reflects the nature of God. Many mathematicians suspect that the set of real numbers is the second-smallest infinity⁵—aleph one: \aleph_1 . Of course, there are larger infinities: \aleph_2 , \aleph_3 , \aleph_4 ...

Infinity is one aspect of God's nature. He is limitless in power, knowledge, and majesty. We are finite and cannot fully comprehend the concept of infinity. Yet, God made human beings in His own image, and so we have a sense of the infinite without fully understanding it. Those who have repented of sin and trusted in Christ for salvation will experience infinite time in God's loving presence—eternity (John 3:16). Perhaps our fascination with the infinite is because God has set eternity in our hearts (Ecclesiastes 3:11). ☞

References

1. The non-commutative nature of addition and multiplication of infinite quantities is one such example. For finite numbers, addition and multiplication are *commutative*—meaning the order doesn't matter. For example, $2 + 3 = 3 + 2$, and $12 \times 3 = 3 \times 12$. But for *infinite* series, the order matters. An infinite series like $A + B + C + D + \dots$ does not necessarily equal $A + D + C + B + \dots$
2. To be mathematically precise, the *cardinality* of an infinite set is unchanged by the subtraction or addition of any finite number of elements. This is not the case for finite sets. Cardinality is the mathematical term for the size of a set: the number of elements it contains.
3. The cardinality is unchanged.
4. The set of rational numbers has the same cardinality as the set of positive integers. However, the set of real numbers has a larger cardinality than the set of rational numbers.
5. The conjecture that the set of real numbers is the second-smallest infinity is called the *continuum hypothesis*.

Dr. Lisle is Director of Physical Sciences at the Institute for Creation Research and earned his Ph.D. in astrophysics from the University of Colorado.





A collection of astronomy resources from ICR.

Save 25% when you buy the pack!

Astronomy Pack – PAE
reg. \$86.95
\$65.21

Visit ICR.org/store – While supplies last. Please add S&H to all orders. Prices available through April 30, 2017.

DNA Variation Widens Human-Chimp Chasm

Over the past 20 years, DNA sequencing technology has improved regarding the bulk amount of sequence it can produce. However, the length of the DNA snippets (called *reads*) that are obtained is still quite short. Depending on the technology, the reads vary between about 75 to 1,500 bases.¹ These short DNA segments are very difficult to assemble into chromosomes, which can be hundreds of millions of bases long. Because many areas of the genome contain extended regions where the DNA sequences are repeated or duplicated, they cannot be effectively assembled into contiguous stretches using short reads. As a result, important genes and regulatory regions in these areas are completely left out when a genome is reconstructed. The computer programs that researchers use simply cannot effectively assemble the entire chromosome as one contiguous piece because the reads are too short.

In the past several years, new sequencing technologies have become commercially available that provide much longer reads of 10,000 to 215,000 bases.^{2,3} These new long-read sequencing technologies allow for the more accurate assembly of the human genome, revealing some incredible surprises about human genetic diversity.

Before the advent of long-read sequencing, human variation was typically assessed by examining differences in the DNA between people at the single-base level. For example, one person might have a C (cytosine) at a specific position in their DNA while another would have an A (adenine). These are called *single nucleotide polymorphisms*, or SNPs. When the diversity of SNPs was evaluated for thousands of people around the world, it was determined that the average difference in overall DNA sequence between any two humans was about 0.01%.⁴ However, a variety of recent papers have been published using long-read DNA sequencing technology that greatly improved the accuracy of assessing variation in the human genome, especially in areas that have been difficult to decipher using short-read technology.⁵⁻⁸

The results from these new papers using long-read technology have been startling and are shaking up the entire human genomics community. The most surprising finding was



that the research demonstrates that large regions of the human genome can be markedly different between any two humans—or even within the same person. Because most animals, including humans, have two sets of chromosomes, one from the father and one from the mother, the maternal and paternal chromosomes in the same person can be very different. The bottom line is that any two human genomes can be up to 4.5% different from one another, in marked contrast to the previous estimate of 0.01% based solely on single-base changes.⁵

These newly found large differences in human genomes conflict with the evolutionary idea that humans and chimpanzees are 98.5% similar in their DNA. If humans can be up to 4.5% different from each other, how is it that chimps are supposedly only 1.5% different from humans? The fact of the matter is that the 98.5% similarity figure is based on cherry-picked data designed to bolster evolution. Newly published research by this author clearly shows that chimpanzee DNA overall is, at most, only 85% similar to human.⁹

In summary, recent research shows that outwardly visible human diversity is due not only to millions of single-base differences, but also to thousands of large structural differences. Most of these variants were likely built into the genomes of the original created couple, Adam and Eve—easily accounting for the diversity we see in humans across the globe and fully supporting the biblical narrative of diversity within kinds. ✎

References

1. Pettersson, E., J. Lundeberg, and A. Ahmadian. 2009. Generations of sequencing technologies. *Genomics*. 93 (2): 105-111.
2. Jansen, H. J. et al. 2017. Rapid *de novo* assembly of the European eel genome from nanopore sequencing reads. *bioRxiv*. Posted on biorxiv.org January 20, 2017.
3. Chin, C.-S. et al. 2016. Phased diploid genome assembly with single molecule real-time sequencing. *Nature Methods*. 13 (12): 1050-1054.
4. Witherspoon, D. J. et al. 2007. Genetic Similarities Within and Between Human Populations. *Genetics*. 176 (1): 351-359.
5. English, A. C. et al. 2015. Assessing structural variation in a personal genome—towards a human reference diploid genome. *BMC Genomics*. 16: 286.
6. Huddleston, J. et al. Discovery and genotyping of structural variation from long-read haploid genome sequence data. *Genome Research*. Posted on genome.cshlp.org November 28, 2016.
7. Seo, J.-S. et al. 2016. *De novo* assembly and phasing of a Korean human genome. *Nature*. 538 (7624): 243-247.
8. Shi, L. et al. 2016. Long-read sequencing and *de novo* assembly of a Chinese genome. *Nature Communications*. 7: 12065.
9. Tomkins, J. P. 2016. Analysis of 101 Chimpanzee Trace Read Data Sets: Assessment of Their Overall Similarity to Human and Possible Contamination With Human DNA. *Answers Research Journal*. 9: 294-298.

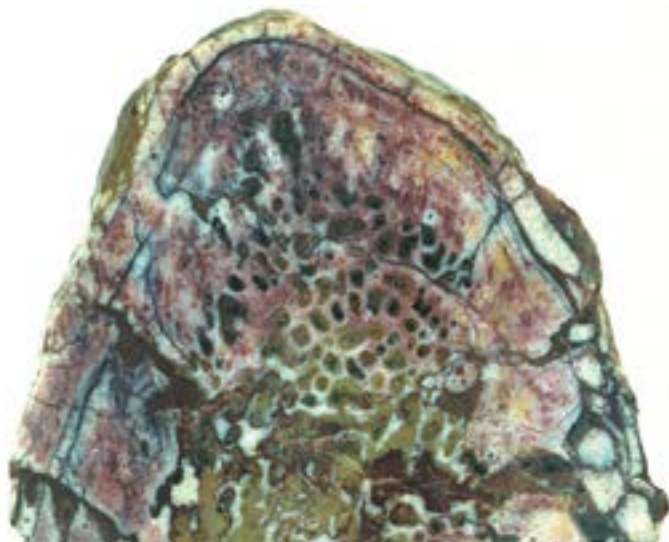
Dr. Tomkins is Director of Life Sciences at the Institute for Creation Research and earned his Ph.D. in genetics from Clemson University.



Stunning Protein Fossils Confirm the Flood

Already in 2017, secular scientists have described some stunning original biochemicals in fossil bones. Two new finds reignite vigorous debate over the nature of the protein remnants—are they true organic remains, some form of contamination, the result of a strange preservation process, or what? As in the past, researchers totally leapfrog a neat, tidy, Bible-friendly conclusion.

One find reported in *Nature Communications* included signatures of Type I collagen in a *Lufengosaurus* sauropod fossil supposedly 190-197 million years old.¹ Researchers applied new technology to pinpoint precise locations of protein signature within the still-porous rib fragment. They also found hematite near the protein. In an interview with senior author Robert Reisz, the *University of Toronto News* said, “Reisz and his colleagues believe that these hematite particles were derived from the original blood of the dinosaur, and that they acted as the catalyst for preserving the protein in the vascular canals of the bone.”² However, Reisz noted no hematite particles in his 2013 report of protein in a *Lufengosaurus* with essentially the same age assignment.³



Jurassic Lufengosaurus rib bone section shows pores where researchers found collagen, plus small amounts of hematite that they believe helped preserve the proteins for 195 million years.

Image credit: Copyright © 2013. R. Reisz. Adapted for use in accordance with federal copyright (fair use doctrine) law. Usage by ICR does not imply endorsement of copyright holders.

Another find recently published in the *Journal of Proteome Research* verified and extended protein identification in a duckbill dinosaur that Mary Schweitzer’s team had described in 2009.⁴ Her group’s excellent earlier paper identified the sequence of amino acids in dinosaur collagen.⁵ Her new team’s 2017 report included even more dinosaur protein sequence.

These two new finds join dozens of others published over the last half-century,⁶ but evolutionary scientists still have a hard time ac-

cepting that these fossils retain original biochemicals. Robert Service wrote in *Science*:

The [soft tissue fossil] claims were met with howls of skepticism from biochemists and paleontologists who saw no way that fragile organic molecules could survive for tens of millions of years, and wondered whether her samples were contaminated with modern proteins.⁷

So, the argument centers on time. How could organic material last for so long? What about hematite particles preserving the proteins? Ancient protein specialist Michael Collins noted, “Proteins decay in an orderly fashion. We can slow it down, but not by a lot.” He also “doesn’t think the [hematite] process could arrest protein degradation for tens of millions of years.”⁷

Since nobody has figured out how modern collagen could stuff itself into the deep recesses of dinosaur bone, claims of contamination ring hollow. And the standard age-determining logic is circular: Since these dinosaurs come from millions-of-years-old rock layers, and since protein does not last even a million years (assuming the best preservation conditions), then these dinosaur proteins must not be possible. Such a conclusion ignores the fossil data. It uncritically assumes an old earth right up front. Short-lived fossil proteins, tightly folded rock strata,⁸ contradictory radioisotope “ages,”⁹ and flat strata boundaries independently refute millions of years.¹⁰

The protein discoveries come from fossil science, and the protein decay rates come from experimental science, but where do we get the millions of years? If that merely comes from evolutionary speculation, then the tension dissolves. From a biblical perspective, the Flood deposited most fossil-bearing rock layers recently, one right after the other, in a single year. This opens the possibility of discovering original biochemicals in *all* the Flood rocks. No wonder scientists keep discovering original proteins in deeply buried fossils. ❧

References

1. Lee, Y.-C. et al. 2017. Evidence of preserved collagen in an Early Jurassic sauropodomorph dinosaur revealed by synchrotron FTIR microspectroscopy. *Nature Communications*. 8: 14220.
2. Wahl, N. Good ribbance: U of T researcher finds dino rib bones reveal remnants of 195-million-year-old protein. *University of Toronto News*. Posted on utoronto.ca February 1, 2017, accessed February 21, 2017.
3. Reisz, R. R. et al. 2013. Embryology of Early Jurassic dinosaur from China with evidence of preserved organic remains. *Nature*. 496 (7444): 210-214.
4. Schroeter, E. R. et al. 2017. Expansion for the *Brachylophosaurus canadensis*: Collagen I Sequence and Additional Evidence of the Preservation of Cretaceous Protein. *Journal of Proteome Research*. 16 (2): 920-932.
5. Schweitzer, M. H. et al. 2009. Biomolecular Characterization and Protein Sequences of the Campanian Hadrosaur *B. Canadensis*. *Science*. 324 (5927): 626-631.
6. Thomas, B. 2015. Original Biomaterials in Fossils. *Creation Research Society Quarterly*. 51 (4): 234-347.
7. Service, R. F. 2017. Researchers Close in on Ancient Dinosaur Proteins. *Science*. 355 (6324): 441-442.
8. Morris, J. D. 2013. Ute Pass Fault: Sand Injectites and Rapid Deformation Fit the Flood. *Acts & Facts*. 42 (11): 14-15.
9. Austin, S. A. 1992. Excessively Old “Ages” for Grand Canyon Lava Flows. *Acts & Facts*. 21 (2).
10. Thomas, B. 2011. The Stones Cry Out: What Rocks and Fossils Say about the Age of the Earth. *Acts & Facts*. 40 (1): 17.

Mr. Thomas is Science Writer at the Institute for Creation Research and earned his M.S. in biotechnology from Stephen F. Austin State University.



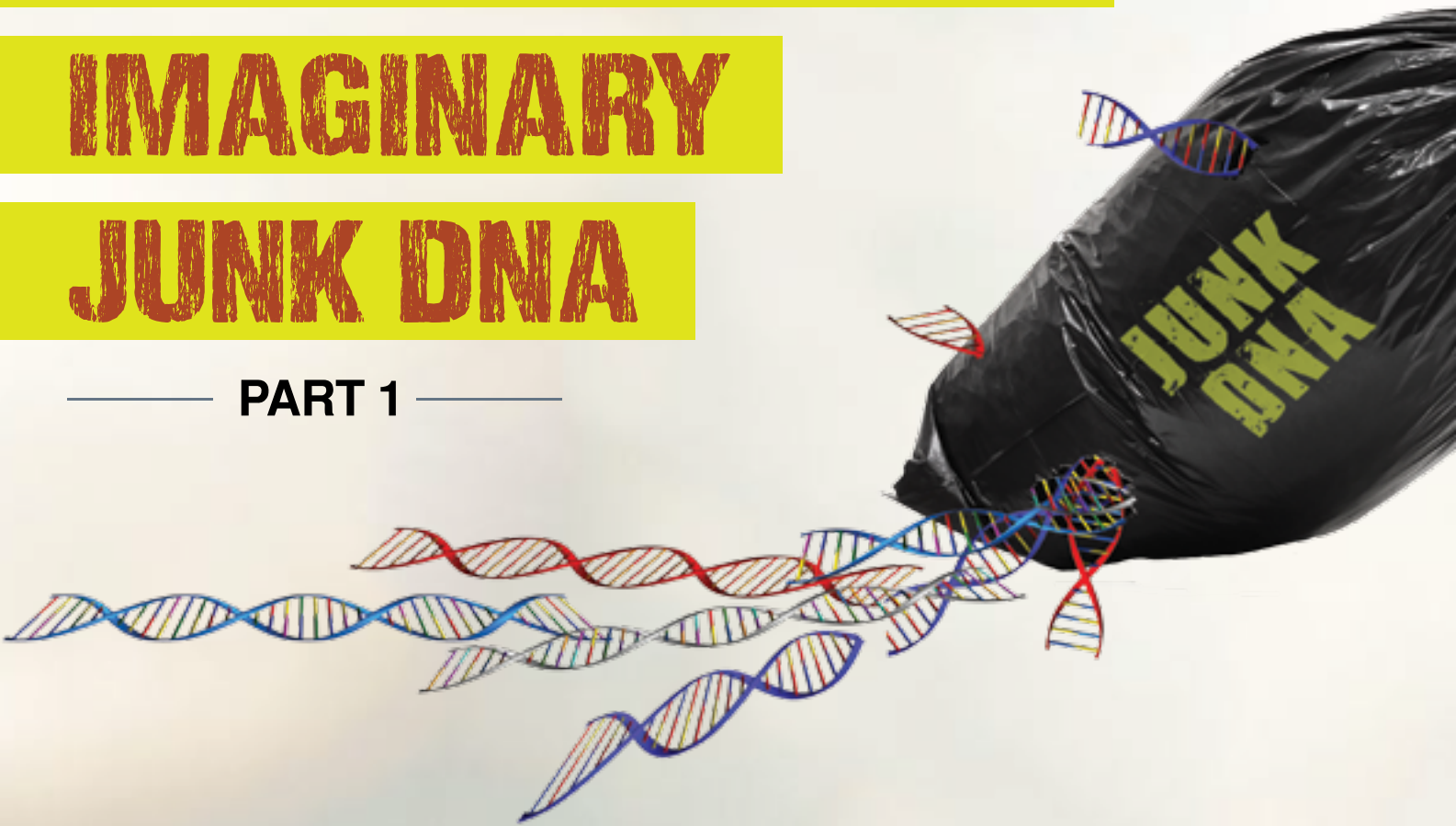
EVOLUTIONISTS

STRIKE OUT WITH

IMAGINARY

JUNK DNA

PART 1



R A N D Y J . G U L I U Z Z A , P . E . , M . D .

The suspense is palpable as fans watch baseball slugger Casey at the plate primed to wallop a game-winning home run. “And now the pitcher holds the ball, and now he lets it go, and now the air is shattered by the force of Casey’s blow.” But the blow turns out to be a massive swing-and-a-miss for Casey—a total whiff—so “there is no joy in Mudville—mighty Casey has struck out.”¹ Ernest Thayer’s legendary 1888 baseball poem conveys the message of how overblown expectations, bolstered by smug overconfidence, can be dashed when the actual performance results in an enormous swing-and-a-miss.



Yet, joyless Mudville was let down by Casey, and recently there has been less joy in Evolutionville as the expectations of junk DNA have been exposed as overblown. Thoughtful research confirmed function for much of the diverse types of DNA mislabeled as junk. Scientific evidence showed the widely touted “junk DNA” argument, which evolutionists anticipated being a Darwinian home run, is really a blundering swing-and-a-miss—another total whiff—for their theory.

Evolutionary Theory Expects to Find Genetic Junk in Organisms

Evolutionary proponents have had many whiffs. Recall the case of Haeckel’s embryos, which were touted as reflecting the stages of organisms’ evolutionary past. Biochemist Michael Behe noted, “The story of the embryos is an object lesson in seeing what you want to see.”²

And regarding the Piltdown Man hoax, biology philosopher Jane Maienschein recounted “how easily susceptible researchers can be manipulated into believing that they have actually found just what they had been looking for.”³ These episodes and others show that rather than being established by observation and experiment, major evidences for evolution have historically only needed to be phenomena that could be envisioned within evolutionary scenarios. Thus, finding DNA that does not code for protein, or looks like genetic wreckage, or appears as a hodgepodge of non-functional genetic repeats, etc., matches the chaotic genetic history of life on Earth that an evolutionary theorist is expecting to “see” in DNA.

This evolutionary “sight” affects all levels of scientific interpretation. Scientists whose analysis is constrained to fit evolutionary theory will not see a brain, a digestive system, and other complicated biological phenomena as designed things but rather as conglomerations of parts cobbled together by nature. “We’re all here because of mutations,” claims molecular neuroscience professor Jernej Ule, who adds:

But most random mutations actually disrupt the functions of our genes and so are a common source of genetic diseases.... How does nature resolve this conflict?...We’ve known for decades that evolution needs to tinker with genetic elements so they can accumulate mutations while minimising [*sic*] disruption to the fitness of a species.⁴

How can Ule so easily embrace such counterintuitive thinking? By using a mental rescuing device. In his case this is his belief that a simple appeal to nature is a sufficient stand-alone cause to explain phenomena that in any field other than biology it would require the actions of an intelligent agent. Ule conceives of nature as being like an omnipotent agent capable of “resolving conflict” and “tinkering” with organisms over time. Nature, just like a potter, thus fashions creatures as if they were modeling clay.

This belief is widespread because most research programs in Ule’s field of evolutionary biology are shaped by a very influential

Just like the mighty but futile force of “Casey’s blow,” evolutionary literature gloated for over three decades about evidence evolutionists believed was a powerful confirmation of evolution. Their “proof” was the discovery that a large percentage of DNA they called *junk DNA* does not code for proteins. Since evolutionists believe that over long ages organisms (and their DNA) are crafted by chaotic environments in which they struggle to survive, evolutionists expect to see in evolution’s wake many different types of “useless” genetic junk. They were so certain that most non-coding genetic material was junk DNA, some said its only functional ability was embarrassing creationists.

concept synopsis in Nobel laureate Francois Jacob's 1977 paper "Evolution and Tinkering."⁵ Nature was described as a mindless tinkerer that drove the evolutionary process in fits and starts, down dead ends, in U-turns and other meandering paths throughout Earth's history. Evolutionists believe that numerous "mistakes" and "junk" in living things confirm that nature started with a primitive cell and shaped it into all of life's diverse forms. For them, the perceived struggle to survive explains why biology has both junk and incredibly complicated molecular machines that look like they were designed for a purpose—but really weren't.

The distinguished biochemical researcher Walter Neupert explains how he and most biologists project God-like powers onto Mother Nature to mentally reconcile the counterintuitive notion that no designer was necessary for living things that look remarkably designed:

The vast majority of biologists believe that these 'machines' are not made by optimizing a design. Rather, we are convinced that they are the products of aeons of evolutionary processes. Francois Jacob made this clear almost 30 years ago: nature is not an engineer; she is a tinkerer (Jacob, 1977). Molecular machines, although it often may seem so, are not made with a blueprint at hand....There are no blueprints; the workshop of the tinkerer is a collection of millions of bits and pieces that are combined, and odds and ends are used over and over again to yield something that works better.⁶

A more recent scientific article presented a model for a natural origin of microscopic biological machines. Just like Neupert, the evolutionist authors project God-like creative powers onto nature as a whimsical tinkerer: "This model agrees with Jacob's proposition of evolution as a 'tinkerer,' building new machines from salvaged parts."⁷ If readers are attuned to it, they will find that evolutionary literature commonly invokes the personification of nature exercising agency through evolution as a substitute for God's intelligent agency. Junk DNA fits perfectly with the evolutionary expectation of biology being messy rather than neatly engineered—and in their minds, evolutionists could "see" junk all over the genome.

Is Junk DNA Strong Evidence for Evolution and against Creation?

The concept of junk DNA began in the early 1970s when genetic researchers made the curious finding that over 95% of DNA does *not* code for proteins. Some DNA is characterized in perplex-

ing ways such as long strings of repeated code that almost seemed like gibberish. Evolutionary researchers believed they were observing genetic fossils and other genetic wreckage left over from nature's tinkering. In reports that were uncharacteristic of good science, many investigators hastily labeled the huge segment of DNA with yet-unknown functions as "junk," beginning with geneticist Susumu Ohno who explained:

More than 90% degeneracy contained within our genome should be kept in mind when we consider evolutionary changes in genome sizes. What is the reason behind this degeneracy?... The earth is strewn with fossil remains of extinct species; is it a wonder that our genome too is filled with the remains of extinct genes?...Triumphs as well as failures of nature's past experiments appear to be contained in our genome.⁸



Evolutionary literature commonly invokes the personification of nature exercising agency through evolution as a substitute for God's intelligent agency. Junk DNA fits perfectly with the evolutionary expectation of biology being messy rather than neatly engineered.

Evolutionary authority Jerry Coyne made a post-hoc prediction in 2009 that evolutionists would expect to find DNA in genomes along the lines of Ohno's "junk," and "the evolutionary prediction...has been fulfilled amply." He noted, "Now that we can read DNA sequences directly, we find...in [species] genomes is inscribed much of their evolutionary history, including the wrecks of genes that were once useful."⁹

Junk DNA flourished in evolutionary literature as valid proof of evolution. Evolutionary spokes-

men like Ernst Mayr and Richard Dawkins appealed to it. Dawkins claimed that "[pseudogenes] are genes that once did something useful but have now been sidelined and are never transcribed or translated....What pseudogenes are useful for is embarrassing creationists... [since it] is a remarkable fact that the greater part (95 per cent in the case of humans) of the genome might as well not be there, for all the difference it makes."¹⁰

On one side of the coin, the supposed existence of junk DNA is used as evidence for its evolutionary origin. But as Dawkins implies, on the other side of the coin evolutionists see it as a strong argument against DNA being intelligently designed. Popular science historian Michael Shermer contrasted these two explanations for DNA's origin. "Rather than being intelligently designed," he said, "the human genome looks more and more like a mosaic of mutations, fragmented copies, borrowed sequences, and discarded strings of DNA that were jerry-built over millions of years of evolution."¹¹ Shermer's comments were consistent with what the evolutionary community was publishing about other genetic research.

In 2001, when the first drafts of the Human Genome Project were published, results were interpreted by some who saw so



“Some might argue that these are actually functional elements placed there by a Creator for a good reason, and our discounting them as ‘junk DNA’ just betrays our current level of ignorance.”

much “junk” that to them the reality of evolution became a mental certainty.

They identified thousands of segments that had the hallmarks of dead genes. They found transposable elements by the millions. The Human Genome Project team declared that our DNA consisted of isolated oases of protein-coding genes surrounded by “vast expanses of unpopulated desert where only noncoding ‘junk’ DNA can be found.” Junk DNA had started out as a theoretical argument, but now the messiness of our evolution was laid bare for all to see.¹²

Collins Fits Junk DNA into Theistic Evolution

Geneticist Francis Collins was the Director of the Human Genome Project and currently is Director of the National Institutes of Health. Unsurprisingly, he once endorsed the concept of junk DNA. What did surprise many was the degree to which Collins publicly identified his work as fully compatible with belief in God’s creative agency. He was instrumental in founding the organization BioLogos to promote evolutionary creationism. BioLogos credits the diversity of life on Earth to “the God-ordained process of evolution”¹³—i.e., theistic evolution, in which natural or created heterozygosity (genetic diversity) is fractionated out by natural processes. Citing junk DNA as evidence for evolution, Collins said:

Even more compelling evidence for a common ancestor comes from the study of what are known as ancient repetitive elements (AREs)...Mammalian genomes are littered with such AREs, with roughly 45 percent of the human genome made up of such genetic flotsam and jetsam.¹⁴

Within the same context, he mocked creationists who claimed from an investigative standpoint that the “junk DNA” label was premature: “Of course, some might argue that these are actually functional elements placed there by a Creator for a good reason, and our discounting them as ‘junk DNA’ just betrays our current level of ignorance.”¹⁴

Creationists at the time were adamant that experiments had not ruled out a functional role for this DNA. They disagreed that it should be classified as junk given the normal understanding of the word. Bypassing decades of potential research on this DNA, evolutionary

authorities simply declared it “junk.” In fact, two leading researchers had already concluded by 1980 that “the conviction has been growing that much of this extra DNA is ‘junk,’” unlikely to have any function and “that it would be folly in such cases to hunt obsessively for one.”¹⁵ Consistent with Darwin’s look-imagine-see approach to science,¹⁶ it was natural

for evolutionary researchers to clearly envision DNA of unknown function as junk given their firm evolutionary beliefs.


However, at the time when junk DNA was being declared as factual evidence for evolution and against creation, there were already published scientific reports on some “junk” DNA that documented its important functions. Next month’s Major Evolutionary Blunders article will show that ignoring these findings was akin to the hubris the slugger Casey flaunted just before his embarrassing total whiff of the pitch. 🦉

References

1. Thayer, E. Casey at the Bat: A Ballad of the Republic Sung in the Year 1888. *The Daily Examiner*, June 3, 1888.
2. Behe, M. J. Teach Evolution—And Ask Hard Questions. *New York Times*. Posted on nytimes August 13, 1999, accessed September 28, 2016. See Guliuzza, R. 2016. Major Evolutionary Blunders: Haeckel’s Embryos Born of Evolutionary Imagination. *Acts & Facts*. 45 (11): 16-18.
3. Maienschein, J. 1997. The One and the Many: Epistemological Reflections on the Modern Human Origins Debates. *Conceptual Issues in Modern Human Origins Research*. Clark, G. A. and C. M. Willermet, eds. New York: Aldine de Gruyter, 413. See Guliuzza, R. 2015. Major Evolutionary Blunders: The Imaginary Piltown Man. *Acts & Facts*, 44 (12): 12-14.
4. Ule, J. Hidden Code in DNA Explains How New Gene Pieces Are Made. *RealClear Science*. Posted on realclearscience.com January 10, 2017, accessed January 11, 2017.
5. Jacob, F. 1977. Evolution and tinkering. *Science*. 196 (4295): 1161-1166
6. Neupert, W. 2005. Highlight: Molecular Machines. *Biological Chemistry*. 386 (8): 711.
7. Clements, A. et al. 2009. The reducible complexity of a mitochondrial molecular machine. *Proceedings of the National Academy of Sciences*. 106 (37): 15791-15795.
8. Ohno, S. 1972. So much “junk” DNA in our genome. *Brookhaven Symposia in Biology*. 23: 366-370. Posted on junkdna.com, accessed December 31, 2015.
9. Coyne, J. 2009. *Why Evolution Is True*. New York: Viking, 67, 56.
10. Dawkins, R. 2009. *The Greatest Show on Earth: The Evidence for Evolution*. New York: Free Press, 332-333.
11. Shermer, M. 2006. *Why Darwin Matters: The Case Against Intelligent Design*. New York: Times-Holt, 75.
12. Zimmer, C. Is Most of Our DNA Garbage? *New York Times*. Posted on nytimes.com March 5, 2015, accessed January 20, 2017.
13. What We Believe. BioLogos. Posted on biologos.org.
14. Collins, F. S. 2006. *The Language of God: A Scientist Presents Evidence for Belief*. New York: Free Press, 135-137.
15. Orgel, L. E. and F. H. C. Crick. 1980. Selfish DNA: The Ultimate Parasite. *Nature*. 284 (5757): 606.
16. Guliuzza, Haeckel’s Embryos.

Dr. Guliuzza is ICR’s National Representative. He earned his M.D. from the University of Minnesota, his Master of Public Health from Harvard University, and served in the U.S. Air Force as 28th Bomb Wing Flight Surgeon and Chief of Aerospace Medicine. Dr. Guliuzza is also a registered Professional Engineer.





A collection of resources by ICR and Dr. Randy Guliuzza focuses on the design found in the human body.

Save \$20 when you buy the pack!

reg. \$79.95 **\$59.95** PRG1

Visit ICR.org/store – While supplies last. Please add S&H to all orders. Prices available through April 30, 2017.



An Evening at Campbell University

Sometimes ICR speakers are invited to speak to a potentially hostile crowd. In January 2017, I spoke at Campbell University in North Carolina in a creation event that a group of dedicated Christian undergraduates initiated. Campbell still carries a “Christian” reputation from its beginnings, but students and faculty confirmed to me that the school’s tenor and personnel have become increasingly secular over the last few decades.¹ The organizing students therefore wanted a creation speaker to present evidence for biblical creation to the hundreds of evolution-taught students who may never have considered how well the Bible explains the origins of the world and all it contains.

The remarkable students who invited me understand why creation matters. They regularly defend their Christian beliefs. I asked them where they learned biblical creation, and some affirmed that their parents incorporated creation materials into their homeschool experience.

These young adults took care of the many details an event such as this requires. They obtained funding to secure an audi-

torium and cover speaker costs, persuaded evolution-leaning science professors to encourage their students to attend even if only to gauge how “irrational” and “unscientific” the presentation might be, and conducted an on-campus physical and digital advertising campaign. Due to their efforts, over 700 students, plus several ICR supporters from surrounding communities, attended, and at least several dozen watched the event online.

I was privileged to give an evening presentation titled “Seven Fossil Features to Fortify Your Faith” in which I presented Bible-friendly science solutions to evolutionary problems. For example, Bible believers who agree with atheistic evolutionists that creatures died and formed fossils millions of years before Adam have a difficult time explaining why Jesus died in our place. Evolution’s fictional history asserts that humans developed through the death of millions of unfit creatures, whereas scriptural history affirms that death came through man’s conscious rebellion against God.

In addition to evolution’s theological implications, dozens of fossilized animals retain original body components that should

have decayed long ago if they were millions of years old. These dinosaur and other fossils still have remnants of original vertebrate proteins including elastin, ovalbumin, and collagen.² If the Flood formed fossils, then Earth’s rock layers record animals buried *after* sin and its curse of death.³ And if the Flood formed fossils only thousands of years ago, no wonder those old bones still have so many remnants of short-lived proteins.

Audience members asked questions following the presentation. Most were typical questions, like how the dinosaurs might have fit on Noah’s Ark.⁴ Two each of the 60 or so basic dinosaur kinds—some likely juveniles—would have all fit quite neatly into one section of one of the Ark’s three decks. Another student asked about the universe’s expansion as evidence for a Big Bang. The models run expansion backward all the way to a supposed time when all matter and energy were packed into a tiny nugget. What if God created it already large in the beginning and then keeps it expanding from there?⁵ These kinds of questions revealed that the students had not heard many biblical or scientific creation answers.

We can thank this small group of smart and faithful creation-thinking students for going against the evolutionary grain. They made this valuable opportunity to introduce secular thinkers to a radically different but sensible and biblical view of world history.

If you want to know more about scheduling an ICR speaker you can visit ICR.org/events, email events@icr.org, or call 800.337.0375. ✉

References

1. Secular thinkers discount miracles and thus generally have a low view of Scripture, whereas biblical Christians believe all the Bible’s miracles, including the recent creation of everything.
2. Thomas, B. 2014. Original-Tissue Fossils: Creation’s Silent Advocates. *Acts & Facts*. 43 (8): 5-9.
3. Genesis 3.
4. Morris, J. 1992. How Could All the Animals Get On Board Noah’s Ark? *Acts & Facts*. 21 (3).
5. Hebert, J. and B. Thomas. 2014. Does Science Support the Big Bang? *Acts & Facts*. 43 (7): 21.

Mr. Thomas is Science Writer at the Institute for Creation Research and earned his M.S. in biotechnology from Stephen F. Austin State University.

Thank God for Earthworms!

Despite their size, earthworms are surprisingly helpful creatures. They occasionally venture above ground in broad daylight but are mostly night crawlers. They are best known for their underground habits, such as recycling organic waste, aerating soil, and helping organic matter to decompose.

Earthworms are *detritivores*—garbage eaters—the ultimate in dirt-digesting junk-food consumers. They eat almost anything—scraps of fruit, morsels of dead animal flesh, leaf litter, etc.^{1,2} As an earthy, underground version of “filter feeders,” they ingest whatever is buried and rotting in topsoil or within near-surface soil. Meadows and pastures are crawling with worms! Their numbers may reach above 300,000 per acre, especially in chalky clay soil.² The aggregate weight of a dairy farm’s earthworms likely outweighs the total weight of livestock grazing above them.

Earthworms produce benefits disproportionate to their numbers. Meadow soil is about 7% organic. Of this, 95% is either dead or plant-root material, leaving only 5% as other organic/biota. Of the soil biota (excluding plant roots), only 12% are earthworms. In other words, in field or pasture soils, earthworms account for only about 0.042% of the soil!²

Nonetheless, earthworms produce enormously useful outcomes: 1) biochemical recycling, excreting feces 5 times richer in usable nitrogen compounds and 11 times richer in usable phosphates; 2) geophysical restructuring, forming networks of underground burrow-tunnels, improving aeration and water drainage; and 3) food web logistics, transporting and converting leaf

litter and manure particles into humus underground.²

Amazingly, just by living ordinary earthworm lives, these busy burrowers accelerate soil restoration after habitat disturbances, such as rehabilitating soil after industrial mining operations.

Because they play a major role in the comminution [i.e., material size reduction] and mineralisation of organic matter and greatly influence soil structure and chemistry, the presence of a flourishing earthworm community is likely to accelerate soil restoration and improve primary production....By their burrowing activity, earthworms mix and aggregate soil and minimize surface water erosion by enhancing soil macroporosity [i.e., opening crevices to allow rainwater to drain into soil] and water-holding capacity. Earthworms consume organic matter and mineral particles and many of the species egest [i.e., defecate] casts that are microbially very active and contain nutrients, which are readily usable by plants [which access subsoil nutrients through root systems].³

Earthworms sometimes ingest seeds, often without destroying seed survivability. Subsequent defecation accelerates seed germination, awakening seeds from dormancy and enabling water permeability.³ Of course, earthworms are also good food

for hungry birds and other vermiform-eating predators!

Yet, as valuable as earthworms are, they are just “creeping things.” They should never be credited with creative power.⁴ However, some evolutionists—failing to give God due credit for what He did during the creation week—effectively give credit to worms, as if they were co-creators of Earth’s biodiversity.⁵

Evolutionists imagine a “worm world” as being integral in naturalistically producing ecological conditions required for the so-called Cambrian Explosion.⁵ They say the animism of Darwin’s natural selection magic was enabled by pre-Cambrian vermiform fauna (i.e., *worms*).⁵ That theory is not only groundless, devoid of any forensic evidence—it’s *creepy*. ❄️

References

1. Examples of “worm” (Hebrew *rimmah*) diet diversity include Exodus 16:24 (manna); Job 17:14 (flesh), 24:20 (flesh); and Isaiah 14:11 (flesh).
2. Odum, E. P. 1967. *Fundamentals of Ecology*. Philadelphia: W. B. Saunders Company, 379-380. See also Edwards, C. A. 2004. *Earthworm Ecology*, 2nd ed. Clive A. Edwards, ed. Washington, DC: CRC Press, 5-8.
3. Boyer, S. and S. D. Wratten. 2010. The potential of earthworms to restore ecosystem services after opencast mining—A review. *Basic and Applied Ecology*. 11 (3): 196-203.
4. Romans 1:21-23. In effect, by giving worms credit for facilitating the Cambrian Explosion of higher life forms, evolutionists are worshipping worms as a substitute for God.
5. Schiffbauer, J. D. et al. 2016. The Latest Ediacaran Worm-world Fauna: Setting the Ecological Stage for the Cambrian Explosion. *GSA Today*. 26 (11): 4-11. This insight was provided by Dr. Billy Caldwell, a professional geologist in Texas.

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



THE HEAVENS *Declare*

By God's grace, ICR will soon break ground on the ICR Discovery Center for Science and Earth History. This is truly remarkable since we've only been raising funds for a little over a year—all praise and glory to Him! But while our emphasis was on the Discovery Center, many of ICR's other worthy ministry programs may have been overlooked. ICR's media initiatives deserve a special mention this month, particularly as we begin work on a new high-quality DVD series expected to be available later this year.

You may recall ICR's decision several years ago to be more effective in reaching the coming generations. We noticed a very real disconnect with millennials, especially those 18 to 35 years old. They were either largely absent from the churches we ministered to or had deserted "traditional" Bible-teaching churches in favor of ultra-contemporary assemblies that have replaced expositional teaching with shallow biblical "discussions." Many Christian colleges are in similar straits, and the majority of students are sadly ignorant of basic creation doctrine and the scientific evidence that confirms Genesis. Without a deep conviction that the Bible's foundational book is accurate, many young lives may wither away in their walk with Christ (Matthew 13:5-6).

So we set out to reach this next generation in a way that would appeal and engage their culture. Using the power of visual storytelling, ICR committed millions of dollars to create the 12-episode *Unlocking the Mysteries of Genesis* DVD series in 2014, a unique and exceptional resource never before seen in creation

science ministry. And the Lord blessed in mighty ways! Since its release, countless testimonies have been received of lives changed, doubts erased, and faith solidified. To those who shared a portion of their resources to help ICR meet this need—thank you. But *Unlocking the Mysteries of Genesis* was only the beginning.

Since then, ICR has received many requests for more science resources of a similar high quality. To fill this need, we produced two more DVD series—*Made in His Image* in 2015 and *Uncovering the Truth about Dinosaurs* in 2016—and also added subtitles in four foreign languages to enhance their outreach potential beyond U.S. borders. Work is now underway on the next installment in ICR's line of exceptional DVD series—*The Universe: A Revealing Journey through God's Grand Design*.

The heavens not only declare God's majestic glory and craftsmanship, they also "speak" and reveal knowledge that can be understood universally (Psalm 19:1-3). Mankind has always been intrigued by the heavens, and ancient scholars like the Magi (Matthew 2:1-12) were well-versed in the locations and movements of all visible stars. Moreover, many of the founders of

modern astronomy were Christians, and their belief in the Bible as God's special revelation to mankind spurred their research, technological advancements, and discoveries. The information uncovered since then—of the vast number and classes of celestial bodies, for example—simply confirms the Bible has always been far ahead of science (e.g., 1 Corinthians 15:41). These facts are rarely taught in public schools, and *The Universe* fills the gap with a fascinating voyage through God's magnificent design.

There is no doubt our DVD series have made a powerful impact on younger generations. But the expense to produce such high-quality media resources is significant, costing around \$750,000 for each four-part series. Would you please consider investing with us by making a generous gift to ICR media? You can donate online at ICR.org/donate (select "for Media"), or simply write "Media" on the memo line of your check and mail it to us. Your tax-deductible gift will be put to careful use to reach "the generation[s] to come" with the evidence of the "wonderful works that He has done" (Psalm 78:4). ✉

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



PRAYERFULLY CONSIDER SUPPORTING ICR ■ GALATIANS 6:9-10 ■

Through

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

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

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

“ Thank you for *Act & Facts*. I eagerly look forward to each month’s publication and enjoy learning more and more. **Your authoritative research and constant connection to God’s Word help me and my family to continually view the science world from God’s perspective.** In fact, a recent example was seeing a headline from the BBC that was titled “Scientists find ‘oldest human ancestor.’” Sadly, the article seeks to publish a lie as truth and lead many astray that a newly researched microorganism is a missing link for the evolution of humans. Please keep getting the Word out there and know we are praying for your ministry.”

— B. F.

“ **We greatly appreciate you!** We recently renewed our subscription to *Act & Facts* and made a donation to ICR. Your affirmation of the absolute authority of God’s Word and our true origins has edified and strengthened our family. Thank you and all of your staff. I have left copies of *Act & Facts* out in the break room at work to allow my coworkers the opportunity to see this world from a proper perspective and to hopefully meet our Savior.”

— N. H.



“ God bless you guys. Keep fighting the good fight. I’m loving how science, at one point the fuel for atheists, is now becoming fuel for our faith in God. **There can only be ONE truth at the end of the day.**”

— D. S.



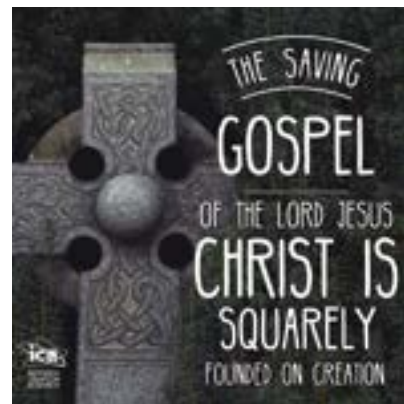
“ I know a lot of Christians who believe in billions and millions of years of creation. I don’t blame them, as schools don’t teach creation. They teach the imaginative machinations of men who’ve speculated about evolution, passing it off as fact even though it’s completely unfounded. We’ve all seen the drawings of how cows and wolves evolved from whales, or evolved into whales—evolution can’t make up its mind. So Christians, [those] not into apologetics or creation, believe in Jesus and some sort of evolutionary timeframe. We need to educate our brothers and sisters!”

— L. C.



“ Yes! I love this post and I’ll repost soon. Keep up the good work. Praying for you guys!”

— M. P.



“ **Christians need to understand this is nonnegotiable.**”

— S. O.



“ Whenever I read *Acts & Facts*, I am reminded to pray for the ministries and lives of the contributors and the research of Institute for Creation Research. I am blessed to read the articles and responses to questions, but mostly to learn of what the Lord would teach through their upright lives and godly commitments, especially to the truth of God’s Word. May the Lord bless and keep Randy Guliuzza as he ministers in Jesus’ name.”

— L. R.



Have a comment? Email us at editor@icr.org or write to Editor, P. O. Box 59029, Dallas, Texas 75229.

Note: Unfortunately, ICR is not able to respond to all correspondence.



P. O. Box 59029, Dallas, TX 75229
www.icr.org

UNCOVERING THE TRUTH ABOUT DINOSAURS



Uncovering the Truth about Dinosaurs explores the most fascinating creatures of all time—dinosaurs. What were they, where did they come from, and how did they die? Join us as we journey to various locations to investigate dinosaur theories, while experts in paleontology, geology, and history examine evidence that casts doubt on secular theories about geologic time and evolution. This series offers compelling evidence that confirms the biblical account of Genesis.

Episode 1: Digging into Dinosaurs
Episode 2: Dinosaurs and Dragons

Episode 3: Dinosaurs and the Flood
Episode 4: The Hard Truth



This DVD series contains **English** closed captions and subtitles in **English, Spanish, Chinese, Arabic, and Korean!**

Español 中文 العربية 한국어

(Includes a 112-page viewer guide. Additional viewer guides are available.)

Call **800.628.7640**
or visit **ICR.org/store**

Please add shipping and handling to all orders.
Offer good through April 30, 2017,
while quantities last.

\$39.99
DUTTAD

