

ACTS & FACTS

INSTITUTE FOR
CREATION RESEARCH

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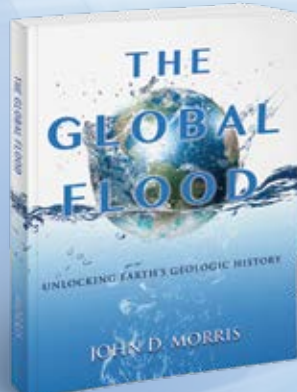
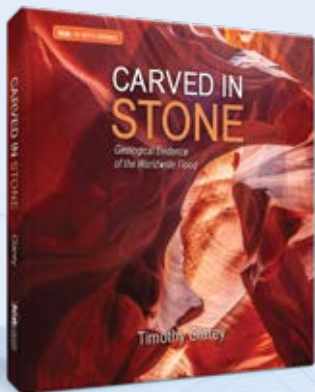
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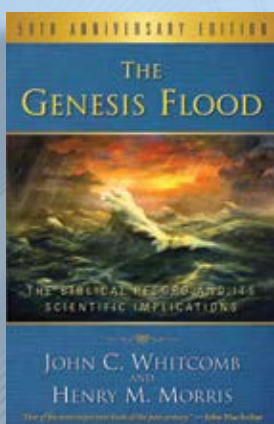
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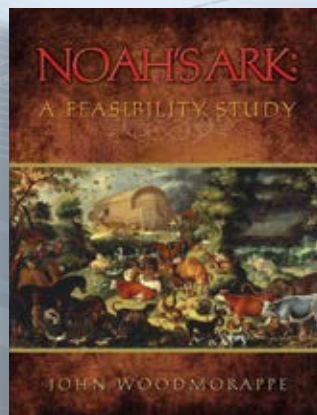
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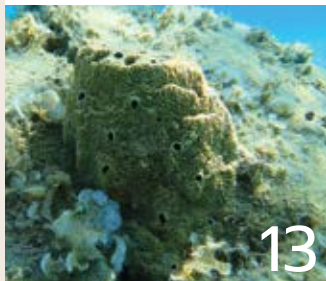
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EVOLUTION'S DIVIDE

Is Creation's Opportunity

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

Missed opportunities and bad timing often seem to go together. Military history has several notable examples of commanders who “seized defeat from the jaws of victory” when they delayed to bring closure to a war immediately after a major victory—often because they failed to see how fragmented their opponent truly was. The costly blunder by Great Britain’s General William Howe when he deferred a decisive pursuit of General George Washington’s disintegrating Continental Army in the early days of the American Revolution comes to mind. Time and again when one side can’t recognize how divided their opponent is and lets them off the hook, that opponent can rally, rebuild, counterattack, and win.

That military truism has a lot to do with today’s creation-evolution conflict. Many evolutionists are seriously divided over the most basic explanations of how evolution happens. In fact, different factions have diametrically opposite explanations. The split isn’t a minor dustup over trivial difference. Yet when talking with other creationists at ICR events, I discover that nearly all are unaware of this serious divide. That’s somewhat like General Howe’s lack of intelligence on General Washington’s condition. Our efforts to refute and replace evolutionary theory are greatly weakened if we’re not up to date on the fundamental problems that currently divide evolutionists.

Leading Evolutionists Are Surprisingly Divided

Evolutionary biology is experiencing its most serious division over the structure of evolutionary theory since the development of the modern synthesis nearly 100 years ago. The modern synthesis is the name for current evolutionary theory that synthesizes Darwin’s concepts of the selective agency of nature and survival of the fittest, facts about genetics that Darwin lacked (later including the notion of random mutation as the primary source of genetic variation¹), and statistical models of populations. In November 2016, Great Britain’s prestigious Royal Society held a conference to deliberate if evolutionary theory needed to be extended, reformed, or totally overhauled to accommodate fresh ideas from new discoveries.²

The vital importance of this conference was framed in the science journal *Nature* in a point-counterpoint style article, “Does evolutionary theory need a rethink?” The authors note that “researchers are divided over what processes should be considered fundamental.”³ A

article highlights

- Today’s evolutionists are deeply divided over how evolution supposedly happens.
- This disagreement provides an opportunity for creationists.
- The internal mechanisms of adaptation that some evolutionists describe in their extended evolutionary synthesis (EES) theory confirm ICR’s design-based model.
- The scientific data lead to the creation model, and ICR must push forward with our vital work.

division over basic processes at the core of any theory suggests that the theory could be incomplete, misleading to both research and conclusions, or wrong.

One researcher advocating for what is essentially a major revision in evolutionary theory, though modestly labeled as the extended evolutionary synthesis (EES), is Kevin Laland of the University of St. Andrews. He said:

The data supporting our position gets stronger every day. Yet the mere mention of the EES often evokes an emotional, even hostile, reaction among evolutionary biologists. Too often, vital discussions descend into acrimony, with accusations of muddle or misrepresentation.³

The acrimony, per Laland, is generated since “this is no storm in an academic tearoom, it is a struggle for the very soul of the discipline.”³ In John Hands’ first-hand report on the conference, “Is it time to drop Darwinism?” he described the modern synthesis as:

This paradigm—a combination of Darwinism, population genetics, and what Francis Crick called the central dogma of evolutionary biology—is known as NeoDarwinism, or the Modern Synthesis. Popularised by Richard Dawkins in his bestselling 1976 book *The Selfish Gene*, it is a statistical model validated not by observation or experiment, but by simplistic games models borrowed from 1940s economics.⁴

It was not only online articles that chronicled these deep divisions. The article “Schism and Synthesis at the Royal Society” in the leading science journal *Trends in Ecology & Evolution* by one conference organizer explains why “the discussion witnessed little meeting of minds.”⁵ Framing the acrimony as a bitter dispute between “incum-

bert” advocates of the evolutionary status quo versus revolutionary “rivals,” the outspoken evolutionist Perry Marshall noted:



Incumbents were anxious that the conference might pronounce that evolutionary theory is due for a complete overhaul. Rivals worried that the [Royal] Society might smear new lipstick on the same old pig, continuing to plead “natural selection” as the be-all end-all of everything. The tension in the room was palpable, sharpened by the history of this topic being fraught with politics, bitter feuds and bad blood.⁶

The Debate: What Causes Adaptive Innovations?

Interestingly, divisions at the Royal Society illustrate an important point that creationists have been saying. Evolutionists often claim that they “have data” to support their position and imply that creationists have none. Creationists contend that they have the same data but interpret it very differently. Similarly, Laland represented the minority position at the conference. He also observed, “This tension was manifest in the discussions where different interpretations of the same findings were voiced...The conference brought home a key point – these debates are not about data but rather about how findings are interpreted and understood.”⁵ So, in both cases the debate isn’t over which side has data but about the best explanation of the same data.

Scientists at ICR would also agree with Laland that “at least as important” as basic research of biological systems “are different notions of how the scientific process works, or ought to work. Those speakers at the meeting pushing for change tend to emphasize the role of conceptual frameworks in shaping what questions are asked, what data are collected, and what factors are viewed as causally important.”⁵ A theory serves both as a working hypothesis that tries to pull together different observations to explain the cause of a biological phenomenon, and also as a framework used to guide interpretations of new observations.

Christians must know that in terms of basic research, the numerous mechanisms of adaptation the “rivals” were insisting be discussed at the Royal Society meeting powerfully confirm ICR’s design-based creationist theory that emphasizes active, problem-solving organisms capable of self-adjusting to fill dynamic environments. ICR’s framework predicts that organisms were engineered with *internal* capabilities to continuously track environmental changes. This could happen through developmental bias and plasticity, epigenetic mechanisms, and many other mechanisms that would enable organisms

to track changing conditions and fill new niches. Tracking conditions and filling new environments would happen within the lifetime of a parent and enhance the ability of its offspring to do so.

For example, one Royal Society conference topic was embryonic development. The EES faction contends that for some organisms specific traits “could be predicted with knowledge of their mechanisms of development. For these biologists, a bias in development that produces some morphologies more readily than others can shape the course of adaptive evolution. Douglas Futuyma, by contrast, presented a more traditional standpoint in attributing the adaptive characteristics of organisms solely to selection.”⁵

This sharp division at the Royal Society also highlighted completely different conceptual frameworks for the identification of causality for the traits. Internalists tried to describe observable mechanisms, while externalists repeatedly invoked the concept of natural selection. Passionate exchanges between speakers and attendees dramatically highlighted the difference between those who frame nature as exercising agency through the invocation of Darwinian natural selection versus those who appeal to an organism’s highly regulated innate systems as a way to explain the same biological outcomes.

Perry Marshall spells out: “But in the Neo-Darwinian view, for any cell to evolve purposefully is *unthinkable*. So of course ‘natural selection’ always ends up being the answer” and that throughout the meeting incumbents were “towing the standard Neo-Darwinian line, which insists that in the end, all comes down to ‘selection, selection, selection.’”⁷ One science reporter at the conference stated:

The event would have benefited from someone in the wings with a hook restraining speakers who insisted on relying on the mantra of natural selection to fill in the blanks of their science. Repeated references to the term became almost comical. Sir Patrick Bateson finally came to the rescue, cautioning against overuse of the “metaphor,” saying further that “natural selection is not an agent.”⁸

A Widely Held Conclusion: Darwinian Selectionism Is Fatally Flawed

Selectionism is fatally flawed for two important reasons. First, the actual findings of how adaptation happens are inconsistent with the ways it should be characterized per the modern synthesis, which are: undirected, random, gradual, and without any purposeful product. Yet, numerous mechanisms are being discovered that routinely

“NeoDarwinism...is a statistical model validated not by observation or experiment, but by simplistic games models borrowed from 1940s economics.”

characterize adaptation as highly regulated, usually rapid, repeatable, and with targeted goals that are even predictable.

The second reason is that selection is an inherently mystical concept—which the discovery of internal mechanisms in organisms is making easier to see. As far as we know, the environment is unconscious and, thus, the analogy comparing it to a conscious human breeder has always been illegitimate. When selectionists invoke natural selection, they magically project onto nature intelligence and volition that they envision as exercising agency. Selectionists habitually summon selection to “act on,” “favor,” “work on,” “punish,” etc. an organism. The repeated use of this language at the Royal Society is why Sir Patrick Bateson had to admonish attendees that “natural selection is not an agent.”⁸ In causal explanations framed within the modern synthesis, this environmental pseudo-agency is vital to supplant the true agency of organisms that’s expressed through the outworking of their innate mechanisms.

Evolutionists are so deeply divided over their beliefs about the basic cause of evolution that a number of them feel that new findings have battered current theory beyond repair and call for it to be replaced. Three attendees summarize the sentiment of many evolutionists:

The Modern Synthesis, while undoubtedly productive for a time, is a misconception of reality that has reached the limits of its explanatory power. The problems are fundamental. No amount of cosmetic surgery is going to correct them.⁹

In another exchange, Fellow of the Royal Society Patrick Bateson of Cambridge replied to a questioner in no uncertain terms: “Natural Selection is not an agent.” (Translation: *Blind Watchmaker* must be stripped down to the engine blocks and rebuilt from the ground up.)⁶

While some speakers defended the current paradigm, others called for an extension of the NeoDarwinian evolutionary synthesis to accommodate these alternatives. However, such mechanisms contradict NeoDarwinism. You can’t extend something that is broken. After 70 years it is time to move on, and use ideas supported by evidence to develop a new paradigm for evolutionary biology.⁴

A recent essay by Dr. Paul Nelson, who also attended the Royal Society meeting and is an articulate advocate for research by the Intelligent Design (ID) community, summed up perfectly the need to move on from only attacking or tweaking evolutionary theory toward replacing it altogether. Nelson realizes “the abject futility of trying to construct a theory of biological design within a philosophical framework, naturalism, fundamentally committed to another goal. *Reform it altogether*, said Hamlet to the players.”¹⁰

A Transient Opportunity Before Evolutionists Regroup

Evolutionary theory is in a “struggle for the very soul of the discipline”³ due to the discovery of pervasive internal mechanisms facilitating self-adjustments that is contradictory to current theory. Evolutionists are fully aware that division weakens their position against creationists and the high theological ramifications at stake. So, it is only a matter of time before they rally, rebuild, and counterattack with

a new and improved version of their anti-designer theory. Unlike General Howe, creationists are now informed of the deep divisions among evolutionists. So, what should we do?

The precise reason for the division centers on the avalanche

of new information that’s contrary to evolutionary theory. This same information solidly supports a theory of biological design. Creationists should be pressing this truth at every opportunity. In November 2020, I discussed a golden, time-sensitive opportunity that was based on a flood of research over the last 25 years:

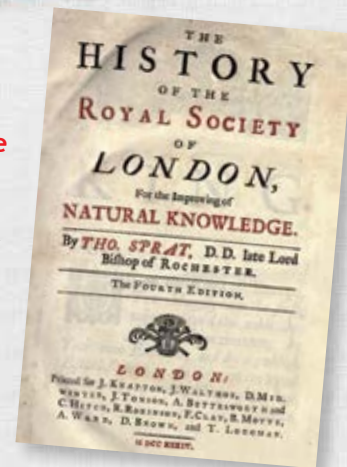
Creation scientists have an extremely rare, transient opportunity to get out in front and frame all of these new findings before the evolutionists do. A theory of biological design would enable us to set both the interpretive and research agendas.¹¹

The theory that ICR is working on expects active, problem-solving creatures designed to track changing conditions to “fill the earth,” showcasing the wisdom of their Creator—the Lord Jesus Christ. ☞

References

1. Stamp, M. Mutation, Design & Randomness. *Creation Science Update*. Posted on ICR.org May 17, 2021.
2. New trends in evolutionary biology: biological, philosophical and social science perspectives. November 2016 scientific meeting. The Royal Society. Posted on royalsociety.org, accessed April 20, 2021.
3. Laland, K. et al. 2014. Does evolutionary theory need a rethink? *Nature*. 514 (7521): 161-164.
4. Hands, J. Is it time to drop Darwinism? *Science Focus*. Posted on sciencefocus.com November 22, 2016, accessed April 17, 2021.
5. Laland, K. N. 2017. Schism and Synthesis at the Royal Society. *Trends in Ecology & Evolution*. 32 (5): 316-317.
6. Marshall, P. Royal Society’s “New Trends in Biological Evolution” – A Bloodless Revolution. *Evolution2*. Posted on evo2.org November 30, 2016, accessed April 16, 2021.
7. *Ibid*, emphasis added.
8. Mazur, S. Pterosaurs Hijack Royal Society Evo Meeting. *HuffPost*. Posted on huffpost.com November 21, 2016, accessed April 15, 2021.
9. MacAllister, J. Environmental evolution: effects of the origin and evolution of life on Earth newsletter. Posted on envevo.org January 2017, accessed April 16, 2021.
10. Nelson, P. Reform It Altogether — More on the Naturalistic Paradox. *Evolution News & Science Today*. Posted on evolutionnews.org September 18, 2020, accessed April 15, 2021. Emphasis in original.
11. Guliuzza, R. J. 2020. The Power of the Next Idea. *Acts & Facts*. 49 (11): 5-7.

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The precise reason for the division centers on the avalanche of new information that’s contrary to evolutionary theory.

ICR Ice Core Research Update

In contrast to secular scientists, creation researchers think there was just one Ice Age that was caused by the Genesis Flood.¹ Intense volcanism and rapid seafloor spreading during the Flood would have greatly warmed the world's oceans. This would have resulted in a tremendous amount of evaporation. The increased atmospheric moisture produced intense snowfall on mountaintops and at high latitudes. Summer cooling caused by residual post-Flood volcanism prevented snow and ice from melting, allowing thick ice sheets to grow rapidly after the Flood.

Recent ICR research has highlighted a devastating problem with the main argument for the secular Ice Age theory, found fossil evidence in support of the Flood Ice Age model, and revealed clues that secular age models are assigning too much time to the deep Antarctic ice cores.²⁻⁴ ICR has also just published my book explaining the Flood Ice Age model and how it relates to the global warming debate.⁵

In many ways, the Flood Ice Age model is vastly superior to the secular model. It solves mysteries of Earth history that still puzzle uniformitarian scientists, such as the ability of millions of woolly mammoths to live in Siberia during the Ice Age.¹ However, one area in which the creation model lags behind the secular model is in computer simulations of thick ice sheets. Recently, I extended ICR atmospheric scientist Dr. Larry Vardiman's numerical creation-based ice sheet model, which assumes heavy post-Flood ice accumulation.⁶ I used a computer code and his ice accumulation model to estimate annual layer thicknesses in a simulated ice core. My resulting paper has been accepted for publication.

Uniformitarian age models for the thick ice sheets implicitly assume millions of years by treating the height of the ice sheet as more or less constant. This simplification makes the math much easier, but it is obviously invalid if the ice sheets are just 4,500 years old.

As Vardiman himself noted, his effort was preliminary, and it's necessary to improve on those early efforts. It's possible to directly calculate the growth and movement of an ice sheet by summing up the stresses (force per unit area) acting on the small parcels of ice that comprise the overall ice sheet. This approach doesn't make the usual "millions of years" assumption, but it can require so much computing time that uniformitarian scientists would probably never use it to simulate the entire history of a millions-of-years-old ice sheet. However, one could use it to simulate the rapid formation of an ice sheet in the few millennia since the Flood.

I have done this in a second research paper. I used the simplest possible (and fastest) version of this approach, along with Vardiman's

article highlights

- The Bible provides a much better explanation for the Ice Age than secular theories do.
- The creation model has heavy Ice Age snowfall, which allowed thick ice sheets to form rapidly after the Flood.
- ICR physicist Jake Hebert is continuing his work to improve creationist computer ice sheet models.

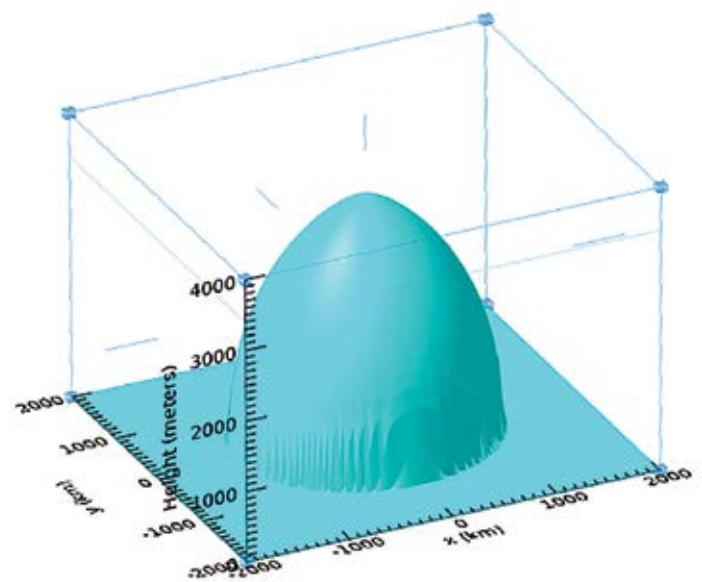
ice accumulation model, to simulate the growth of a 3,400-meter-thick ice dome in the 4,500 years since the Flood (shown below). Not too surprisingly, a thick ice dome rapidly forms when accumulation rates are high. The next phase of the research is to do this again with a more sophisticated version of this approach.

As always, we thank you for your generous support of the Institute for Creation Research that makes this research possible. ✉

References

1. Hebert, J. 2018. The Bible Best Explains the Ice Age. *Acts & Facts*. 47 (11): 10-13.
2. Hebert, J. Physics Today Article Ignores Monster Milankovitch Problem. *Creation Science Update*. Posted on ICR.org May 24, 2020.
3. Hebert, J. 2020. Missing Ice Age Forests Fit Flood/Ice Age Model. *Acts & Facts*. 49 (6): 16-19.
4. Hebert, J. 2019. Earth's Thick Ice Sheets Are Young. *Acts & Facts*. 48 (2): 11-14.
5. Hebert, J. 2021. *The Ice Age and Climate Change: A Creation Perspective*. Dallas, TX: Institute for Creation Research.
6. Vardiman, L. 2001. *Climates Before and After the Genesis Flood*. San Diego, CA: Institute for Creation Research, 41-59.

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



Growth simulation of a 3,400-meter-thick ice dome in the 4,500 years since the Flood. Height exaggerated for clarity.

Image credit: Jake Hebert

JUNE 13

Seagoville, TX
Bethel Baptist Church
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JUNE 26

Lincoln, NE
Lincoln Christian School
Unlocking the Mysteries of Genesis Conference
(B. Thomas, J. Hebert)
ICR.org/LincolnNE



SAVE THE DATE

JULY 7-11

Billings, MT
Billings Hotel and Convention Center
Yellowstone Valley Creation Conference
(B. Thomas, F. Sherwin)
ICR.org/YellowstoneValley



JUNE 8-11

Dallas, TX
ICR Discovery Center for Science & Earth History
Christian Educator's Conference
(ICR and CTI Staff)
ICR.org/Educators-Conference



CTI President Mike Riddle



CTI speaker Dr. Anthony Silvestro



CTI speaker Dan Kreft



ICR President Dr. Randy Guliuzza



For the latest ICR Discovery Center live science presentations, check our schedule at [ICRdiscoverycenter.org/Live-Presentations](https://www.icrdiscoverycenter.org/Live-Presentations)

Providing a safe and enjoyable experience is a priority for ICR, and we are closely monitoring the COVID-19 situation. Since the public health recommendations are changing on a frequent basis, please check [ICR.org/events](https://www.icr.org/events) for the most up-to-date event information. If you have questions about a specific event, please send an email to events@icr.org or call **800.337.0375** and press 6.

April 2021 Events



ICR President Dr. Randy Guliuzza speaks at Grace Baptist Church during the Alpha Omega Conference in Redding, California, on April 11, 2021.



ICR's Chas Morse (left) and Dr. Tim Clarey speak at First Baptist Church in Mustang, Oklahoma, on April 18, 2021.

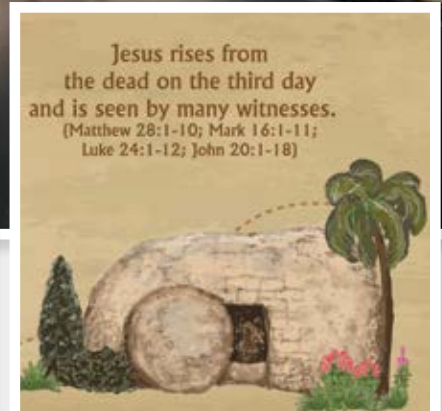
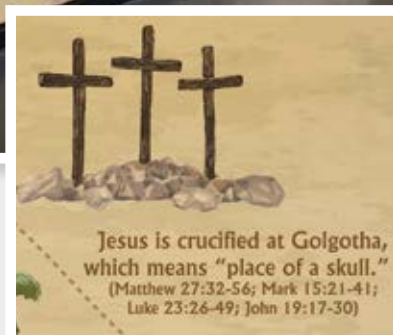


ICR Discovery Center Is Now Open

Bring your family to the ICR Discovery Center for Science & Earth History in Dallas, Texas! While our doors were closed due to COVID we added some new features to our facility. You'll find a few fresh displays, fossil casts, and creation facts in the lobby and exhibit hall, and some new resources in our Discovery Store.



One of several exhibits we've enhanced is the Life of Christ diorama. ICR artist Susan Windsor illustrated a new mural that highlights significant scenes to look for in the miniature display.



Plan your visit this summer at ICRdiscoverycenter.org

The Fossils Still Say No:

Dimetrodon

Global Flood Solves Permian Perplexities

Permian rock layers contain several of the fossil record's greatest evolutionary enigmas. These rocks are found directly above Carboniferous strata, which I explained in the previous two articles in this series.¹⁻² One enigma is the famous and hotly debated Permian-Triassic (P-T) mass extinction that included a dramatic shift in plant fossils, along with huge disappearances of marine life in the fossil record and, to a lesser degree, terrestrial creatures.

article highlights

- Permian layers are water-deposited and contain a diversity of important fossils that point to a global flood.
- These rock layers hold a huge variety of plants, insects, reptiles, and a large volume of marine fossils.
- Unique gliding reptiles and others with large sail-fin structures on their backs appear suddenly in the Permian without any evolutionary precursors.
- At the end of the Permian-Triassic period there was a mass marine and terrestrial extinction event that's difficult to fit in an evolutionary model—so difficult that wild, speculative scenarios are proposed to explain it.
- Permian layers, fossils, and so-called extinctions are best explained by a catastrophic global flood that inundated near-coastal tropical rainforests, mixing these land ecosystems with marine sediments.

The other enigma is the sudden appearance of a whole host of extinct strange creatures that defy evolutionary explanation, along with others that are still alive today. However, these mysteries dissolve away when we place these plants and animals within a global Flood model of burial by ecological zonation.

Permian Rocks Are Flood-Formed

Land life buried in Permian sedimentary rock units include diverse plants, arthropods, and a huge diversity of highly specialized and unique reptile-like creatures that are no longer living today. Evolutionists have claimed that many of these creatures lived in a massive arid desert environment simply based on the fact that they were buried in sandstone, commonly a type of water-deposited sedimentary rock.

In fact, secular scientists have claimed that these deposits represent ancient wind-blown sand dunes despite the fact that it's quite obvious they contain features that could only have formed by water. In recent years, extensive research has been completed on these rock units by analyzing sedimentary structures (cross-bedding) and microscopic thin sections, looking at sediment particles within the rocks and comparing these data to present-day sand dunes.³ The clear implication of these data is that Permian deposits were unequivocally formed in a massive catastrophic flood.

Plants and Living Fossils

Much of the plant life found buried in Permian strata overlaps with the Late Carboniferous (Pennsylvanian system) strata, such as the swamp-like large plants that grew as tall as 100 feet called *Lepidodendron* and *Sigillaria*.^{4,6} However, seed ferns and conifers also began to be buried in these Flood sediments since they would have been living slightly more inland from the coastal forests and swamp-like ocean shorelines representing the land fossils in the Carboniferous layers.

The various conifer plant groups were a diverse mix, and these ecosystems also included large trees like ginkgoes and cycads along with seed ferns. Not only are many types of cycads still with us today in rainforests near coastal regions but also ginkgoes, which not only appeared suddenly in the fossil record but look exactly like ginkgo trees growing around the world today. Thus, the beautiful ginkgo tree enjoyed by many gardeners and horticulturists is considered a living fossil that defies evolution. In addition, conifers found in Permian strata are very similar in appearance to current living counterparts and were as broadly adapted to diverse ecosystems as many conifers are today.



Ginkgo biloba

Insect Fossils Galore

Beginning in the Late Carboniferous layers and continuing through the Permian are many different types of insects such as dragonflies, numerous types of beetles (Coleoptera), true bugs (Hemiptera), and even grasshopper/cricket-like insects (Orthoptera).^{4,6} In fact, all of these major groups of insects (known as orders) appear suddenly in the fossil record without any evolutionary precursors and look similar to counterparts living among us today. But even more interesting is the fact that the Permian rocks contain a huge diversity and abundance of cockroach-like insects.

When we consider these types of fossils, it's important to keep in mind that insects are extremely sophisticated creatures with a diversity of folding wing and flight systems, complex compound eyes, sophisticated antennas with amazing sensor systems, versatile digestive systems, spectacularly complex and efficient mouthparts, and rugged and versatile chitin-based exoskeletons. Not only do all of these land arthropod creatures appear suddenly and fully formed in these rock layers, but their traits would have made them ideally suited to life in the near-coastal tropical rainforest ecosystems represented by other Permian fossils.

Reptile Fossils

Reptile and reptile-like fossils tend to get the most attention when secular scientists discuss the Permian rocks because of their sudden appearance and spectacular traits.^{4,6} In fact, there are so many different types of reptile creatures whose fossils are found in these rock layers that it's only possible to highlight a few of the most interesting.

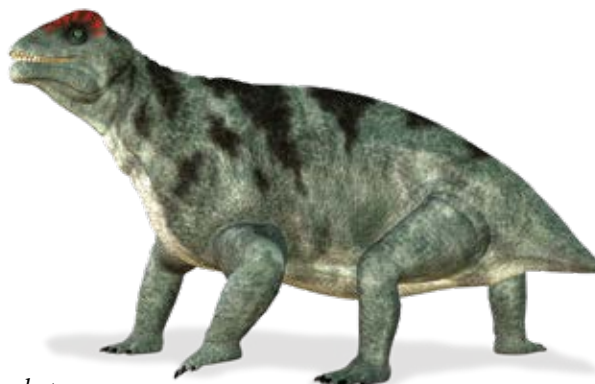
One prominent group of creatures commonly found in Early Permian layers are the pelycosaurs, which included reptiles with spectacular sail-like structures on their backs that integrated with their spinal vertebrae and were thought to provide some sort of thermoregulatory function (edaphosaurids and sphenacodontids). Some of the more well-known members of these groups are *Edaphosaurus*, *Dimetrodon*, and *Gordodon*. Other diverse groups of reptiles without these unusual sails also existed, such as the diadectids.

Another amazing group of reptiles found in Permian layers had wing-like structures that allowed them to glide through the air—perhaps jumping out of trees as the Draco flying (gliding) lizard does, which is alive today and commonly observed in the forests of South Asia. One striking example of a flying lizard from Permian rocks is *Coelurosauravus*, which had a gliding mechanism unlike that of any other known tetrapod. The lateral gliding membrane featured bony rods independent of the ribcage and arranged to form a wing-like structure. And of course, none of these animals have any identified ancestors in rock layers below the Permian level.

Mammal-Like Reptiles?

Also appearing in the Permian rocks are what evolutionists have claimed were the first cynodonts. These were reptile-like creatures called therapsids that secular scientists imagine somehow evolved into the first mammals later in the Triassic, such as the oft-cited example of *Moschops*. While evolutionists originally widely used the term *mammal-like reptiles*, this phrase caused much consternation among paleontologists and those trying to sort out taxonomic groupings over the years.

Now they are referred to by secular scientists as stem mammals



Moschops

or proto-mammals, but these terms are also tainted with evolutionary fiction. The fact of the matter is that while these animals had some unusual teeth, skull structures, and more vertically placed legs than typical lizards, they were clearly reptile-like creatures. Despite the claims of evolutionists, there's little evidence for this unique group of reptiles to support an evolutionary story of a transition from a reptile to a mammal.

Permian-Triassic Extinction Event

According to the evolutionary story, the end of the Permian was marked by the most extensive extinction event in the rock record, termed the P-T extinction.⁴⁻⁶ It's claimed that approximately 90% of marine species went extinct, along with about 70% of all land species, including a mass extinction of insects. Trilobites, common marine arthropod creatures found in earlier strata down into the Cambrian, went fully extinct about this time. And other marine creatures found in the Permian—like nautiloids, brachiopods, and bryozoans (sedentary filter-feeding animals), clams and gastropods, and other ocean creatures—nearly disappeared, albeit a few species survived to the present with much less diversity than existed in the pre-Flood oceans.

One of the main problems evolutionists have in interpreting the P-T extinction event is that the timing of its specific details is very convoluted and drawn out (in evolutionary deep-time thinking). Many now-extinct Permian marine creatures were abundant right up to the close of the Permian deposition but, as mentioned above, land life was less represented in the extinction—especially land plants, which supposedly had a more extended extinction carrying on into the Triassic layers above. In other words, why the more sudden and more extensive marine extinction compared to the more spread-out land extinction? And why is the timing different between land animals, land plants, and marine creatures regarding the extinction?

Another problem secular scientists have with the P-T extinction is the progressive nature of the event based on conflicting and variable fossils assigned to various Permian deposits around the world. In fact, a number of scientists have claimed there were multiple extinctions over millions of years throughout the Permian leading up to the big one at the end.

Needless to say, this evolutionarily convoluted and extended so-called mass extinction is very difficult to explain when you want to add millions of years to the mix. Alleged mechanisms for it have varied between diverse hypotheses incorporating multiple meteor strikes, volcanic activity, ocean chemistry changes, global cooling, and even intense radiation from a nearby supernova. In fact, at this point many evolutionists now argue that the big P-T extinction was caused by a combination of some or all of the hypotheses listed above.

Explaining the Permian Perplexities with the Global Flood

One of the main mechanisms for the global Flood involved the

progressive creation of hot and buoyant seafloor.⁷ This pushed the ocean level up higher and higher, causing the progressive inundation of land by ocean water and marine sediments. Permian deposits are rich in marine creatures that would have been found in shallow, tropical seas. For example, fossilized shells of two kinds of invertebrates are widely used to identify and correlate Permian strata: fusulinids, a kind of shelled amoeba-like protist (a foraminiferan); and ammonoids (cephalopods with shells) that share features with the living chambered nautilus today. These diagnostic creatures, along with others entombed with them, indicate and validate the progressive and global nature of the Genesis Flood. Thus, Permian strata represent the increasing perturbation of the offshore ocean ecosystems along with the progressive burying of higher-elevation land environments just above the coastal forests and swamps represented in the Carboniferous strata.

In the global Flood model of progressively laying down global megasequences, the Permian level falls within the early Absaroka Megasequence.⁷ This makes perfect sense since the Absaroka also begins with the Late Carboniferous sediments, which have extensive overlap with the Early Permian in regard to the types of plants and animals that are entombed within it. Thus, we can clearly see the progressive burial of land-based ecosystems starting at the interior edge of the lycopod coastal forests and swamps found in Carboniferous strata and extending into the higher-elevation, near-coastal tropical rainforests found in Permian strata. As we look higher in the Permian strata, we see fossils representing progressively higher elevations and leading into layers where the Permian terminates the Paleozoic.

According to this Genesis Flood model, the pre-Flood megacontinent of Pangaea would still have been largely intact at this stage—a global geological configuration that even the secular world affirms for the Permian. However, because evolutionists fail to acknowledge the authenticity of the Genesis Flood account, their model makes little sense and, as we have seen, is full of discrepancies.

When we integrate paleontology with the geology of the global Flood, the data fit together quite nicely. There was no real extinction marking the P-T, only last appearances of many types of flora and fauna due to the progressive nature of the Flood as it inundated different ecosystems. ☞

References

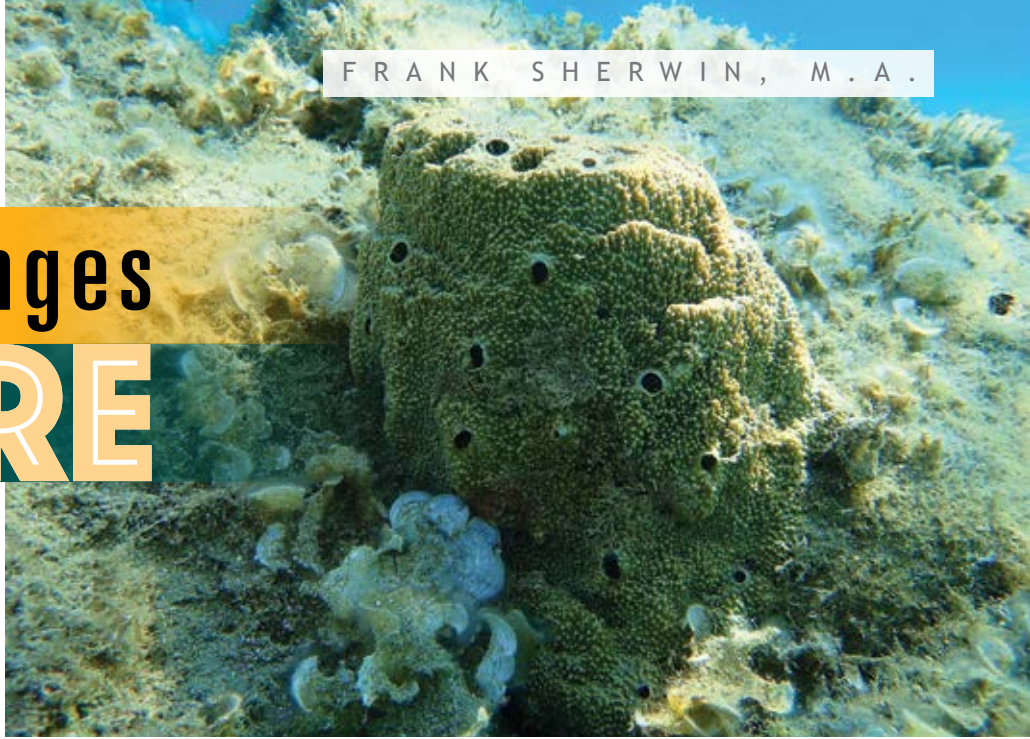
1. Tomkins, J. P. 2021. The Fossils Still Say No: Missing Early Evolution of Land Vertebrates. *Acts & Facts*. 50 (4): 10-12.
2. Tomkins, J. P. 2021. The Fossils Still Say No: Enigma of the Carboniferous Explosion. *Acts & Facts*. 50 (5): 11-13.
3. Whitmore, J. H. and P. A. Garner. 2018. The Coconino Sandstone (Permian, Arizona, USA): Implications for the origin of ancient cross-bedded sandstones. In *Proceedings of the Eighth International Conference on Creationism*. J. H. Whitmore, ed. Pittsburgh, PA: Creation Science Fellowship, 581-627.
4. Prothero, D. R. and R. H. Dott. 2009. *Evolution of the Earth*, 8th ed. New York: McGraw-Hill Higher Education.
5. Benton, M. J. 2015. *Vertebrate Paleontology*. West Sussex, UK: John Wiley & Sons Ltd.
6. Wicander, R. and J. S. Monroe. 2016. *Historical Geology: Evolution of Earth and Life Through Time*, 8th ed. Boston, MA: Cengage Learning.
7. Clarey, T. 2020. *Carved in Stone: Geological Evidence of the Worldwide Flood*. Dallas, TX: Institute for Creation Research, 234-255.

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Marine Sponges

INSPIRE



The oceans are alive with God’s diverse and amazing creatures. Scripture tells us “God created great whales, and every living creature that moveth, which the waters brought forth abundantly, after their kind.”¹ Both vertebrates (e.g., sharks and whales) and invertebrates (e.g., clams and crabs) were created just thousands of years ago, including the allegedly “simple” sponge.²

Zoologists see “the exterior simplicity of a sponge mask[ing] chemical and functional sophistication.”³ For example, the spicules of a certain sponge (class Hexactinellida) are composed of calcareous or siliceous material designed by the Creator to transmit light via fiber optics deep into the sponge’s photosynthetic tissue.

The fiber optics of siliceous spicules have now been confirmed. This has sparked interest among materials scientists and engineers in the enzymatic machinery needed to form silica nanoparticles and to fuse these particles into spicules inside and outside the sponge cells.³

Did this sponge achieve such sophistication by just chance and many millions of years? What was the origin of sponges—did they evolve from a non-sponge ancestor? Evolutionists can only say sponges have existed *as sponges* for nearly a half-billion years (the early Cambrian period) and, “according to some claims, the Precambrian.”³

Regardless, sponge construction continues to amaze. Recently, it was reported that scientists “are using the glassy skeletons of marine sponges as inspiration for the next generation of stronger and taller buildings, longer bridges, and lighter spacecraft.”⁴

article highlights

- Sponges might appear to be soft and simple, but their design is exquisite.
- Their structure has a fiber-optic ability, and their construction has inspired human engineers to develop stronger buildings and aircraft.
- The sponges’ use of struts, grids, and checkerboard patterns shouts design and a Designer.

Why? It’s because in one case,

a deep-water marine sponge [*Euplectella aspergillum*, common name Venus’ flower basket], has a higher strength-to-weight ratio than the traditional lattice designs that have been used for centuries in the construction of buildings and bridges. “We found that the sponge’s diagonal reinforcement strategy achieves the highest buckling resistance for a given amount of material, which means that we can build stronger and more resilient structures by intelligently re-arranging existing material within the structure,” said Matheus Fernandes, a graduate student at SEAS [Harvard John A. Paulson School of Engineering and Applied Sciences] and first author of [a related paper published in *Nature Materials*].⁴

Science writer Bruce Fellman states, “Biomechanics studies how the design and construction of plants and animals obey

and even capitalize on the laws of physics.”⁵ Such overt biomechanical design, as seen in the Venus’ flower basket, has been discussed by the Institute for Creation Research in the past.⁶ The more one studies *Euplectella* (not to mention other creatures), the more one logically comes to a design inference. “To support its tubular body, *Euplectella aspergillum* employs two sets of parallel diagonal skeletal struts, which intersect over and are fused to an underlying square grid, to form a robust checkerboard-like pattern.”⁴

This is *creation morphology*, the bringing together of structural information as we observe, measure, and research God’s creatures using the perspectives of function, form, ecology, and design. It is perfectly natural to ascribe this living architecture to the just, loving, universal Architect of the Bible. ✎

References

1. Genesis 1:21, KJV.
2. Sherwin, F. 2011. Relatively Simple. *Acts & Facts*. 40 (7): 17.
3. Hickman, C. et al. 2020. *Integrated Principles of Zoology*, 18th ed. New York: McGraw Hill, 253.
4. Burrows, L. Marine sponges inspire the next generation of skyscrapers and bridges. Harvard John A. Paulson School of Engineering and Applied Sciences news release. Posted on seas.harvard.edu September 21, 2020, reporting on Fernandes, M. C. et al. 2021. Mechanically robust lattices inspired by deep-sea glass sponges. *Nature Materials*. 20: 237-241.
5. Fellman, B. 1992. The Wonders of Biomechanics. *Funk & Wagnalls 1991 Science Yearbook*. New York: Funk & Wagnalls, 85.
6. Sherwin, F. 2017. Architecture and Engineering in Created Creatures. *Acts & Facts*. 46 (10): 10-12.

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THE EVERGLADES: TWO BIOLOGY BASICS THE BIBLE GOT RIGHT

B R I A N T H O M A S , P H . D . , A N D G A R Y P A R K E R , E D . D .

article highlights

- Our world reflects distinct creature kinds just as Genesis describes.
- By design, these kinds can adjust into new species but remain the same creature kinds Jesus Christ created in the beginning.
- Our world reflects death and violence that intrude into creation.
- The whole creation currently groans but will one day be set right when a new earth takes its place.

Imagine a river 50 miles wide and 100 miles long but only inches deep. Its slow flow is hidden under tall swamp grasses punctuated by small, rounded clumps of cypress. Home to gators and snakes, the portion of the Everglades preserved as Everglades National Park in south Florida is worth visiting during the day, but it's perilous to pitch your tent there at night. The Everglades house animal interactions that illustrate two biology basics the Bible got right.



Image credit: National Park Service

Kinds Make Kinds

As God commanded in Genesis 1, living kinds generate more of their own kinds. Each kind has its variations while sticking to its basic body design. For example, flowers maintain their essential identities even though their petals may display different colors.

Similarly, cats exhibit various coat patterns and body sizes, but they remain cats.





Image credit: National Park Service

Even cats with different body and coat types have the ability to interbreed in a continuum. For example, lions can cross with tigers and pumas with ocelots.

In the Everglades, the Florida panther (*Puma concolor c cougar*) prowls. But not without a struggle—the cat has faced controversy. Back in the 1990s, Florida media cried doom for the big cat. I, Dr. Gary Parker, wrote, “The small population was riddled with so many mutations affecting its circulatory and reproductive systems that mating adults could not produce a cub that could survive even one year.”¹

I told my college classroom that wildlife biologists could turn this around if they brought in some big cats from the West. This would reintroduce genetic health into the Florida panther population. Then, I took them on a field trip. We walked up in time to hear a park ranger explain that to restore genetic vigor, workers were crossbreeding the Florida panther with panthers (cougars) from out West. Thirty heads swiveled

around to look at me.

In that moment, those students understood that the Bible got its creature kinds right. Genesis 1:24 says, “Then God said, ‘Let the earth bring forth the living creature according to its kind.’” Cats, whether they are small or large, whether they look striped, spotted, or smooth, always produce cats.

Similarly, pythons produce pythons. After Hurricane Andrew toppled Miami pet stores in 1992, Burmese pythons (*Python bivittatus*) got loose in the Everglades. Their population has since grown. Scientists recently discovered crossbreeds between Burmese and Indian pythons (*Python molurus*). *Reptiles* magazine said these variants “may further diversify the gene pool of the large constricting snakes in south Florida and could perhaps change the population dynamics of the species and the localities in which they could migrate to.”² In other words, it’s possible that the hybrids have the genetic gear to help them pioneer new terri-

Image credit: Michaelstone428, Creative Commons



tory—maybe they’ll slide into your backyard!

Human intervention and natural means both can produce crossbreeds. But why is it that crossbreeds boost genetic strength? From a biblical worldview, the answer is straightforward. Those variants descended from separated populations of the same created kind.³ Regathering long-separated genes masks the harmful effects of mutations that had been accumulating.

Violence and Death Intrude

When driving through Alligator Alley on our way to the Keys, we almost always see alligators. Like algae-covered logs bobbing along the stale waters, the creatures look serene from a distance. But they live an eat-or-be-eaten lifestyle. Biologists and rangers alike have found those gators eating pythons, and pythons eating them. One official park photo, shown below right, found fame for its horror. A python apparently swallowed an alligator that proved much too big. The gator’s bulky carcass ruptured the python from within, leaving both creatures dead. We certainly no longer live in that “very good” paradise God created in the beginning (Genesis 1:31).

If you frowned in reaction to the image captioned “Reptile Remorse,” then your face betrayed the fact that you sense something is very wrong with this world. Death does not belong in God’s creation. If it did, we would pay no mind to such gore. Rather, death rudely intrudes into our world. The second biological basic the Bible got right—and we see it in the Everglades in spades—is that violence violates the original good God created.

The book of Romans confirms the origin of death given in Genesis, saying, “Through one man sin entered the world, and death through sin, and thus death spread to all men, because all sinned” (Romans 5:12). Not just humans, but “the whole creation groans” with pain from sin’s deathly result (Romans 8:22). How can we ever escape this place of death? We too deserve the judgment of God. His wrath is revealed against our ungodliness and our suppression of the truth. But praise God, the Lord Jesus took our death penalty and rose from the grave in order to rescue us! After He returns, He promises to build a new world where “there shall be no more death, nor sorrow” (Revelation 21:4).

The Everglades show what Genesis 1–3 describes: kinds make kinds, and death intrudes. The Bible’s trustworthy biology secures our confidence in Scripture’s promise that the Lord Jesus is our way to God. ✍

References

1. Parker, G. 2011. *Building Blocks in Life Science*. Green Forest, AR: Master Books, 59.
2. Virata, J. Burmese Pythons Crossbreeding With Indian Pythons In Florida Everglades. *Reptiles*. Posted on reptilemagazine.com August 23, 2018, accessed April 12, 2021.
3. This means that evolutionary ideas of kinds turning into different kinds fly in the face of both the Bible and biology.

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Image credit: National Park Service



Reptile Rancor. Alligator (Alligator mississippiensis) takes advantage of a python (Python bivittatus) in Everglades National Park.

Image credit: National Park Service



Reptile Remorse. This alligator proved too big for its python predator to process. The alligator ruptured the python’s body, leaving both animals to rot in the Everglades.

Image credit: National Park Service



Q: Does Radioisotope Dating Prove an Old Earth?

TIM CLAREY, P.H.D. AND
VERNON R. CUPPS, P.H.D.

A When most people think about radioisotope dating, they think of carbon-14 (C-14), or radiocarbon dating.¹ However, C-14, a radioactive variety of carbon, decays too quickly to use on rocks that secular scientists think are millions of years old. With such a fast decay rate, any radiocarbon in a sample would be undetectable in less than 100,000 years.

That's why geologists use other radioisotope dating methods with really slow decay rates (long half-lives) to claim great ages for rocks and, hence, the earth too. These include the ⁴⁰K-⁴⁰Ar (potassium-argon), ⁴⁰Ar-³⁹Ar (argon-argon), ⁸⁷Rb-⁸⁷Sr (rubidium-strontium), ¹⁴⁷Sm-¹⁴³Nd (samarium-neodymium), U-Pb (uranium-lead), and the ²⁰⁶Pb-²⁰⁷Pb (lead-lead) dating methods.

Each method makes several basic assumptions.² First and foremost, each method assumes that the radioisotope decay rate has never changed during a rock's entire existence. Second, each method has to assume a starting amount of both parent and daughter isotopes. Third, all methods assume that no isotopes have been washed in or out by groundwater, changing the amounts.

Although a constant decay rate might seem reasonable, ICR's Radioisotopes and the Age of the Earth (RATE) project clearly demonstrated that the decay rates of the radioisotopes used by dating methodologies likely accelerated at some time in the past—i.e., they did *not* remain constant.³

The next step involves expressing the decay rate as a half-life and inserting it into the general age equation below. A half-life is the time it takes for half of the original radioactive element (parent isotope) to decay into another element (daughter isotope).

$$\text{age} = \frac{\text{half-life}}{0.693} \ln \left[1 + \frac{\text{Number of Decay-Produced Daughter Atoms}}{\text{Number of Parent Atoms}} \right]$$

This equation implicitly assumes that the starting number of daughter atoms in the rock is known. Knowing the starting amount of daughter element and the amount of decay is critical to calculate an accurate age. Also, groundwater flowing through the rocks can change

parent and daughter amounts over time. Some will dissolve, and others may be added. Yet the equation assumes this is not the case.

Secular scientists are stuck with a single equation that has multiple unknowns. And any one equation by itself can only determine one unknown. Ask your math teacher. To solve for more unknowns, you would need an equal number of equations. To fill in the blanks, secular geologists assume the original daughter amount and plug it into the equation. And because today's half-lives are measured in millions or billions of years, the assumption of a constant decay rate virtually *guarantees* scientists get a great age as a result. But without a time machine, there's no method to test if their answer is correct. This method is precise but not necessarily accurate. And radioisotope dates for rocks of known age (i.e., historical volcanic eruptions) are usually greatly in error!⁴

Finally, the model used for some other radioisotope dating methods—the isochron dating model—doesn't unambiguously reproduce linear relations with age information from the raw data. In fact, the raw data appear to be better explained by isotope mixing.^{5,6}

In summary, radioisotope dating doesn't accurately date rocks from recent volcanic eruptions,⁴ and the various methods often contradict each other.³ There is strong evidence that decay rates have varied in the past. And the primary model uses isotope ratios and unfounded assumptions to derive an age.

Creation scientists are still working to answer questions related to radioactive decay.⁷ But given its contradictions and built-in assumptions, radioisotope dating doesn't and can't prove an old earth. ✎

References

1. Morris III, H. et al. 2020. *Creation Basics & Beyond*, 2nd ed. Dallas, TX: Institute for Creation Research, 335-342.
2. *Ibid.*, 323.
3. Vardiman, L., A. A. Snelling, and E. F. Chaffin, eds. 2005. *Radioisotopes and the Age of the Earth: Results of a Young-Earth Creationist Research Initiative*. El Cajon, CA: Institute for Creation Research and Chino Valley, AZ: Creation Research Society.
4. Clarey, T. 2020. *Carved in Stone: Geological Evidence of the Worldwide Flood*. Dallas, TX: Institute for Creation Research, 80-81.
5. Cupps, V. 2020. Revisiting the Isochron Age Model, Part 1. *Acts & Facts*. 49 (6): 10-13.
6. Cupps, V. 2020. Revisiting the Isochron Age Model, Part 2. *Acts & Facts*. 49 (7): 10-13.
7. For example, how did God safely dissipate the heat generated by accelerated nuclear decay?

Dr. Clarey is a current Research Associate and Dr. Cupps is a former Research Associate at the Institute for Creation Research. Dr. Clarey earned his Ph.D. in geology from Western Michigan University, and Dr. Cupps earned his Ph.D. in nuclear physics at Indiana University-Bloomington.



article highlights

- Carbon-14 decays too rapidly for it to be used to measure specimens believed to be extremely old.
- Instead, geologists employ many other radioisotope dating methods to date rocks, but these methods all make the same assumptions that can't be verified and are highly unlikely to hold true for long periods of time.
- There are too many unknowns for scientists to use radioisotope dating to reach empirical conclusions and prove an old earth.

What It Takes to Make a Cell: A Review of *The Stairway to Life* by Change Laura Tan, Ph.D., and Rob Stadler, Ph.D.

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

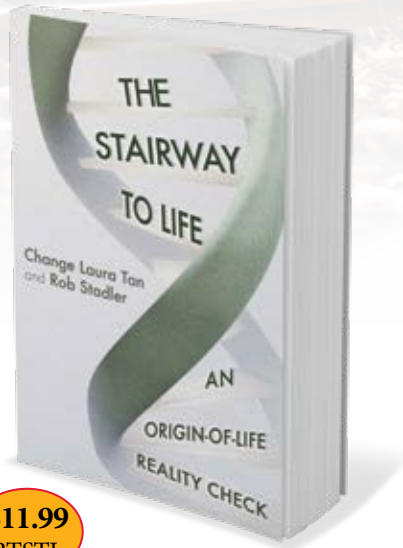
Rare is the science book that can hold even an average reader's attention. But *The Stairway to Life* does just that. Co-authored by biochemist Laura Tan and biomedical engineer Rob Stadler, it carries you through the 12 steps needed to organize chemicals into a cell and demonstrates how the latest discoveries derail origin-of-life-by-nature scenarios.

As an author in the same genre, I found myself admiring two particular attributes of *The Stairway to Life*. First, its clarity.

It's hard to explain biochemical processes to a general audience. Those who try share the same challenges as an auto mechanic explaining engine diagnostics to someone who never peeked under a car's hood. Oversimplifications can obscure the whole idea, but when the biochemistry gets tough, Drs. Tan and Stadler introduce brilliant analogies that clarify core concepts. For example, to illustrate the cellular process of ordering chemicals into DNA, they relate connecting train cars into a long train. They later extend the analogy with a train wreck. Experiments show that chemicals left to assemble themselves act like colliding train cars that never achieve biological sequences.

The authors so clearly explain the cell's complicated construction that readers come to see for themselves why no nature-only process comes close to explaining how chemicals would self-organize into a cell. Trying to get chemicals to make a cell is like asking rocks to organize themselves into a city.

This brings me to the second attribute I admired: the gracious tone. Tan and Stadler consistently show grace and respect to those who cling against all odds to these nature-only views. For example, before ex-



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article highlights

- Two experts wrote *The Stairway to Life*—an analysis of the interdependence of cellular life.
- Relatable analogies clarify profound biochemical challenges to the evolutionary explanation of life.
- With a graceful tone, this book bolsters biblical creation's contention that life must have come from life.

plaining origin-of-life laboratory work, they say on page 73, “This area of science is nearly powerless to distinguish reality from wishful thinking. Desperation in the search for evidence often encourages one to perceive any form of evidence, no matter how unlikely, as compelling.” Sympathy is housed here. By considering motives with grace, the authors demonstrate deep respect for their opposition. Needless provocation is simply not found in this book. Salt seasons the book throughout, making the latest science pleas-

ant even for doubters.

For that matter, the scientific quality and gracious tone of this book should make it appealing not just to skeptics, but to any interested reader. Given my biochemistry training, I initially expected that the most this book would do for me is polish my already-solid grasp on the origin of life topic. But *Stairway's* new information updated and upgraded my grip on these issues.

This valuable volume is stocked with airtight references reporting newfound challenges for nature to kickstart life. Tan and Stadler precisely perceive and artfully explain the biochemical hurdles to origin-of-life scenarios. For example, what have we learned about the cell membrane? The authors wrote, “We have another critical interdependence: the membrane requires embedded proteins to achieve its semipermeable functionality, but the embedded proteins require the semipermeable membrane to produce the ATP that fuels their function” (page 144). Thus, as science expands our understanding of the tiniest pieces of cellular biology, it affirms with increasing rigor this axiom: it takes a cell to make a cell.

Up-to-date research and brilliant insights could only come from authors with an intimate understanding of the issues at hand. Nature-only origins theories suffer new impossible hurdles with every major discovery about the interdependence inside a cell's key parts. *The Stairway to Life* instills gobs of confidence for those who believe in the Creator and presents its arguments with clarity and grace to reach doubters. ✍

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

Even Seaweed Is Proof of God's Providence

Tidewater-tossed seaweeds display God's providence.^{1,2} Hidden in plain view, tidewater seaweeds are spectacular exhibits of Christ's caring bioengineering. Seaweeds even serve as underwater hunting grounds for God's hungry sea otters.

The giant brown algal seaweed called sugar kelp (*Saccharina latissima*) sways rhythmically in relatively cold shore waters along the rocky coasts of the Northern Hemisphere's oceans.³ As photosynthetic plants, these yellowish-brown, floating-frond seaweeds must access and exploit sunlight for producing carbohydrates, such as mannitol sugars.³

However, if these floating seaweeds were unanchored, nothing would prevent them from being washed far from coastlines out to sea—precluding them from fully filling providential purposes that they serve in sublittoral tidewater habitats, such as ecologically partnering with sea otters, as noted below.^{3,4} So, for anchoring into rocky seabed substrates, God equipped them with holdfasts that connect via long, flexible, hose-like stipe stems to floating frond leaves. Fronds, like wrinkled elephant ears, have large surface areas, optimized for capturing sunlight to power photosynthesis.³

Besides benefiting marine food chains by photosynthetically producing mannitol sugars, sugar kelp illustrates nature's post-Fall ("good yet groaning") condition (noted in Romans 8:19-22) by its interactive mutual aid (also called mutualistic symbiosis) relationship with sea otters.⁴

How do kelp help sea otters? Sea otters (*Enhydra lutris*) float in tidewaters while sleeping, so they harness themselves with kelp "seatbelts" to prevent themselves from



article highlights

- Marine invertebrates like abalone regularly eat seaweed.
- Sea otters use kelp beds to keep themselves anchored near the shoreline where they hunt.
- Sea otters eat the invertebrates that eat seaweed and thereby keep the ecosystem in balance.
- As with other symbiotic relationships around the world, God designed this sea otter-seaweed relationship.

floating out to sea too far from shore.⁴

Also, being carnivores, sea otters forage for sublittoral invertebrates—such as abalone snails, purple sea urchins, clams, crabs, and brittle stars—many of which are attracted to and dwell in underwater kelp forests.

[North Pacific] sea otters are voraciously hungry! Sea otters do not have blubber for insulation. To stay warm in below-freezing seawater (which stays liquid because of salinity), sea otters need warm fur and lots of food. They also have a high metabolism and eat about a quarter of their body weight every day!⁵

Ever-hungry sea otters, therefore, need underwater hunting grounds that house lots

of edible prey—and kelp forests are like sublittoral smörgåsbords, filled with marine invertebrates that sea otters consume!

Thus, by capturing and eating marine invertebrates (that eat holdfast-anchored seaweeds), sea otters continually protect kelp forests from suffering destructive overgrazing by kelp-eating gastropods and echinoderms.³⁻⁵

God designed kelp to help sea otters, who in turn help kelp. Even seaweeds glorify God, proving how He cares for His creation. 🌿

References

1. Sherwin, F. 2017. *The New Ocean Book*. Green Forest, AR: Master Books, 14-17, 62. Regarding tidewater habitats, see Johnson, J. J. S. 2013. God Fitted Habitats for Biodiversity. *Acts & Facts*. 42 (3): 10-12.
2. God's providential care of His creation was disputed by irreverent deists (like James Hutton and Charles Lyell) who promoted closed-Bible "science" methodologies to evade geoscience facts reported in Genesis. See Mortenson, T. 2004. *The Great Turning Point: The Church's Catastrophic Mistake on Geology Before Darwin*. Green Forest, AR: Master Books, 12-16. Deistic uniformitarianism was extended by Darwin's animistic "natural selection" myth: "Natural selection [was marketed] as the alternative to God's providence. This displaced the biblical understanding of creation." Wells, D. F. 2008. *The Courage to Be Protestant: Reformation Faith in Today's World*, 2nd ed. Grand Rapids, MI: Eerdmans Publishing, page 77.
3. "Hard, rocky coastlines are impossible habitats for true plants to send down roots, but here—between the tides—conditions are perfect for the leafy algae popularly known as seaweeds. Instead of roots that penetrate, seaweeds have structures called holdfasts that cling to the [underwater] substrate. Some holdfasts are like suckers, but others grow dense thickets of tendrils that anchor the seaweed to the [coastal] seabed and shelter tiny invertebrates [including shellfish], while the alga's long, trailing [emergent] fronds absorb light for photosynthesis." Quoting Ambrose, J. et al. 2020. *Oceanology: The Secrets of the Seas Revealed*. London: Penguin Random House/Smithsonian Institution, 24-25.
4. Psalm 104: 24-27. See Martin, J. 2018. *Amazing Animals of Alaska*, vol 1. DVD series. David Rives Ministries.
5. Johnson, J. J. S. 2020. Sea Otters, Dungeness Crabs, and Coronavirus Politics. *Creation Science Update*. Posted on ICR.org March 27, 2020, accessed April 5, 2021. Besides the brown kelp's plant-anchoring (described above), God's providential bioengineering design and construction is needed for successive plant anchoring of vascular plants, such as trees. See Johnson, J. J. S. 2020. Delayed Post-Flood Forestation during the Early Ice Age. *Creation Research Society Quarterly*. 56 (3): 185-186.

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





The Legacy and Faith of a Godly Father

Good fathers serve an essential role in the family, and it's surely fitting that we express our love and gratitude on Father's Day. After all, the fifth of God's Ten Commandments begins with "honor your father and your mother" (Exodus 20:12), which the apostle Paul later affirmed as the "first commandment with promise" that affords well-being and long life (Ephesians 6:2-3). Good parents are worthy of praise.

That said, this Father's Day will feel empty to me. As many know, my father, Dr. Henry Morris III, was called home by God last December at the end of a very difficult year. The Morris family will still gather, just as we always have, to enjoy sweet fellowship over a good meal while children and grandchildren play outside in the early summer sun. But this year there'll be one empty chair at the head of the table, one less handshake or hug to share, and one less "Love you, Dad" to say. He will be missed.

Good fathers, living on Earth or living in glory, remain worthy of honor. But what's required to be truly worthy of such praise? Biblically speaking, it starts in childhood as parents are exhorted to "train up" their children "in the way [they] should go" (Proverbs 22:6). However, godly instruction is primar-

article highlights

- Fathers fill an essential role in the family.
- Perhaps the strongest incentive for godly living is the impact of a father's example on his child.
- My father's faith in God to provide and guide was his greatest testimony to me.

ily the responsibility of the Christian father, applied with a gentle and firm hand to "bring them up in the training and admonition of the Lord" (Ephesians 6:4). This must begin with the father's own commitment to godly leadership and godly living, attributes my dad modeled consistently throughout his life.

Perhaps the strongest incentive for godly living is the impact of a father's example on his child. From King Solomon we know that "the glory of children is their father" (Proverbs 17:6), and children do indeed "glory" in their father when his example is good and godly. They will, like me, desire to follow his moral and spiritual model in their own lives and lead their own children in God's righteous ways.

Apart from his love for my mother,

my dad had three great loves in his life: God's Word, God's people, and God's work through ICR. He held Scripture in the highest regard and preached or taught God's people nearly every Sunday for well over 50 years. And with ICR, he accomplished what few others could do. He not only maintained the integrity of the marvelous work of his own father, ICR founder Dr. Henry M. Morris, but he even built upon it, enhancing nearly every facet of the ministry until bringing the ICR Discovery Center for Science & Earth History to fruition.

Through it all, my father's faith in God to provide and guide was his greatest testimony to me. And the Lord blessed! By His grace, Dad left ICR in excellent standing—completely debt-free, with new leadership in place and a dedicated staff committed to studying and proclaiming the truth of God's Word. ICR is stronger and more effective today because of his godly leadership—and this son can truly "glory" in his father.

God has used ICR to equip multitudes of fathers and grandfathers (and mothers and grandmothers, too!) with solid resources to help train their children in biblical truth. Perhaps our work has personally touched you in this way. Or perhaps like me, you have the tremendous privilege to glory in the godly legacy passed on by your father and grandfather. If so, ICR prayerfully invites your help in support of our ministry to "glorify the God and Father of our Lord Jesus Christ" (Romans 15:6). ✉

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



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GALATIANS 6:9-10

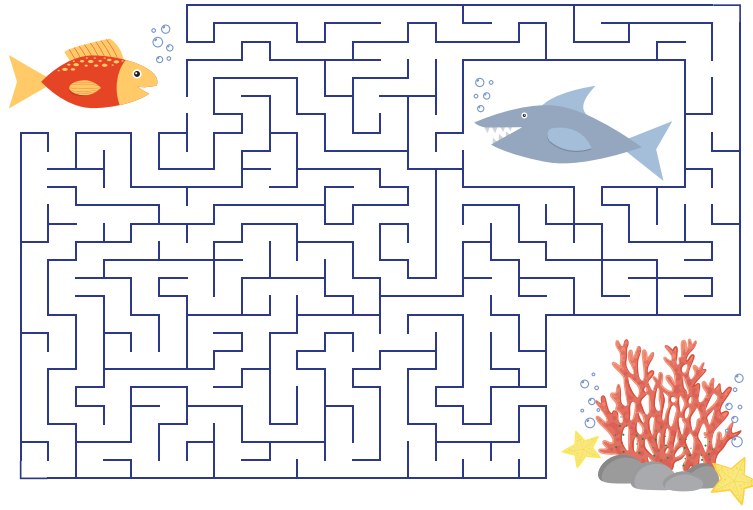
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Have you ever gone swimming near a coral reef? Coral looks like a kind of rock, but it's actually made up of tube-like animals called polyps. Jesus created them to come in beautiful colors like red, green, orange, and purple. Check out these other cool coastal facts!

- ✓ Coral reefs typically form in shallow ocean waters where there's sunny weather and lots of waves. The waves bring algae and zoo-plankton for the polyps to eat.
- ✓ Sea urchins, sponges, sea stars, clownfish, sharks, octopuses, sea horses, sea turtles, snails, and many other creatures make their homes in reefs.
- ✓ Reefs soften the impact of strong waves and storms on land.
- ✓ Some scientists think the biggest reefs took 100,000 years to grow. But how fast coral grows depends on things like sunlight, available food, and water temperature. That means all of today's reefs could have grown within the few thousand years since the global Flood.

Help the goldfish find the reef.



Unscramble the words below.

- psylop _____
- fere _____
- vvae _____
- lorca _____
- hrsaeose _____
- fscwlonih _____

Find these creatures in the coral reef below.



Answers: polyps, reef, wave, coral, seahorse, clownfish



BY CHRISTY HARDY AND SUSAN WINDSOR



Dear brothers and sisters, just today we received our home-school pack of resources. What a wonderful treasure! Not that I'm surprised.



Yours is a top-notch ministry second to none, and we have profited immeasurably already from the wealth of knowledge of your fine team.

We're so grateful for ICR. We pray for you and rejoice to support this most essential ministry.

— G. Q.



My hubby and I read a chapter in the Bible along with *Days of Praise* every night. Thank you, ICR!

— E. M.



Editor's note: Frank Sherwin spoke to a class of fourth graders at Covenant Christian Academy in Colleyville, Texas, via Zoom. They sent him several dozen thank notes. A few are below.

Mr. Sherwin,
Thank you for taking time out of your day to put together the amazing slide

show and presenting it to us! It means a lot to me. **Soon to be a scientist.**

— A. L. B.



I loved learning about all the things God created. I loved learning about the dragonfly and the bombardier beetle.

— C. H.

My favorite was the beetle that sprays water. I bet that hurt!

— H.



I would like to say "thank you" for all that you do in your amazing ministry.

I firmly believe that these times we are living in, with such advanced technology and scientific knowledge, it is important for Christians to be able to present the scientific validity of creation and Scripture. I am so

grateful for those who have allowed God to use their talents, gifts, and abilities to "follow the science" as it leads to the Creator and provide valuable tools to us lay people.

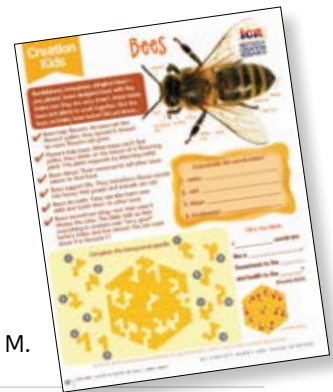
— R. R.



Thank you so much! I love this! When we homeschooled and before I was on

the computer...we used to be plugged into ICR and have purchased some of your books. Wow, [ICR] has grown and has an incredible website!

— C. O. M.



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