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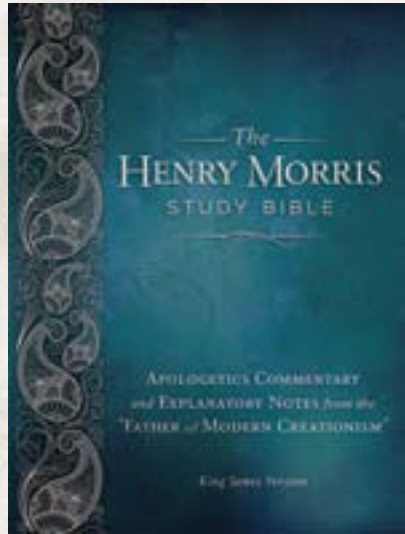
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IT'S ALIVE!

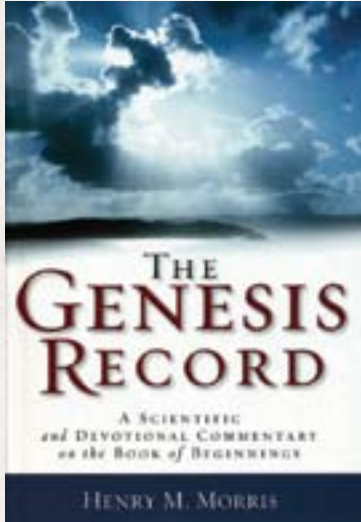
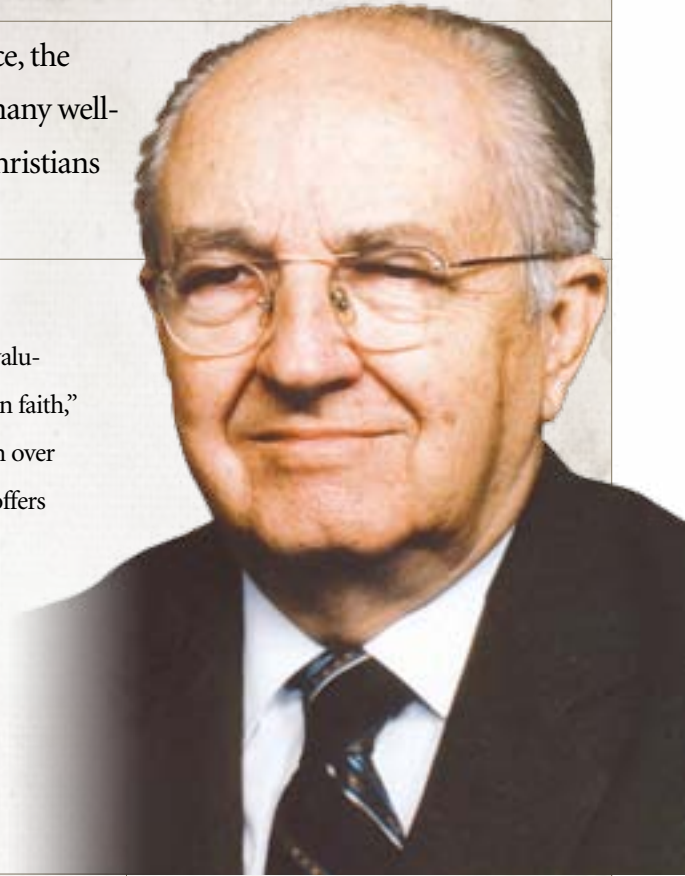
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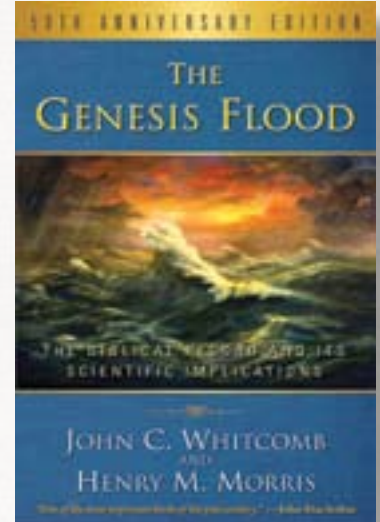
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The Breath of Life

Beeps and buzzers, bubbling machines and hissing pumps, rhythmic inhales and gurgling exhales, swishing pants and rubber soles squeaking on tiled floors—these are the sounds in a pulmonary ICU hospital unit. Every pulmonary patient has no doubt experienced the trauma of fighting for every breath. And they understand that every breath is precious. They know because every breath means another moment of life.

With the exception of the sterile hospital environment, Judah's King Hezekiah probably experienced something similar to this (2 Kings 20:1-3). We know that he was "sick unto death." Whether or not he struggled to breathe, we don't know, but we can be sure that he desired to have one more breath. Death was imminent, and he cried out to God—he wanted to live. And God granted Hezekiah's request, giving him 15 more years of life.

Scripture tells us that God formed man and "breathed into his nostrils the breath of life; and man became a living soul" (Genesis 2:7). When Jesus appeared to His disciples after the resurrection, He "breathed on them," saying, "Receive ye the Holy Ghost" (John 20:22). Although we can learn much from our teachers, we don't have to be pastors, theologians, or biblical scholars to figure out that these passages teach that life comes from God—we live because He first breathed the sacred breath of life into us.

This issue of *Acts & Facts* focuses on life,

from the complexity of the tiny cell to the infinite magnitude of eternal salvation through the shed blood of the Lord Jesus Christ. Dr. Henry Morris' article "It's Alive!" points out that all life comes from God. Dr. Morris also discusses the criteria for life. He details the distinctions and significance of four unique characteristics of life and explains the importance of understanding what determines life.

We also highlight ICR's new book by Dr. Jeffrey Tomkins, *The Design and Complexity of the Cell*. Dr. Tomkins and his colleagues provide insight into the processes of life at the most intricate level and help us to see the obvious hand of our Creator in the "things that are made" (Romans 1:20). Witnessing God's incredible design enables us to better understand the wonder of His creation and deepens our appreciation for the life He has given.

Both the recovering ICU patient who walked out of a hospital and Judah's King Hezekiah who enjoyed 15 additional years of life shared the privilege of another breath, another day, another opportunity to live for their Creator. But we don't have to wait for a critical illness or a catastrophic event to learn to appreciate life. Instead, we can look around and see the glorious work of our Creator, we can slowly inhale and exhale, and we can be grateful. We can know that every breath is precious because it represents the blessing of another moment—it's evidence of the gift of life.

Jayme Durant
ASSOCIATE EDITOR

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IT'S ALIVE!

HENRY M. MORRIS III, D.MIN.

“Look! It’s moving.
It’s alive...it’s alive, it’s alive,
IT’S ALIVE!”²¹

—DR. HENRY FRANKENSTEIN

Those highly charged words from the classic 1931 horror film *Frankenstein* reflect a basic awareness about living things—they move! Obviously, that single quality is not sufficient to define life, but it does identify a major component and, at the same time, exclude many other “things” in our universe from the category of living creatures.

Just what does the Bible have to say about life? Or, perhaps more to the point, what makes something “alive”? The more we dig into the mechanics of molecular biology, the

more our awe increases at the amazingly complex processes on which life is based.

Poor old Dr. Frankenstein stitched together bits and pieces of various “fresh” human parts in hope that he could energize them with the terrible force bound up in lightning flashes during a thunderstorm. We know now that such an effort is silly, but less than a hundred years ago those concepts were the staple of theories that attempted to find a natural explanation for how life got started.

The Bible simply states that the One who is Life created life.

But how can we recognize life? What is the difference between botany and zoology? What makes the cell in a petunia different from the cell in a platypus?

Life is unique.

“And God created...every living creature that moveth” (Genesis 1:21).

Obviously, animal and human life are different from plant life. In fact, the Bible uses the Hebrew word *chay* (life) and its derivatives 763 times in the Old Testament, never applying that term to plants or vegetation. No place

in Scripture attributes *chay* to plants; only living creatures possess life.

Plants are indeed marvelous, beautiful, complex, and able to reproduce “after their kind,” but they are designed by the Creator to be a source of energy to maintain life. Plants are food—they are not alive.

Life has independent movement.

This may seem like either an obvious point or an irrelevant one. However, one of the descriptive terms that the Creator applied to living creatures was “movement.” The Hebrew word is *ramas*, used 17 times in the Old Testament—never about plants or vegetation of any kind. Living things move.

And living things eat plants! Plants do not travel from one location to another, except on the backs of animals, blown on the wind, or transported by men. They are “rooted.” They do not have the power of *ramas*. Living things have the ability to move independently, but plants do not.

Life has blood.

“For the life of the flesh is in the blood,” God announces in Leviticus 17:11. The Mosaic law was centered on blood sacrifice, requiring the “shedding of blood” by killing (executing) an innocent animal for a temporary substitutionary atonement (covering) of the sins committed. Blood is the life source of all living things.

God rejected Cain’s offering because plants were not living creatures that could function as temporary sacrifices—the covering for sins (Genesis 4:3-5). The pattern and teaching were clear from the very beginning. God made a covering from the skins of animals for Adam and Eve (Genesis 3:21). An innocent living creature (recognized as living because its blood could be shed) was the only God-ordained substitute for the sin condition of humanity.

The whole Christian gospel is founded on the necessity of the shedding of the Messiah’s blood during the crucifixion as evidence that His life was given on behalf of the “sins of the whole world” (1 John 2:2). The death of Jesus Christ was made necessary because “it

is not possible that the blood of bulls and of goats should take away sins” (Hebrews 10:4).

The concept is simple. If a moving creature has blood, then it is alive.

Life has soul and spirit.

There are two other properties identified in the Bible that living things do not share with plant material. The Hebrew word *nephesh* is used 753 times in the Old Testament and is most often translated as the English word “soul.” There is no doubt that the term speaks of a noncorporeal part of life—perhaps best equated with the self-conscious awareness that “I” exist. We may talk to the spinach in our salad or the tree that we climb or the flowers in our garden, but they do not hear us.

Blood is the life source of all living things.

The other noncorporeal Hebrew term is *ruwach*. Of the 389 times the word or its derivatives appear in the text of the Old Testament, it is most often translated “spirit.” These two terms seem to differentiate between an emotional part of life and an intellectual part, and neither of these terms is ever connected in the biblical text with plants or vegetation in any way.

Why the distinction?

Evolutionary dogma insists that everything that exists is connected to the basic elements of the universe. Evolutionists claim that life is connected through a “common ancestor” in the distant eons—through the first cell that became enabled to reproduce itself by the random interplay of atoms. According to that definition, “life” is anything that can reproduce. Thus, everything that grows on our planet is our brother, and humanity is nothing more than a highly evolved arrangement of organic chemicals.

If that were the only battle to fight, the scientific accuracy of the creationist model would be rather easy to demonstrate. In spite of the generations-long effort of the academic

world to foist evolutionary naturalism on the world, 46 percent of the U.S. population still believes that “God created human beings in their present form at one time within the last 10,000 years” (Gallup poll released June 1, 2012).² Intuitively and observationally, people “know” that plants and animals are not the same and that human beings are vastly different from everything else on the planet.

The challenge comes within Christian scholarship. Groups such as BioLogos and a growing list of Christian schools and universities have bought into the terrible lie that plants are just as much alive as humanity—that we “kill” plants before we eat them. While that idea may seem innocuous (after all, we do kill animals before we eat them), the implications and applications are enormous!

If we do indeed “kill” (take the life of) plants as we consume them, then God Himself authorized that killing. He specifically designed plants as food (Genesis 1:29) and drew a strong distinction between food and the “life” of everything else (Genesis 1:30). If God authorized the “killing” of plants, then God designed death into the very essence of the creation—and pronounced it all “very good” (Genesis 1:31).

Here’s the heresy: If God designed death into creation, then death is as “good” as all other factors—and the atheistic evolutionary doctrine is right. Death is the “good” force that brings about the ultimate “fittest” in our universe. Death, therefore, is not “the wages of sin,” and our Lord Jesus’ death was not necessary for salvation—it was just the wasted effort of a deluded martyr.

These teachings cannot be harmonized. Either the Bible is Truth (capitalization intended) or it is Error. The choice is clear. The message is clear. The effect is eternal! ●

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1. *Frankenstein*. 1931. Directed by James Whale. Universal Studios.
2. Newport, F. In U.S. 46% Hold Creationist View of Human Origins. Gallup Politics. Posted on gallup.com June 1, 2012, accessed on June 14, 2012.

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THE IMPORTANCE OF CREATION RESEARCH

J A S O N L I S L E , P H . D .

All science is creation science. Science is possible precisely because God upholds the universe in a consistent way that the human mind can (at least partially) understand. If the universe were merely the result of chance, then there would be no reason to expect it to obey laws. Even granting the existence of laws, there would be no reason to think that such laws would be mathematical in nature or understandable by the human mind. Nor would there be any reason to expect any kind of consistency in those laws over space and time. (Why would the same laws that apply on earth today also apply on Mars next Thursday?)

The existence and properties of laws of nature are the expectation of the biblical creationist, but make no sense in an evolutionary worldview. Therefore, the fact that science is possible is a powerful confirmation of biblical creation. Even when evolutionists make a scientific discovery, they are inadvertently confirming creation because such a discovery would not be possible if God were not upholding the universe in a logical and understandable way. Every single scientific discovery that has ever been made is a confirmation of the Christian worldview. This is one of the reasons why we do science. It honors God.

Of course, not all scientists do research in a God-honoring way. Many of them simply take for granted that the universe obeys consistent, invariant laws of nature without recognizing that such organization comes from God. They know in their hearts that God exists and is the Creator of all, but they suppress what they know to be true and do not honor God for His faithfulness in upholding creation (Romans 1:18-21). Secular scientists are inconsistent. They expect the universe to behave in a logical, consistent way since they know in their heart-of-hearts that it is upheld by the power of God. Yet, they profess that the universe is not upheld by the power of God.

Creation research can help expose secular inconsistency. A number of specific lines of evidence in geology, biology, astronomy, physics, and chemistry are very difficult to explain from an evolutionary perspective. Things like C-14 in diamonds, backward-rotating planets, irreducible complexity in cells, inconsistent radiometric age estimates, and many other facts are very puzzling from an evolutionary point of view, but make perfect sense in light of biblical creation. Since a devout evolutionist can always invoke an auxiliary hypothesis to explain these data, we do not use these scientific evidences to prove creation in an absolute sense. But we can certainly use them to get people thinking and to show some serious difficulties with evolution.

However, to use such lines of evidence, we must be as certain as possible that we understand the data. This involves rigorous and repeated observation and experimentation. Sometimes people are inclined to repeat something they have heard someone else say, without really checking to be sure that the claim is truthful. But Christians are called to a higher standard. We want to be accurate in everything we do. And so we subject every new claim to rigorous analysis and testing and publish the results in peer-reviewed literature, so that other experts in the field can check for potential problems.

Why is it that ICR scientists spend so much time and effort scrutinizing every little detail of data for absolute accuracy? It is because we are followers of Christ. "Accurate" basically means "true." And since Christians follow Christ, who is the *truth*, all Christians should be concerned for accuracy and should have the highest regard for creation research. ●

Dr. Lisle is Director of Research at the Institute for Creation Research and received his Ph.D. in Astrophysics from the University of Colorado.



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THSC Family Conference 2012
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■ AUGUST 3-4

Sugar Land, TX
First Colony Bible Chapel
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■ AUGUST 7

Farmers Branch, TX
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Science Meeting
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■ AUGUST 8

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Biblical Truth *in* High Definition

JAMES J. S. JOHNSON, J.D., T.H.D.

The stunning clarity of HD television has revolutionized our way of viewing the world around us. Those of us old enough to have grown up with basic black-and-white TV know that the introduction of color to the screen—and now high-definition color—brings superior clarity to the people, landscapes, action, and much more in our new wide-screen experience. The story (i.e., the dialogue, character movements, etc.) is still the same as it was in the old black-and-white box, but our senses are immediately aware of the richer details that we now can see. Color makes all the difference in the world, and HD gives sharpness and clarity to the minutest details of the images moving before us.

Similarly, our study of Scripture can be wonderfully enhanced by digging into the goldmine of original word studies, revealing to us a deeper comprehension of the meaning of words and phrases as biblical stories unfold before us. Every word, even the “jot and tittle,” is vital because it was God-breathed. So every detail of the original language is key to our understanding and appreciation of what God is communicating to us.

Sometimes that extra detail is helpful for clarifying topics highly relevant to biblical apologetics. Hebrew word studies help explain the literal meaning of specific Bible passages. The details that God provides are sometimes like buried treasures, waiting for us to uncover them by taking a closer look at the detail-rich meanings of the original words. We can be sure that a glimpse into the profound meanings hidden beneath the surface words will inspire awe as we approach our study of the Word of God.

Three word studies that bolster our defense of biblical truth appear in Psalm 139:15, Genesis 8:3, and Genesis 1:1. Each verse offers much more than we can comprehend with just a cursory look at those passages.

God used “needlework” to build babies in the womb.

Why would King David refer to a baby in the womb as being knit or woven together like a piece of needlework? David was not privileged to know about DNA, RNA, protein synthesis, or how a baby’s bodily tissues are knit (or woven) into their respective places as parts of a growing unborn baby.¹

Even the King James translators, who typically translated Hebrew words as literally as possible, appear to have shied away from the literal Hebrew of Psalm 139:15 that they translated as:

My substance was not hid from thee, when I was made in secret, and *curiously wrought* in the lowest parts of the earth [emphasis added].

The passive verb translated by the English phrase “curiously wrought” is a form of *raqâm*, paralleling that verse’s earlier (and more general) passive verb “made.” But what does *raqâm* mean?

Ultimately, the authoritative meaning for any biblical word is the meaning that Scripture itself uses for that word. To discern God’s meaning for the words He uses, we compare Scripture with Scripture.

If we review every use in the Bible of the Hebrew verb *raqâm*, what do we observe? The verb *raqâm* appears nine times. Eight are translated as “needlework,” “needleworker,” or “embroiderer.”²

Did King David know modern science when he chose to use the verb *raqâm* to describe how a baby is knit together in his or her mother’s womb? No. But God the Holy Spirit, who inspired David to write Psalm 139, knew all about how babies are procreated and developed inside a human mother. So, it is no surprise that David, who was divinely inspired to accurately describe an embryonic baby’s development, used such literal terms:

Did King David know modern science when he described how a baby is knit together in the mother’s womb?

Next comes a marvelous verse, long anticipating modern science. “My substance was not hid from thee, when I was made in secret, and curiously wrought” [quoting Psalm 139:15]. The mysterious process was one of “embroidering” (the literal meaning of the striking phrase “curiously wrought” is “embroidered”). It is as though a form were being sewed onto an intricate and beautiful pattern already laid out. This is an accurate description of the remarkable process of embryonic growth as delineated by modern molecular biology. The pattern in the DNA molecule is an intricate double-helical structure, which serves as a template for specifying and building up, cell by cell, the final adult body. It is an amazing process, which modern geneticists are only beginning to understand, but it was outlined here in Scripture almost three thousand years before it began to be understood at all.³

The related noun *riqmah* that is derived from the verb *raqam* portrays the same idea of embroidery, sewing, cross-stitching, or some other kind of needlework.⁴ What amazing detail!

God used “back-and-forth” motion to wash the world as the floodwaters drained.

Another word study provides insight to creation apologetics—the worldwide Flood’s drainage (Genesis 8:3) was anything but “tranquil.”⁵ Specifically, the draining floodwaters were geographically “returning... continually,” according to the Hebrew phrase *halôkh vashûbh*, literally portraying ocean tides swaying in a “back and forth” rhythm (continually going forth and returning)—denoting continuous “going and returning” action. Notice how the biblical text’s precision in Genesis 8:3 matches the geologic evidence, as we have previously reported.^{5,6}

God overruled Hebrew grammar rules to teach Trinitarian theology.

Hebrew word studies demonstrate their value in the Bible’s first verse: “In the beginning God created the heaven and the earth.” The subject is “God,” translating the Hebrew text’s plural noun *Elo-hîm*. The action verb is “created,” translating the Hebrew text’s singular verb *bara’*.

What a grammar teacher’s conundrum! A *plural* subject noun with a *singular* verb!

Yet what better way to foreshadow the Bible’s Trinitarian theology of God’s being? This is clarified later in Scripture, of course, as the Great Commission illustrates,⁷ but the doctrine is introduced in Genesis 1:1. The universe’s Maker is plural, yet one.

God created directly, but not “intensively.”

Genesis 1:1 has more to say about God’s first action as Cre-



ator—informing us about what God’s action of creating was and what it was not.

Hebrew verbs usually appear in one of these seven basic forms: *qal* (simple active), *niphâl* (simple passive), *piël* (intensive active), *puâl* (intensive passive), *hiphîl* (causative active), *hophâl* (causative passive), *hithpaël* (active and passive combined—i.e., your action directly impacts yourself, like combing your own hair).⁸

Genesis 1:1 uses a singular masculine *qal* verb, *bara’* (“He created”). So what does that tell us about God’s action?

From God’s perspective, His action of creating was “simple”; it was not “intensive” work. Astoundingly, *God did not work very hard* to decree into existence, from nothing, all the heavens and earth!

Also, God’s work of creating was not merely “causative.” God acted directly, not merely as a first cause instigator triggering a long series of dominoes.

Furthermore, because the verb *bara’* is a perfect verb, the action of creating is reported as *completed*—finished! That specific work of creation that God did on Day One needed no further *ex nihilo* (out-of-nothing) creating. And that was just the beginning! The next five days involved developmental use of Day One’s creation, providing us with many more biblical

Word study provides insight to creation apologetics—the worldwide Flood’s drainage was anything but “tranquil.”

word study opportunities in Genesis.

The rest of Scripture also offers a legacy of word study gems, waiting to be mined. A wealth of hidden treasures awaits those who take the time to look closer. Our understanding of the Word of God is enhanced—much like our perception of the screen when we look at a high-definition color television—when we study the original language text of the Bible. ●

References

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2. The Hebrew active participle form of *raqam* translates as “needlework” or “needleworker” in Exodus 26:36; 27:16; 28:39; 36:37; 38:18; 39:29. “Embroiderer” is likewise used for *raqam* participles in Exodus 35:35; 38:23. The only time that the verb *raqam* is translated “curiously wrought” is in Psalm 139:15, where the verb is in the *puâl* (intensive passive) form.
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6. Technically, these linked Hebrew verbs (*halôkh vashûbh*) are infinitives that function as participles denoting *durative* action.
7. Notice that the Great Commission (Matthew 28:18-20) commands baptism in “the name” (singular—not “names”) of God the Father, Son, and Holy Ghost—three in one.
8. Another form is the *poël*, denoting continuous action.

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WHY IS MODERN COSMOLOGY SO **WEIRD?**

J A K E H E B E R T , P H . D .

Cosmology is the study of the origin and structure of the universe. Because the Big Bang is the dominant cosmological model, most astronomers interpret all their observations to fit this paradigm.

Big Bang cosmology is filled with a number of strange concepts, including *inflation*, *dark energy*, exotic forms of *dark matter*, and a *multiverse*. While valid scientific concepts such as quantum mechanics and relativity can indeed seem strange or counterintuitive, strange notions can *also* result from attempts to prop up a dying theory. Much of the weirdness of modern cosmology stems from an attempt to force the data to fit the Big Bang. Cosmology can be somewhat intimidating to non-specialists, but when one considers the reasons that Big Bang cosmologists invoke strange concepts like inflation, it quickly becomes apparent that the Big Bang is in trouble.

The Big Bang starts with the *assumption* that there are no special places in the cosmos.¹ Since an edge or center would be a “special” place, then this implies that the universe has no edge or center.²

The assumption that there are no special places in the cosmos leads to three possibilities for the “curvature” of the universe, which would imply that space can be “flat,” “spherical,” or “hyperbolic.”^{3,4} A “flat” space would have a 3-D geometry analogous to the 2-D geometry of a flat sheet of paper. Likewise, the geometries of “spherical” and “hyperbolic” spaces would correspond to the geometries of the surface of a sphere and the surface of a saddle, respectively. In a flat space, parallel light rays never intersect, but they eventually converge or diverge in spherical and hyperbolic spaces, respectively. When you look at an object, that object is characterized by an angular size (for example, the angular size of the moon is about half a degree). If space were spherical or hyperbolic, this would cause an object located at a very great (cosmological) distance from us to have a different *angular size* than it would in a flat space at the same distance. In other words, the object would appear larger or smaller than it really is. In a flat universe, the angular size of a very distant object would be undistorted.

MUCH OF THE WEIRDNESS OF MODERN COSMOLOGY STEMS FROM AN ATTEMPT TO FORCE THE DATA TO FIT THE BIG BANG.



Long wavelength, nearly uniform electromagnetic radiation (microwave radiation) comes to us from all directions in space. Within the Big Bang model, this *cosmic microwave background* (CMB) radiation is interpreted to be “relic” radiation from a time about 390,000 years after the Big Bang. Within the CMB are hotspots, regions characterized by slightly higher than average temperatures. If you could

see one of these hotspots with the naked eye, it would have an angular size in the sky. The Big Bang predicts that the dominant CMB hotspots should have an angular size of about 1° if the universe is flat. Since the dominant hotspots typically *do* have an angular size of about 1°, Big Bang cosmologists have concluded that we live in a flat universe.⁵ But this prediction is based squarely on Big Bang assumptions. In other words, if the Big Bang is not true, then we could still have 1° hotspots in a universe that is *not* flat.

Cosmologists estimate the current value of the mass density ρ_0 of the universe, the average amount of mass within a given volume of space. When determining ρ_0 , cosmologists must take into account *both* matter *and* energy. This is because energy has mass, according to Einstein’s famous equation $E=mc^2$. Within Big Bang cosmology, there is a special “critical” density of the universe, ρ_c . A flat universe would imply that ρ_0 *must* equal today’s value of ρ_c .

Observations suggest that ρ_0 is much less than this critical density ρ_c .⁶ Since secular cosmologists have already concluded that the universe is flat, they have also concluded that ρ_0 *must* equal ρ_c , which implies that some undetected energy making up this apparent deficit must exist. Thus, “dark energy” is invoked, which is said to account for about 70 percent of the universe’s total energy.⁷

This dark energy is thought to be the cause of an acceleration or speeding up of the universe’s apparent expansion rate, as determined by observations of distant supernovas.^{8,9} However, George Ellis, one of the world’s leading cosmological theorists (and co-author with Stephen Hawking of a classic relativity and cosmology text¹⁰), has noted that effects caused by spatial inhomogeneities could be causing cosmologists to “see” an acceleration that doesn’t really exist.¹¹

A flat universe presents a problem for the Big Bang, since this requires ρ_0 , today’s value of the average mass density ρ , to equal the current value of the critical density ρ_c . Within the Big

Bang, if $\rho = \rho_c$ *today*, these quantities must also have been equal shortly after the Big Bang, despite the fact that ρ would have decreased over time in an expanding universe. This is because even tiny deviations of ρ from ρ_c would have quickly been amplified. If the early universe’s ρ had been smaller than that epoch’s value of ρ_c , the universe would have expanded too quickly to have even a hope of galaxy formation, but if ρ had been larger than ρ_c , the universe would have quickly collapsed in a “Big Crunch.” Avoiding these extremes requires ridiculous fine-tuning—immediately after the Big Bang, ρ and ρ_c had to agree to more than 50 decimal places!¹² This is obviously problematic for those seeking to explain our existence apart from our Creator!

This problem is accompanied by the “horizon” or “isotropy” problem: The CMB coming from one part of the sky is nearly the same as the CMB coming from another part of the sky. This implies that widely separated parts of the alleged “primeval fireball” were at essentially the same temperature. However, because of the presumed random conditions in the early universe, widely separated regions of the fireball should have been at different temperatures. These widely separated regions could end up at the same temperature if electromagnetic radiation had travelled from warmer to cooler parts of the fireball (much in the same way that you can be warmed by the radiant energy from a fire). However, because all electromagnetic radiation travels at the speed of light, even 13.7 billion years (the alleged age of the universe) is insufficient time for electromagnetic radiation to travel between such widely separated regions of the universe.¹³ Skeptics often use the apparent difficulty of seeing distant starlight in a 6,000-year-old universe as an argument against biblical creation, but the Big Bang has its own version of this light-travel and time problem!¹⁴

Another difficulty is the “magnetic monopole” problem. Certain theories in particle physics, called *grand unified theories* (GUTs), propose that three of the fundamen-

tal interactions merge at a very high energy. Together, the Big Bang and GUTs predict that the universe should be filled with magnetic monopoles—magnets each having only one

THE BIG BANG HAS ITS OWN VERSION OF LIGHT-TRAVEL AND TIME PROBLEM!



magnetic pole.¹⁵ But no one has ever observed even a *single* magnetic monopole. One does not need to understand all the details of GUTs to realize that this is potentially a very embarrassing problem for the Big Bang!

To solve these problems, theorists proposed *inflation*—an extremely rapid, short-lived increase in the expansion rate of the very early universe. Inflation seems to drastically reduce the need for extreme fine-tuning of ρ . Supposedly, inflation expanded space so much that it appears flat to us, even though it may not be, much in the same way that even a sphere seems flat when viewed from up close. Likewise, inflation appears to solve the “horizon” problem. Inflation is thought to have caused space to expand so rapidly (faster than the speed of light¹⁶) that regions of space that *could* “talk” to one another in the very early universe became so widely separated that such “communication” is no longer possible today. Finally, inflation’s dramatic expansion in the size of the universe supposedly diluted the magnetic monopole density so that we (conveniently) do not observe any of the “missing” magnetic monopoles predicted by GUTs and the Big Bang.

Big Bang proponents acknowledge that they do not have direct evidence for inflation, although they are looking for it.^{17, 18} This is not surprising, given that inflation was not a prediction of the original Big Bang model, but was rather an *ad hoc* idea that was required to solve these serious (and even fatal) difficulties in the Big Bang.

Theorists eventually concluded that their early ideas about inflation were too simplistic. More recent views of inflation suggest that inflation would not stop all at once, but that different regions of space would stop inflating at different times. This would produce infinitely many “bubble” or “pocket” universes of which our universe is only one in a vast *multiverse*.¹⁹

If this weren’t strange enough, the Big Bang also leads to the conclusion that most of the matter in the universe is *not* the “normal” atomic matter with which we are familiar. One of the arguments for the Big Bang is that it appears to be able to account for the relative abundance of the “light” chemical elements such as hydrogen, helium, and lithium. However, the nuclear recipe that accounts for the abundance of these light elements also fixes the total number of protons and neutrons (classified as *baryons*) generated by the Big Bang. Since atoms contain protons and neutrons, atoms are classified as *baryonic matter*. Observations suggest the possible existence of large amounts of non-luminous dark matter in addition to the luminous matter (stars and luminous gas) that we can observe. The ratio of total matter to visible matter is often claimed to be roughly ten to one,²⁰ which implies that dark matter would account for about 90 percent of the matter in the universe. Accounting for this “missing” dark matter is quite difficult, which is why both creationist and evolutionist cosmologists have suggested that what we perceive as large amounts of dark matter may actually result from unknown physics.^{21, 22}

Dark matter presents special problems for the Big Bang, however, because the Big Bang can only generate enough protons and neutrons to account for about 20 percent of all the matter that is thought to exist.²³ About half of this 20 percent would be the luminous baryonic matter that we can see, and the other half would be some form of baryonic dark matter. Thus, Big Bang cosmologists must claim that the remaining 80 percent of all this matter is dark matter that is *not* made of atoms. Because of the difficulty of accounting

for such enormous quantities of non-baryonic matter, Big Bang cosmologists invoke exotic hypothetical (and unobserved) forms of matter such as WIMPs (Weakly Interacting Massive Particles).²⁴

In short, a good deal of the weirdness of modern cosmology stems from acceptance of the Big Bang and *ad hoc* concepts that are required to prop it up. One cannot help be reminded of the words of an old poem—“Oh, what a tangled web we weave.”²⁵ ●

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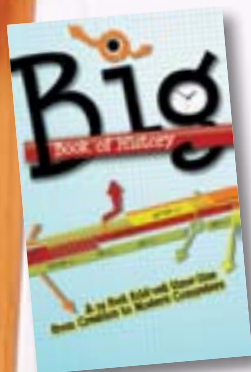
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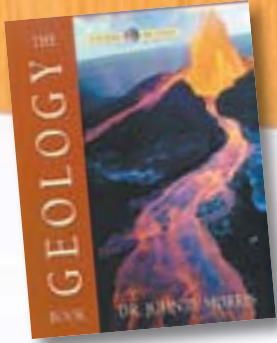


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CAVITATION

J O H N D . M O R R I S , P H . D .

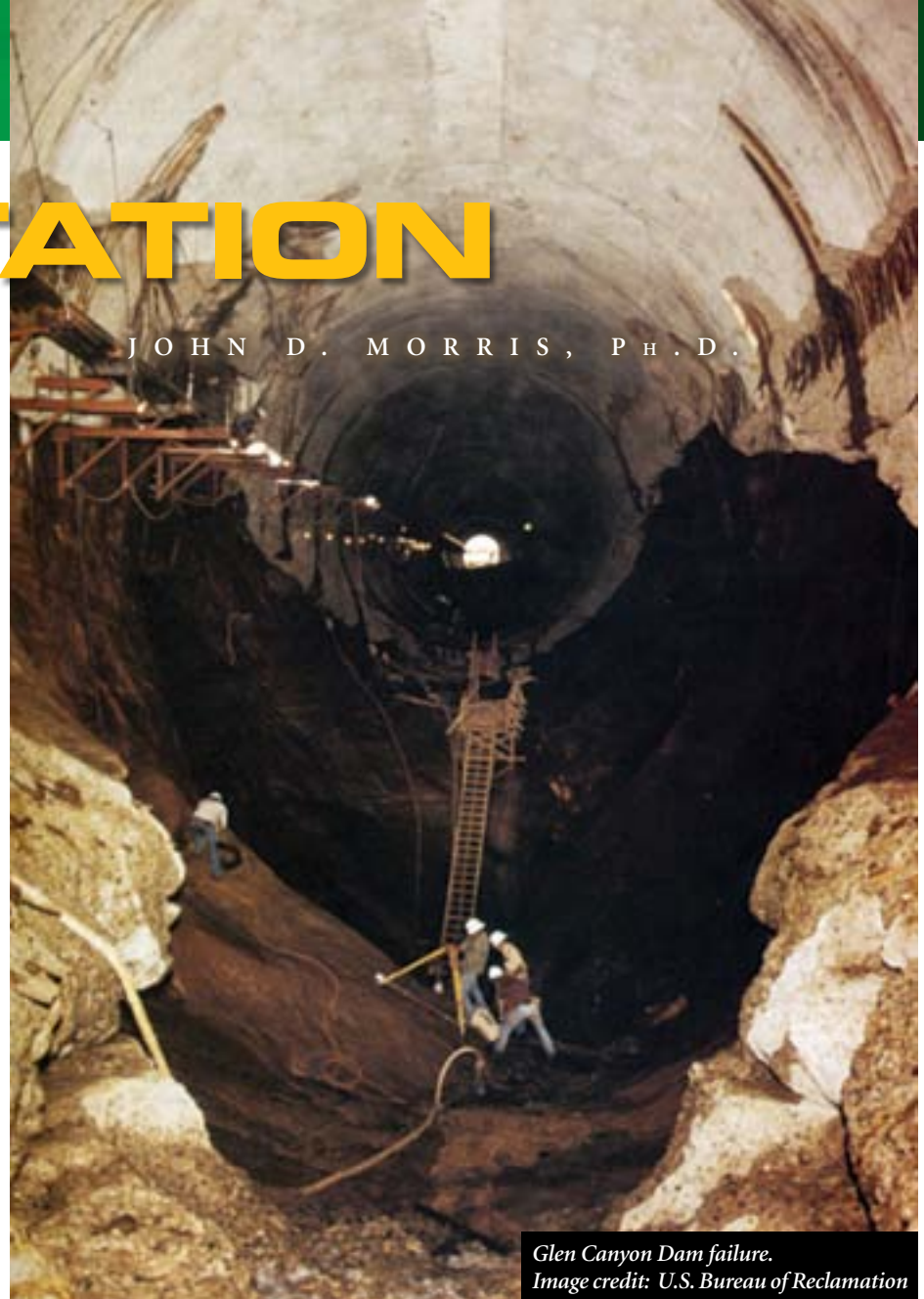
One glance at Grand Canyon evokes wonder at the extensive erosion that occurred—but the canyon is only the final whisper of a grand-scale event. The massive erosion episode leveled off and gouged out the Colorado Plateau, covering much of Arizona, Utah, New Mexico, and Colorado. The present-day Colorado River hardly seems capable. Something of a much larger scale accomplished this!

Creationists assign most sedimentary rocks to the great Flood of Noah's day, which then eroded as the Flood ended and the waters rushed off the rising continents. Seeming problems arise in attributing all this erosion to the short time period assumed for the Flood and the centuries following. What could have accomplished this?

Cavitation, a process well-studied by engineers and geologists today, is known to be quite capable of eroding huge volumes of rock and concrete quickly. As water moves at a high velocity over a rough surface, vacuum bubbles form and implode with such a great force that they fracture the adjacent rock, thereby accelerating erosion. The U.S. Army Corps of Engineers reckons that cavitation was the culprit that eroded enormous thicknesses of reinforced concrete and the surrounding rock under a spillway draining Glen Canyon Dam in 1983, just upriver from Grand Canyon.

The dam had been constructed to protect the Colorado River and Grand Canyon below from intermittent water floods. But spring runoff was threatening to overtop the dam and send enormous volumes of water downstream, possibly inflicting much damage to the dam and inhabitants below. To minimize the damage, the overflow spillways were opened, draining the excess water in a controlled fashion. Soon, clear lake water gushed from the tunnels as if from a giant hose.

On June 15, 1983, after four days of release, the lake level continued to rise, and flow



Glen Canyon Dam failure.
Image credit: U.S. Bureau of Reclamation

through the spillway increased. All appeared to be going well, but seismographs sensed that something more substantial was happening underground. Suddenly, the exiting water turned muddy red—the color of the underlying rock—and huge chunks of rock and concrete were thrown out.

Before they could close the spillway, water flowing at a rapid velocity had eaten through the spillway's thick reinforced concrete casing and opened a huge chasm in the rock beneath. Within minutes, a cavern 32 by 40 by 150 feet had been excavated. Cavitation had eaten through the three-foot-thick, steel-reinforced concrete lining of the tunnel and into the underlying rock. It is possible that cavitation was pulverizing concrete, steel, and sandstone at a rate in excess of 1,000 cubic feet

per minute during the peak period of erosion. Sixty-three thousand cubic feet of concrete was required to fill this enormous hole.

Never again can we doubt that dynamic moving waters are capable of doing extensive geologic work in a hurry, even under “normal” conditions. We are still left to ponder the effects of the much more intense great Flood, which would have produced erosion on an even grander scale with waters flowing at much greater sustained volumes and velocities.¹ ●

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Leakey and “Human Evolution”

FRANK SHERWIN, M.A.

Atheist Richard Leakey is an authority regarding the tenuous idea of human evolution, working tirelessly to establish human evolutionary roots in Africa.

This past May at an evolution-promoting event, Leakey stated that sometime in the next three decades evolution will become so established that “even the skeptics can accept it.”¹ But skeptics of evolution see only an anemic defense² coupled with the atheists’ philosophical need to assert that solid rock became people, animals, and plants.³ However, science provides no reason for Darwin’s theory of “descent with modification”—particularly in the field of human evolution.⁴ In fact, only 15 percent of Americans agree with Leakey’s secular proclamation of man’s origin.⁵

Leakey lectures the public by saying that those who deny evolution also deny science, giving the common example of new diseases that are “evolving.” This is a “bait-and-switch” ploy—no one would deny gravity and slight biological variation (science); so how could anyone deny that all living things came from inanimate “ancestors” (evolution)?

Troubling, also, is Leakey’s non-definition of the word “evolution,” upon which hangs the origins debate—“If you don’t like the word evolution, I don’t care what you call it, but life has changed.”¹

Liking or not liking a certain word is not the issue, but in science adequately defining a key word is mandatory.⁶ Living things undoubtedly change, but they exhibit only variation within discrete kinds of plants and animals in the fossil record⁷ and in experiments.⁸ Observable, vertical evolution always eludes evolutionists.

Is Leakey correct in maintaining that people evolved from ape-like ancestors? Let’s ask his fellow Darwinists.

Science writer Jennifer Viegas said, “The last common ancestor of chimpanzees and humans remains a holy grail in science.”⁹ Six evolutionists stated, “Evidence of humans from this period is sparse and controversial.”¹⁰

An issue of *Scientific American* stated, “But with so little evidence to go on, the origin of our genus has remained as mysterious as ever,”¹¹ and a popular British magazine lamented: “We thought we had just about nailed human evolution, now everything is up for grabs again.”¹² A well-known paleoanthropologist at George Washington University said, “The origin of our own genus remains frustratingly unclear.”¹³

Not only does paleontology fail to document our ascent from animal ancestors, we also are not evolving *genetically*. Despite improvements in medicine, we are all subject to mutations that are building in the human genome, dooming it and, therefore, people to increasing genetic decay and degeneration.¹⁴ This is called genetic burden or genetic load, and



with time the problem gets worse as these mutations take us genetically downhill. Such an observation has not been lost to evolutionists, causing one geneticist to ask, “Why aren’t we dead 100 times over?”¹⁵

This is just another reason why man and “proto-humans” before him could not have lived for “millions of years.” A much better scientific and scriptural explanation would be that these mutations have accrued for over 200 generations of mankind since Adam and Eve, approximately 6,000 years ago. So, it would seem Leakey’s rosy “evolution-accepted-by-all” prediction will forever remain to be seen. ●

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Ways That Whales Display Their Creator

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

Scientists just discovered a body organ in the front and center of the lower jaw of the largest mammal that ever lived—the blue whale. All rorqual whales, which are a type of baleen whale, appear to have the special organ. Rorquals don't have teeth, but instead use comb-like bristles called "baleen" lining their giant mouths to retain tiny animals from sea water. In all the world, only baleen whales swallow huge gulps by "lunge feeding." Working in symphony with an array of rorqual-specific traits, the newly discovered sensory organ builds an even stronger case for their special creation.

American and Canadian scientists wrote in *Nature* that the new sensory organ informs the whale's brain of the resistance force placed upon its gaping mouth when lunge feeding.¹ It is very important for an animal that can generate over 1,140 horsepower, pushing 180 metric tons spread across an almost 100-foot-long body, to accurately judge resistance forces that could damage its skin and connective tissues as it engulfs and expels over 70 tons of krill-laden water in a single feeding event.² The unique organ also detects "dynamic rotation of the jaws during mouth opening and closure."¹

Baleen whales need many parts linked in precise proportions and strengths in order to lunge feed as they do. The *Nature* study authors listed these design characteristics:

- Comb-like baleen plates, slender mineralized keratin protein tubes, to filter out water during lunge feeding
- Folds of chin skin called "ventral groove blubber" greatly expand when they unfold like an accordion to collect whole schools of krill while the whale lunge feeds
- Newly discovered sensory organ collects, coordinates, and conveys vital pressure data to the brain
- Split jaw that is loosely connected to the skull suspends the ventral groove blubber and flexes under dynamic pressures
- Touch-sensitive organs called "vibrissae" that detect prey

But there are more. For example, rorqual tongues, which in the blue whale equal the weight of two adult horses, use well-organized counter-current heat exchangers that prevent vital body heat loss to mouthfuls of near-freezing waters.³

Long ages of natural processes could not have organized rorqual whale features because all the necessary traits were required for survival from its beginning. These whale feeding mechanisms are all-or-nothing systems. The *Nature* authors had difficulty describing rorqual whale evolution because no known blind and random natural process produces all-or-nothing systems—let alone those essential for life.⁴

They suggested that if the newly discovered organ evolved long before the other rorqual traits had emerged within whales, then it was

probably a "pre-adaptation for lunge feeding."¹ But how could natural forces that have no foresight prefabricate and maintain a machine part that would only function after generations of future whales had finally evolved the additional required machine parts?

The study authors suggested an alternative. Perhaps "the organ evolved in tandem with the ventral groove blubber and specializations in mandible morphology [lower jaw size and shape]."¹ Suggesting that "evolution" generated multiple well-fitted organs at the same time may be about as close as evolutionists can come to admitting the truth of creation.

The idea that

whale features changed "in tandem" with one another, all very quickly, comes close to creation, but also dovetails with other work on whale origins. Some scientists build evolutionary tree diagrams by comparing whale DNA sequence differences, and others create them by comparing fossilized and living whale skeletons. Most of these trees beg the question of whale evolution, and most trees contradict one another. But one study that compared fossil with DNA-based tree diagrams found something in common to both—whale shapes and sizes appear to have changed radically and rapidly a long time ago. "Evolution in early whales was explosively fast," but since then "they have not changed very much."⁵

So far, it appears that changes in whales happened "explosively

fast,” “in tandem,” and they have not happened at all in a long time. Does any of this match classical evolution’s description of eons of natural selection inevitably adding one tiny part at a time? Certainly not. But how is a Bible-believer and responsible scientist to understand whale changes?

First, no fossil, DNA, or other evidence suggests that whales evolved from any kind of non-whale. Since 1981, evolutionists have imagined that *Pakicetus* was a fully aquatic evolutionary ancestor of whales. Back then, it was only known from a fossilized partial jaw and teeth. But by 2001, “newly discovered fossils show that the first whales [*Pakicetus*] were fully terrestrial and were even efficient runners.”⁶ The supposed “first whales” turned out to be no more whale-like than golden retrievers.⁷

According to a leading evolutionary paleontologist, “Like the bats, the whales (using this term in a general and inclusive sense) appear suddenly in early

genes that appear to have been permanently damaged by accumulated mutations. Therefore, it is possible that baleen whale ancestors had the potential to generate offspring that build baleen or teeth or both.

Millions of years of natural selection of mutant whales could not have produced the well-coordinated whale features because, as described above, their all-or-nothing systems defy random and gradual origins explanations. Therefore, if modern baleen whales descended from very different-looking whales, then biological programming coordinated the “explosively fast” “tandem” changes. Perhaps whales changed in just a few generations according to adaptable, modular designs that God built in to the original whale kinds.¹¹ A kind Creator with infinite foresight would have equipped His creatures with the well-coordinated trait variations that “solve environmental problems, enabling them to fill” the seas.¹²

Which is more difficult: 1) building a machine that has integrated, interdependent parts that all work together to solve a problem, or 2) building a machine that can reproduce itself and, upon each reproductive cycle, deploy different sets of interdependent parts that work together to solve the same problem in different ways? Clearly, the latter requires a whole new level of engineering genius.

Since “God created great whales,” He deserves all the credit for designing the biological machinery required for rorqual feeding.¹³ He also deserves the credit for designing biological programming that specified coordinated trait variations within the created whale kind. “O the depth of the riches both of the wisdom and knowledge of God!”¹⁴ ●

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Tertiary times, fully adapted by profound modifications.”⁸ Of course, “Tertiary” sediments do not represent millions of years, but were deposited by abating waters late in the Flood year or by post-Flood catastrophes.⁹

However, evidence does suggest that whale kinds experienced radical body shape changes, and these illustrate God’s creative genius in an extraordinary way.

Living baleen whales have no teeth, and living toothed whales have no baleen. But remarkable fossil whales appear to have had both.¹⁰ Also, baleen whale embryos begin to build teeth, but they are resorbed before birth. They are necessary for proper jaw formation, but they could have fully erupted in distant ancestors. Baleen whales also have tooth-specific

LETTERS TO THE EDITOR

Thanks to Brian Thomas for a masterful summary of “Four Scientific Reasons That Refute Evolution” in the May issue of *Acts & Facts*. I believe you nailed the lid on the coffin of evolution in short order. In the 1970s, I met Dr. Henry Morris at a debate on [a university] campus. He completely overwhelmed the professors who defended evolution. Their colleagues criticized them for being unable to defend the theories of evolution. He was totally prepared, gracious, and very convincing. No one could effectively disagree with him. Thanks for your work!

— R.K.

The *Days of Praise* devotional is without a doubt the one with the deepest insights into the Word of God I have ever encountered. I read every one of them, underlining to the point that no one else could probably read them, and then file them for future reference. The *Acts & Facts* magazine is just wonderful and has been a real piece of my Christian education. I pass each one on to those I feel could profit from them. I would feel a great sense of loss if I could no longer receive these publications. God bless you richly for being available to the Holy Spirit to lead the body of Christ into the truth, which you are so unquestionably revealing through all your work.

— P.C.

I have seen a few of the short *That's a Fact* videos online, and I agree that this is the format needed for outreach today. I wholly support ICR's efforts! We still think your classic *The Genesis Record* is a keeper. Thank you, ICR, for all your efforts to magnify the name of the Lord, our Maker and Creator!

— S.M.

I have appreciated ICR materials since the 1970s. I used *Acts & Facts* as a part of my

teaching resource materials, along with Dr. Morris' book *Scientific Creationism* in my Biblical Creationism course that I taught for many years. I'm also glad I got to have fellowship with Dr. Morris during a summer [conference].

— C.L.

Thank you so much for your ministry. I receive your *Days of Praise* emails and use them daily as devotionals. Those emails have helped me read Scripture every day. I value the work you do to keep God's truth prevalent in the science community. Keep up the great work!

— N.W.

I am grateful for *Acts & Facts*. As a converted evolutionist, I appreciate your articles that show how science proves creation. I have kept those magazines, even the older ones. Thank you for your work in creationism.

— C.B.

Good to hear that Dr. Jason Lisle is working in your ministry. I have appreciated his messages in the past, and may his labor continue to prove productive for the Lord's ministry!

— F.R.

I would like to thank you for all the fantastic work that you do. I have become very educated from the information that you provide on your website, the handful of books that I have ordered from you, and your *Acts & Facts* publications. It is wonderful to see dedicated scientists upholding the truth of Scripture in their work and seeking to use science as a way of understanding God's creation, instead of the secular methods of simply trying to provide naturalistic explanations for everything.

— J.B.

I thank you for *Days of Praise*. When I read the meditation each day, my faith in Scripture is confirmed. Henry Morris' straight thinking has been my encouragement for years.

— G.R.

Thank you for teaching us so much about everything we have, everything we are, and our faith. I talk about faith issues to many people, and I am not afraid to speak because I know that what I am saying is the truth. Thank you, ICR—I have learned a lot from your articles. Keep up the great job.

— L.R.

Please accept my eternal thanks for your materials. They are read and used daily. I have nine children who are all creation believers—largely because of your ministry. Thirty years ago my oldest met evolution in junior high, and my frantic search for biblical help resulted in a phone call to Dr. Duane Gish. He helped me deal with the school. I pray for you, and I recommend your ministry and its publications every chance I get.

— J.O.

I greatly appreciate your ministry. I've utilized your resources very much, both in preaching and in teaching, over the past 22 years of my ministry. I anticipate getting *Acts & Facts* each month!

— G.W.

Six years ago, we moved back to India to [work in] a children's home and a related church ministry. *Days of Praise* is an enriching assistance to our spiritual lives.

— T.T., India

Have a comment?

Email us at editor@icr.org.

Or write to Editor,

P. O. Box 59029, Dallas, Texas 75229

THE MIGHT OF MANY MITES

HENRY M. MORRIS IV

Any simple Google search will produce millions of websites dedicated to charitable giving. It's astonishing how much information exists about this worthy cause. And while I could never visit them all, it does seem that most are devoted almost exclusively to "big money" donations. I suppose there is wisdom in that. After all, big money makes it possible for larger programs to reach more people. So bigger must be better—right?

The danger in this thinking is that larger programs always require bigger budgets, and bigger budgets demand more money to sustain larger programs, which...well, you get the picture. The resulting cycle can become self-destructive by shifting the ministry focus toward meeting budgetary goals, rather than concentrating on the true ministry the Lord called us to do. ICR strives mightily to not let that happen by remaining true to His Word, so that He, and only He, is glorified in the end.

Please don't misunderstand me—large donations are tremendously welcome additions to our ministry! Yet, we know that generous gifts are not possible for most. And in fact, gifts of any size can be unbiblical if given in the wrong spirit. Consider the words of our Creator as recorded in Mark 12:41-44:

And Jesus sat over against the treasury, and beheld how the people cast money into

the treasury; and many that were rich cast in much. And there came a certain poor widow, and she threw in two mites, which make a farthing. And he called unto him his disciples, and saith unto them, Verily I say unto you, That this poor widow hath cast more in, than all they which have cast into the treasury: For all they did cast in of their abundance; but she of her want did cast in all that she had, even all her living.

Christ was not impressed with the large amounts given by the rich because they "did cast in of their abundance" and had plenty left over to maintain their lavish lifestyles. Rather, Christ was so impressed by the widow's "farthing"—one fourth of a penny in the English monetary system—that He called His disciples over to point this truth out to them: God measures a gift not by its size, but by the motive in which it is given and the amount left un-given. The widow's two mites were more valuable than all other gifts combined because, in her poverty, she gave "all that she had, even all her living."

In this age when "bigger seems better," perhaps some have been reluctant to give "too small" a gift, believing such small amounts cannot do much good for the Lord's work. Yet, the widow's example clearly shows that God is not interested in size, but in motive and propor-

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(Galatians 6:9-10)

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tion. As such, consider the following: For those who are currently receiving our material but have not yet partnered with us, please know if only 10 percent gave \$10 per month, the Lord would use you to increase ICR's ministry budget by over *one million dollars* per year. And if 100 percent were able to give just \$5 per month (we understand many cannot), our resources would *more than double*. Many "mites" add up and can become mighty for our Lord's work!

For over 40 years, ICR's ministry has been supported by those who share our passion to proclaim the wonders of God's magnificent creation. We carefully apply the resources the Lord provides through His people so that many can be brought to a saving knowledge of Him. Won't you prayerfully consider joining us? Your help will make a difference for the cause of Christ. ●

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



The Design and Complexity of the Cell: Testimony to the Creator of All Life

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

The growing field of biology—including biomedical, agricultural, and environmental sciences—is becoming more prevalent in our world and more relevant to our daily lives.

This field is dominated by a strong philosophical component that plays an important role in our lives. That component is *worldview*. The worldview of evolutionary naturalism impacts the moral fabric of our society, and we encounter its influences on a daily basis.

The majority of the scientific establishment is sold on the belief that there is no God or Creator and that life developed spontaneously and randomly. On the other hand, many Christians are unaware that recent scientific discoveries in the area of biology actually support an opposite worldview, one that validates special creation as recorded in the Bible. Despite the predominance of evolutionary thinking in education and science, Christians can have confidence that what God said about creation, and particularly about life, is absolutely true.

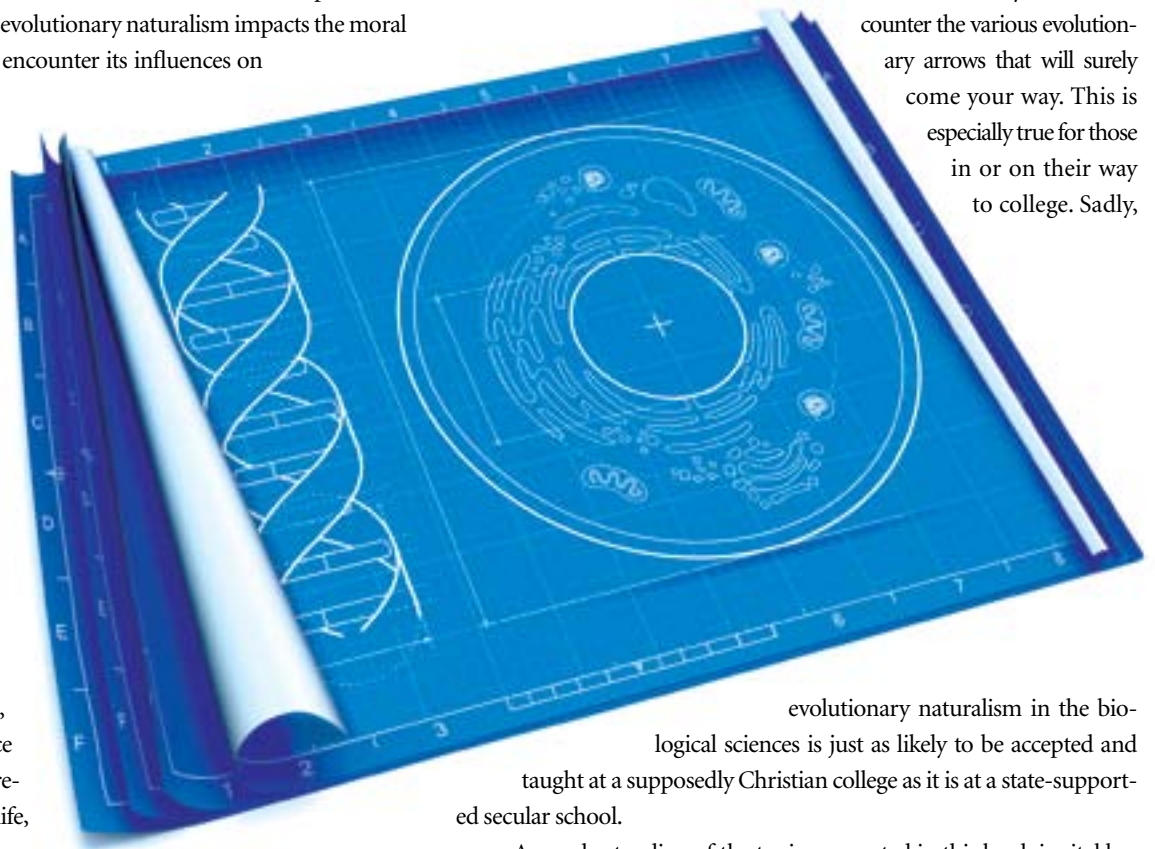
Although the scientific establishment has sought to suppress much of the evidence for creation, credentialed scientists within the creation and intelligent design (ID) movements have successfully brought this evidence to light. For instance, the book that started the modern creation science movement in 1961—*The Genesis Flood* by John Whitcomb and Henry Morris—demonstrated the geological evidences that confirm the historical global Flood account of Genesis. A number of recent popular books that incorporate new biological discoveries have made *The New York Times* bestseller list, such as *Signature in the Cell* by science philosopher Stephen Meyer.

The bottom line is that understanding the basics of biology and its support for the biblical account of creation will not only build your own faith, but it will also provide a powerful tool for evangelism and the defense of the faith.

ICR's newest book, *The Design and Complexity of the Cell*, not only brings readers up to speed on basic biology, but also addresses the various evolutionary arguments that have dominated and shaped the academic

environment of the early 21st century. Knowing the facts about the cell is important; God is to be praised for creating life with such attention to detail. However, knowing and using these facts to defend your faith or to persuade others to consider the claims of the Creator will provide you with

the ammunition you need to counter the various evolutionary arrows that will surely come your way. This is especially true for those in or on their way to college. Sadly,



evolutionary naturalism in the biological sciences is just as likely to be accepted and taught at a supposedly Christian college as it is at a state-supported secular school.

An understanding of the topics presented in this book is vital because many touch on our health and that of our children. As Christians, we should be prepared to give an intelligent, Bible-based response to the issues that challenge our belief in the facts of Scripture or that seek to turn our belief away from the Creator.

Science is not a morally neutral discipline. There is a worldview that governs the beliefs and actions of those who do science. The sin nature of man will turn our world into a technological nightmare for humanity if science is not guided by strong moral and biblical values. Gaining understanding about the building blocks of life, honing our skills to defend the faith, and developing a deeper understanding of the wonders of creation will lead us to ultimately honor the Creator of all life. ●

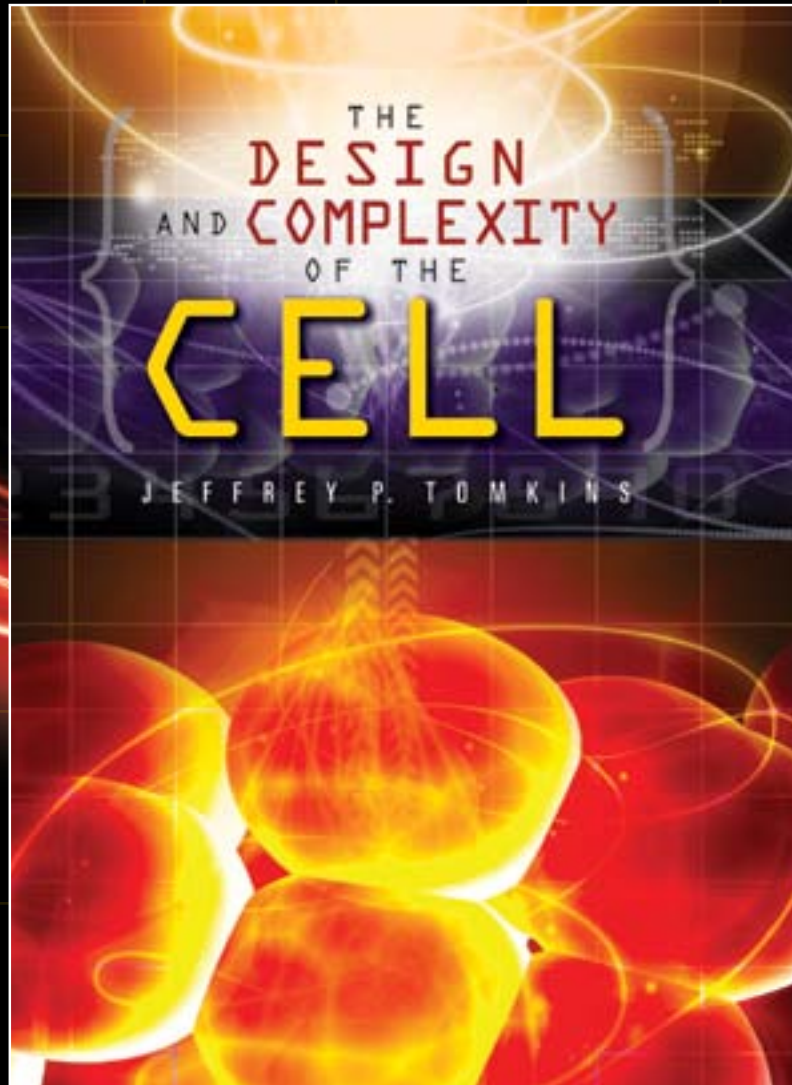
Adapted from the introduction to Dr. Tomkins' book, *The Design and Complexity of the Cell*, published by the Institute for Creation Research.

Dr. Tomkins is Research Associate at the Institute for Creation Research and received his Ph.D. in Genetics from Clemson University.



THE DESIGN AND COMPLEXITY OF THE CELL

BY JEFFREY P. TOMKINS



All of us benefit from the study of life, and especially the design and complexity of the cell. Although scientists have discovered, documented, and developed wonderful insights about the complex information, precise sequential processes, and unique interwoven controls within cells, there is a huge chasm among scientists when they try to understand how

these highly efficient processes got started in the first place.

Dr. Jeffrey Tomkins and his contributing colleagues have provided an excellent resource that will document and help explain the intricate processes of cells and give keen insight for “clearly seeing” the obvious hand of the Creator in the “things that are made” (Romans 1:20).

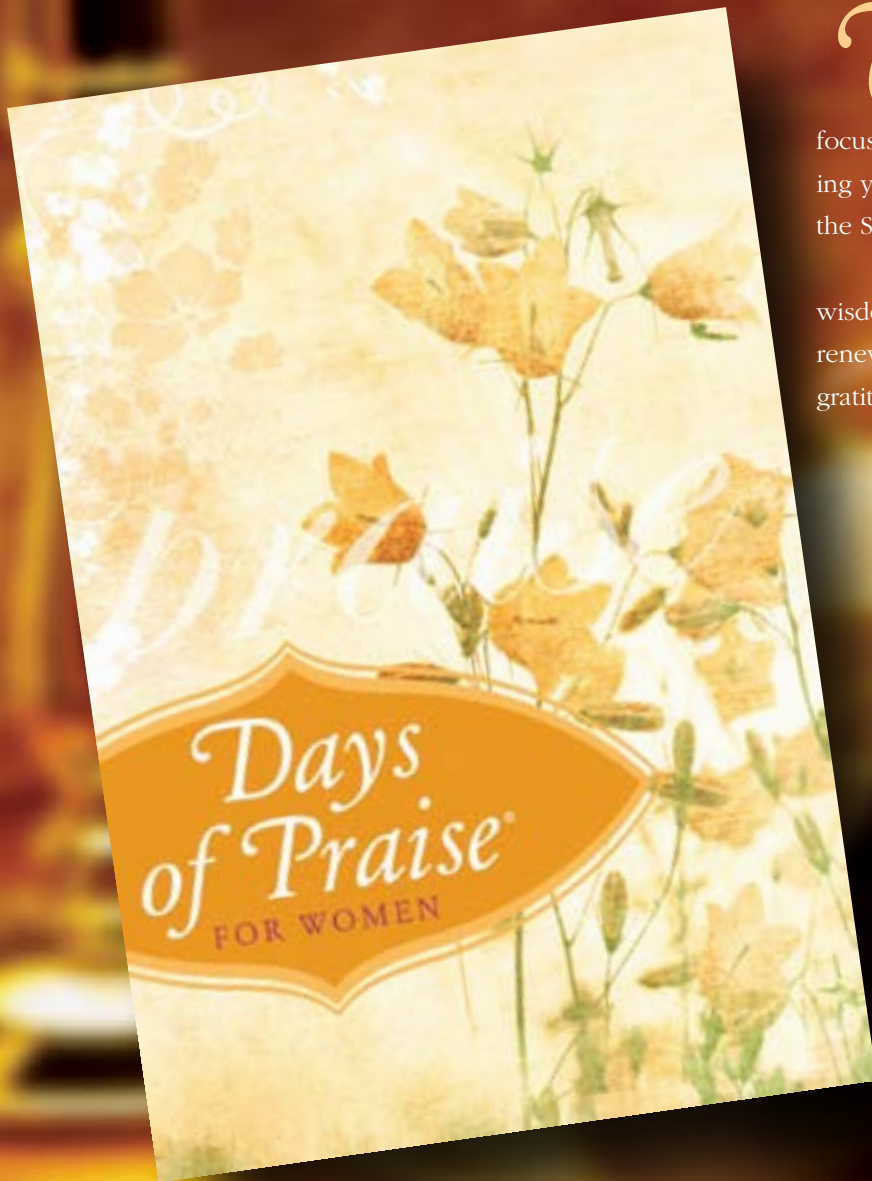
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