

# ACTS & FACTS

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*The* GIFTS  
*of* GOD



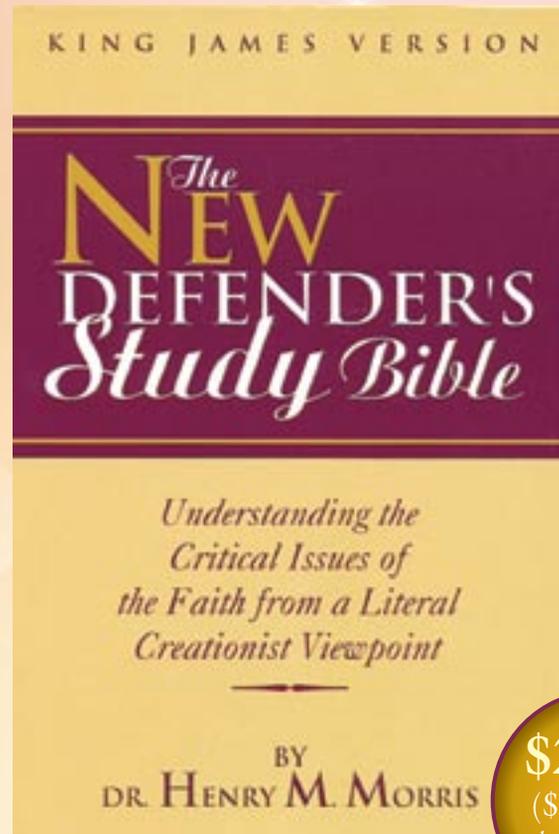
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## Tidings of Comfort and Joy

*God rest ye, merry gentlemen,  
let nothing you dismay.  
Remember, Christ, our Savior,  
was born on Christmas day.*

This has long been one of my favorite Christmas carols. Not only do I love the music, the words remind me that because our Savior came to earth to offer Himself as our atonement, we don't need to be dismayed by the conditions of our lives here. Instead, in Jesus we have a precious and living hope that one day we will be with Him forever.

Of course, scholars generally agree that Jesus wasn't really born on December 25. And nowhere in the New Testament are Christians instructed to celebrate His birth. Even so, ICR founder Henry M. Morris pointed out that there can be legitimate reasons for us to observe Christmas. For one thing, it provides an opportunity in an increasingly secular world for Christians to proclaim the truth of the Incarnation, to bear witness to the fact that our Creator "came into the world to save sinners" (1 Timothy 1:15). For another, there is a special emphasis on family at this time of year, affording an occasion to reach out to and reconnect with loved ones... and perhaps reconcile differences that may have come between us.

Christmas also provides an opportunity to remind the younger members of our families and churches about the amazing news that the Creator of the universe came to earth as a baby so that He could reconcile us to God. Just as the angels proclaimed glad tidings to the shepherds at His birth, we can openly rejoice in the coming of the King.

And as we exchange gifts with family and friends, we can remember and celebrate the great gifts God has bestowed on us. Our feature article this month offers Dr. Henry Morris' exploration of the marvelous gifts God has given through His creation and His Word, and most of all through His gift of Himself on our behalf. As Dr. Morris says, we should respond in praise and wonder.

In his regular apologetics column, Dr. Jim Johnson offers his insights on ways that the creatures of God "sing" of their glorious Designer. And Dr. Jerry Bergman's article on "Snowflake" Bentley showcases yet another marvel of God—winter's intricate frozen masterpieces. If God would invest this much beauty in something so ephemeral, just think how wonderful it will be to live in a heaven that's designed to last for all eternity.

Henry Morris IV gives yet another cogent reason for celebrating Christmas: It provides a time to reflect on the many blessings God has conferred over the past year. Mr. Morris lists a number of ways in which ICR has been especially blessed through the gifts shared with us by like-minded believers who see the importance of proclaiming the message of the Creator. Thank you for partnering in this work.

God created the world and everything in it. Because He made us, He is able to save us. And the tiny babe born in Bethlehem 2,000 years ago lives in heaven today as our Savior, Mediator, and King. These are indeed tidings of comfort and joy, as the Christmas carol states. May God bless you and yours this holiday season.

**Beth Mull**  
MANAGING EDITOR

## CONTENTS

- 4 The Gifts of God  
*Henry M. Morris, Ph.D.*
- 6 First Phase Complete in Human and Chimp Genome-Wide DNA Comparison  
*Jeffrey Tomkins, Ph.D.*
- 7 "Teaching Through Genesis" to Be Featured at Pastors Conference
- 8 A Christmas Carol in Four-Part Harmony  
*James J. S. Johnson, J.D., Th.D.*
- 12 Snowflake Bentley: Man of Science, Man of God  
*Jerry Bergman, Ph.D.*
- 15 The Failed History of Uniformitarianism  
*John D. Morris, Ph.D.*
- 16 Evolutionary "Game Changer" Doesn't Change Anything  
*Brian Thomas, M.S.*
- 18 Defending a "Fact"  
*Frank Sherwin, M.A.*
- 19 First SOBA Class Graduates
- 21 Christmas Gratitude  
*Henry M. Morris IV*
- 22 Has Einstein's Limit on the Speed of Light Been Broken?  
*Larry Vardiman, Ph.D.*



The GIFTS  
of GOD

HENRY M. MORRIS, P.H.D.

Every good gift and every perfect gift is from above, and cometh down from the Father of lights, with whom is no variableness, neither shadow of turning.

— JAMES 1:17 —

In the days of the Bible, times of great joy were often accompanied by the giving of gifts, one to another (e.g., Nehemiah 8:10; Esther 9:22). This ancient custom, practiced commonly in all nations throughout history, finds its greatest expression today at Christmastime, when the joy of the wise men (Matthew 2:10) and the joyful tidings of the angels (Luke 2:10) echo in millions of family circles around the world and, even where Christ Himself is not known, people share the joy of giving.

#### The Gift of Creation

But giving began with God! Human gifts are imperfect, often wrongly motivated, frequently unappreciated, always defective, and temporary. Gifts that are good gifts and perfect gifts come only from above, from the Father of lights. The marvelous universe itself,

as it came from the creative hand of the great Giver, was good and perfect. In fact, God pronounced it “very good” and then “rested,” having “finished” (that is, “perfected”) everything He had created and made (Genesis 1:31–2:3).

God began with a good and perfect creation and He has maintained that standard, for with Him “is no variableness, neither shadow of turning.” Both He and His creation remain forever. In fact, this principle as seen in the natural world is now recognized by scientists as the most universal of all scientific laws—the principle of *conservation* of matter and energy, the “first law of thermodynamics.”

Into this perfect creation, however, has appeared an intruder, a disordering agent. By man came sin, and then came the great Curse, and now the whole creation is under the bondage of decay (Romans 8:20–22). In science, this also is recognized as a universal law,

the principle of increasing *entropy*, the “second law of thermodynamics,” the universally observed fact that everything tends to wear out, run down, disintegrate, grow old, and die. The term “entropy” (from two Greek words, *en* and *trope*, meaning “in” and “turning”) itself suggests that any system which “turns inward” for its strength will soon decay.

But with God is no “shadow of turning (*trope*).” He is not only invariable in essence, but unchanging in nature. Thus, *every* gift from God is still a good gift and a perfect gift! Not only was His created world perfect, but so also is His inspired Word (Psalm 19:7; 119:89).

### The Father of Lights

The theme of giving is strong in the Scriptures. The words “give,” “giving,” “gift,” and other such words occur at least 2,100 times. The very first occurrence, however, is in connection with the giving of light. God placed the great lights in the heavens “to give light upon the earth” (Genesis 1:15). Light is the basic energy by which all creation functions but, so far as the earth is concerned, it is the particular light from the sun which energizes all earth’s processes. God Himself is the Light (Genesis 1:3; 1 John 1:5; Revelation 22:5) and that light antedates the sun, but He *made* the “lights”; He is the Father of lights.

In the same manner, as joyful celebrations commonly involve gift-giving, so they have always involved many lights. When Christ came into the world, the shepherds saw the glory shining (Luke 2:9), the wise men saw His star (Matthew 2:2), and John testified that the “true Light” had come (John 1:9). Today, the remembrance of His birth is everywhere marked by an abundance of lights. Even the Jews’ festival of Hanukkah, observed concurrently with Christmas, is called by them the “festival of lights.”

### The Other Gifts of God

Our purpose here does not require a comprehensive study of the biblical theme of giving, but we can at least examine the specific gifts of God that are listed as such in the Scriptures. There are actually eight times when the phrase “gift of God” occurs in the Bible, with the plural “gifts of God” occurring once.

In the Old Testament, the emphasis is on

God’s material blessings, with the only two references being found in Ecclesiastes.

That every man should eat and drink, and enjoy the good of all his labour, it is the gift of God. (Ecclesiastes 3:13)

Every man also to whom God hath given riches and wealth, and hath given him power to eat thereof, and to take his portion, and to rejoice in his labour; this is the gift of God. (Ecclesiastes 5:19)

Let no one, therefore, take personal pride in his own abilities or his possessions! They are, in the deepest sense, gifts of God’s grace.

Spiritual blessings are far more important than physical and material blessings, however, and all six of the New Testament oc-

*Gifts that are good  
gifts and perfect gifts  
come only from above,  
from the Father of lights.*

currences of this phrase, the “gift of God,” emphasize these. Three of these are translations of the Greek *dorea* (“freewill gift”), with three from the Greek *charisma* (“gracious gift”), but, for our purposes, the meaning is so nearly the same that they can almost be used interchangeably.

### God’s Spiritual Blessings

These six New Testament gifts of God are listed below in order as we trace them sequentially through the New Testament.

#### 1. The Gift of Christ Himself

If thou knewest the gift of God...thou wouldest have asked of him. (John 4:10)

#### 2. The Gift of the Holy Spirit

And when Simon saw that...the Holy Ghost was given, he offered them money....But Peter said unto him, Thy money perish with thee because thou hast thought that the gift of God may be purchased with money. (Acts 8:18-20)

#### 3. The Gift of Eternal Life

For the wages of sin is death, but the gift of God is eternal life through Jesus Christ our Lord. (Romans 6:23)

#### 4. The Gift of Individual Personal Abilities

But every man hath his proper gift of God, one after this manner, and another after that. (1 Corinthians 7:7)

#### 5. The Gift of Salvation through Faith

For by grace are ye saved through faith; and that not of yourselves: it is the gift of God. (Ephesians 2:8)

#### 6. The Gift of Confident Love

Wherefore...stir up the gift of God, which is in thee....For God hath not given us the spirit of fear; but of power, and of love, and of a sound mind. (2 Timothy 1:6-7)

### The Permanence of God’s Gifts

If all of the gifts of God are good and perfect, it is no surprise that they are eternal. It is significant that the sole occurrence of the plural “gifts of God” stresses this wonderful truth. “For the gifts and calling of God are without repentance” (Romans 11:29). Every one of these gifts of God will be ours to treasure throughout eternity.

The last mention of giving in the Bible has to do with the rewards which Christ will give His faithful servants at His return. “And, behold, I come quickly; and my reward is with me, to give every man according as his work shall be” (Revelation 22:12). He is the great Giver, from the first chapter of Genesis to the last chapter of Revelation!

Therefore, as we share once again the lights of Christmas and the joy of giving gifts to those we love, let us be sure to remember the Father of lights and that greatest of all *His* good and perfect gifts.

For God so loved the world, that he gave his only begotten Son, that whosoever believeth in him should not perish, but have everlasting life. (John 3:16)

Then, after contemplating His great gift and the love that determined it, we can respond only in praise and wonder:

Thanks be unto God for his unspeakable gift. (2 Corinthians 9:15) ●

Adapted from Dr. Morris’ booklet “The Gifts of God.”

Dr. Morris (1918-2006) was Founder of the Institute for Creation Research.



# First Phase Complete in Human and Chimp Genome-Wide DNA Comparison

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



The ICR life sciences team has been conducting a large-scale comparison project of human versus chimp DNA sequence, the first phase of which has now been completed. The research involved the use of 40,000 purportedly random chimpanzee DNA sequences obtained from the National Center for Biotechnology that were produced as part of the chimpanzee genome project.<sup>1,2</sup> The sequences, on average, were 740 nucleotides each and were compared to four different versions of the human genome that were each ~3 billion bases. The DNA sequences were compared using a commonly employed algorithm called BLASTN.<sup>1</sup>

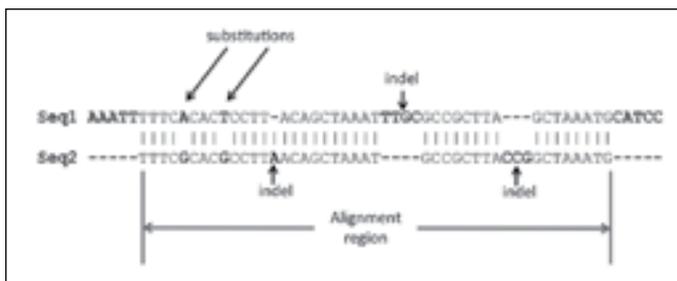
The BLASTN algorithm works by finding initial DNA base matches for the query sequence (chimp) compared to a target database (human) of a certain pre-specified length called “word sizes.”<sup>3</sup> These initial matches are then extended outward in both directions until the matches are no longer statistically significant for similarity based on a pre-specified level of mathematical stringency called an “e-value” (or the query sequence ends). The end result of each successful query is called an alignment, often referred to as a database “hit.” Common default values used for BLASTN alignments include a word size of 11 and an e-value of 10. In this study, 15 different experiments testing combinations of three different word sizes (7, 11, and 15) and five different e-values (1,000, 10,

0.1, 0.001, and 0.00001) were performed. A simplified illustration of a hypothetical DNA alignment between two DNA sequences is shown in Figure 1.

If present, the top alignment data (database hit) for each chimp query sequence were obtained. Depending on the e-value and word size combination, the average aligned region of each chimp sequence varied between 122 to 181 bases, 16 to 24 percent, respectively. Excluding data for the large amount of chimp sequence that failed to align, a very conservative estimate of human-chimp DNA similarity genome-wide is 86.4 to 88.9 percent, based on the initial round of research data. It is noteworthy that the parameters that produced the longest and more statistically robust alignments also produced the lowest similarities. Obviously, if the non-aligning chimp data were included in the final data summary, estimated similarities would be even lower.

The initial phase of this study was conducted with 600,000 attempted alignments under conditions that allowed for the comparison of all DNA sequence in both the chimp and human data sets. However, it may surprise people to know that when evolutionists compare DNA sequences, they employ something called low-complexity sequence masking, a feature that is thought to remove abundant DNA sequences that are less complex than those commonly associated with protein-coding regions. The masking (electronic removal) of these sequences in the comparison process speeds up the algorithm significantly.

Therefore, the second phase of these experiments is being conducted using the same algorithm parameters (word size and e-value combinations), with the addition of low complexity sequence masking to more accurately represent conditions that an evolutionist would use. A report on this second round of experiments, along with a complete summary of the entire study, will be provided in an upcoming issue of *Acts & Facts*. ●



**Figure 1.** Illustration showing a hypothetical alignment between similar DNA sequences from two different organisms (seq1 and seq2). In DNA alignments, there are portions outside the aligned region that are often omitted in most reported DNA similarity data. Insertions and deletions (indels) within alignments represent the addition or loss of DNA in one sequence compared to the other. Indels can vary in size from a single base to thousands of bases—large indels are often omitted. Substitutions are bases that are different between two sequences.

## References

1. More information is available at [blast.ncbi.nlm.nih.gov](http://blast.ncbi.nlm.nih.gov).
2. The Chimpanzee Sequencing and Analysis Consortium. 2005. Initial sequence of the chimpanzee genome and comparison with the human genome. *Nature* 437 (7055): 69-87.
3. Altschul, S. F. et al. 1990. Basic local alignment search tool. *Journal of Molecular Biology*. 215 (3): 403-410.

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



# ICR DECEMBER EVENTS

## ■ DECEMBER 5

Conroe, TX – First Baptist Church  
Men's Luncheon  
(J. Morris) 936.756.6601

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

## “Teaching Through Genesis” to Be Featured at Pastors Conference

Each year, the Institute for Creation Research sponsors the Jacksonville Pastors Conference held at First Baptist Church in Jacksonville, Florida.

ICR board member Dr. Mac Brunson is senior pastor at FBC Jax and continues to impact pastors from around the country through this significant gathering of pastors who seek to be refreshed and renewed with solid biblical teaching from some of the nation's most outstanding Christian leaders.

The 2012 Pastors Conference will be held January 26-29 and will feature outstanding speakers, uplifting music, and a full schedule of workshops and seminars to enrich pastors and their families.

As a special addition to this next conference, ICR CEO Dr. Henry Morris III will present a four-part seminar series titled “Teaching Through Genesis,” the subject of Dr. Morris’ upcoming book. A former pastor himself, Dr. Morris understands the needs of pastors when

tackling tough biblical and theological subjects. During the “Teaching Through Genesis” series in Jacksonville, pastors will hear the following presentations:

- Seminar 1: Teaching Through Genesis—An Overview
- Seminar 2: Theological Questions in Genesis
- Seminar 3: Genesis and the Gospel
- Seminar 4: Worldview Issues in Genesis

Not only will these seminars be practical, but Dr. Morris will be joined by Dr. Brunson and Dr. Al Mohler for a pastors’ Q & A during Seminars 2 and 3. Dr. Mohler is President of The Southern Baptist Theological Seminary in Louisville, Kentucky, and was the keynote speaker at ICR’s 40th anniversary celebration in 2010.

To find out more or to register for this event, visit [www.jaxpastorsconference.com](http://www.jaxpastorsconference.com). What a great gift this conference would make for your pastor!



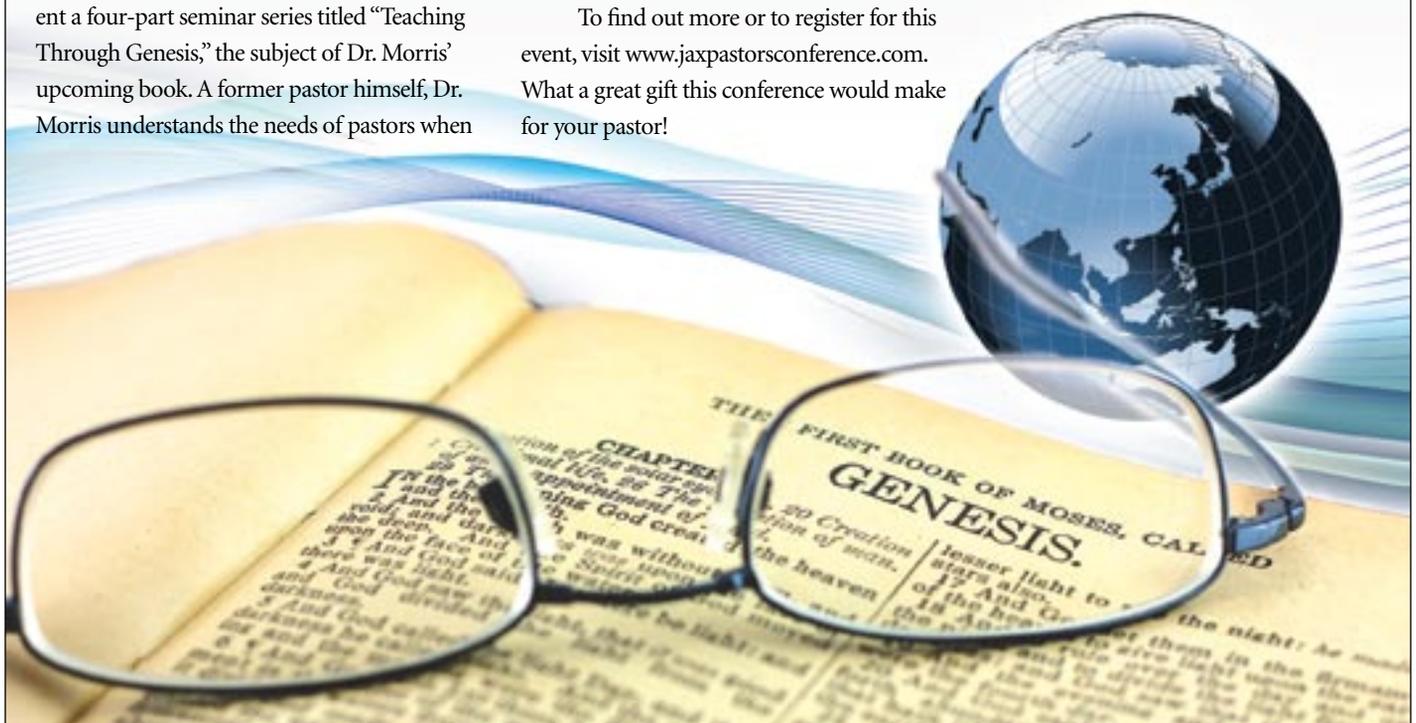
DR. HENRY MORRIS III



DR. MAC BRUNSON



DR. ALBERT MOHLER



# A CHRISTMAS CAROL IN FOUR-PART HARMONY

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

**T**he same infinite God who became incarnate as a small baby had previously created the heavens and the earth, and all of its living inhabitants. To all of God's creatures, great and small, He gave amazing bodies, fitted to survive and thrive. Those bodies that He designed His creatures to use—as they became fruitful, and multiplied, and filled the earth—showcase irrefutable proof that God is their glorious Creator.

Four categories of those creatures will be considered to help us appreciate the One who chose to come to earth and be born in the little town of Bethlehem in order to redemptively fulfill the Messianic prophecy of Micah 5:2.

## Fish

First, consider how fish have provided waterborne testimony of God's providence ever since they were created on Day Five. Also, according to God's kind design, fish have provided a providential service, for 6,000 years, as one of the most nutritious foods for humans.<sup>1</sup>

Fish are often mentioned in the Bible. Christ demonstrated His divine authority over His physical creation—and over the laws of physics that He Himself had instituted—by working miracles with little fish (feeding crowds of thousands on at least two different occasions; see Matthew 14:15-21; 15:32-38; 16:8-10). Christ was known to perform fish-catching miracles (Luke 5:4-9), so much so that He was recognized after His resurrection by that kind of miracle (John 21:4-8), and He even used a coin-carrying fish to pay taxes for Himself and Peter (Matthew 17:24-27)! And after Christ's resurrection, more than once He shared fish with His disciples (Luke 24:42, broiled fish with honeycomb; John 21:12-13, fish and bread).

Earlier this year, Bryan Walsh, a science columnist for the *New York Times*, lamented the declining state of fish as “the last wild food,”<sup>2</sup> alluding to a recent book on that topic, *Four Fish, the Future of the Last Wild Food* by Paul Greenberg.<sup>3</sup>



Paul Greenburg, himself a journalist for the *New York Times*, reported on the world's piscatorial plight, illustrated by four of the world's most commercially important fish: salmon, sea bass, cod, and tuna. Although much could be said about the commendable cuisine qualities of those four fish, it is the tuna fish<sup>4</sup> that impressed the otherwise secular journalist to ponder the inability of evolutionary thinking to account for the tuna's brilliant body and behavior:

Even the most confirmed enemy of “intelligent design” theories can have a hard time imagining [much less providing forensic evidence for] the forebears of these great fish inching slowly down an epochs-long evolutionary course to become modern tuna. They seem like *deus ex machina* incarnate or, rather, *machina ex deo*—a machine from God. How else could a fish come into being with a weird slot, as hard and fixed as the landing-gear slot on an airplane, into which it retracts its dorsal fin to achieve faster speeds? How else could a fish develop a whole new way of swimming where a slim crescent of a tail, insignificant in size compared to most fish tails, vibrates at astronomical speed while the rest of the body slips forward with barely any bend, pitch, or roll? And how else would a fish appear within a phylum of otherwise cold-blooded animals that can redirect the heat that its muscles throw off back into its very flesh and raise its body temperature by as much as twenty degrees above ambient conditions? Yes, the biggest tuna are warm-blooded.<sup>5</sup>

Tuna—what a magnificent (and nutritious) fish! The seaworthy body and behavior of every living tuna exhibit the design and manufacturing brilliance of He who commissioned “fishers of men.”

## Crabs

The diverse crabs of the world—such as fiddler crabs, king crabs, blue crabs, hermit crabs, ghost crabs, coconut crabs, Dungeness crabs—also demonstrate Christ's ingenious designs and providential programings. The bodies and behaviors of crabs show how they were divinely fitted to survive and thrive in their coastal habitats around the world, so that they might “be fruitful, and multiply, and fill the earth.”<sup>6</sup> And crabs not only display God's glory in their biology, they can provide very good eating!<sup>7</sup>

One such crab is the fascinating Christmas Island red crab (*Gecar-*

*coidea natalis*), whose famous annual migration and reproductive cycle result in an island-flooding invasion of baby red crabs. How? Imagine 25,000,000 (or even more) reproducing female crabs, multiplied by as many as 100,000 fertilized eggs per female, annually producing billions if not trillions of fertilized red crab eggs, some portion of which will survive their larval stage at sea and return “home” to the shores of Christmas Island.

The sight of this annual incursion of scuttling scarlet scavengers is beyond mere words: visit the Christmas Island National Park's website and watch the video clips of the multi-million red crab migrations.<sup>8</sup> Note that traffic signs show crab crossing points and local citizens shovel crabs. Crabs scoot across golf greens and brave the vicious yellow crazy ants (*Anoplolepis gracilipes*) in their efforts to reach the coastal waters at just the right time to “be fruitful and multiply” in accordance with their providential programming:

While the rains [of the October/November wet season] provide the moist preconditions for the [migratory] march to begin, the timing of the migration breeding sequence is also linked to the phases of the moon. Eggs are released by the female red crabs into the sea [i.e., Indian Ocean] precisely at the turn of the high tide during the last lunar quarter.

The sea level at the base of the cliffs and the beaches, where the females release their eggs, at this time varies the least for a longer period, and it is therefore safer for the females approaching the water's edge to release their eggs. Sometimes there are earlier and later migrations of smaller numbers of crabs but all migrations retain this same lunar rhythm.<sup>9</sup>

Why do the female crabs “precisely” observe this optimal migratory cycle? Because of the providence of God, who programmed the “software” inside these crabs' bodies for them to behaviorally do what is needed, annually, to “be fruitful, multiply and fill” their special eco-niche, a part of which involves this astounding “cross-country crustacean” crusade. This marathon migration facilitates the red crab's life cycle, which begins as a fertilized egg in saltwater, followed by hatching at sea, followed by washing ashore as larva, followed by the shedding of the larval casings so that the crab's remaining life is lived as an air-breathing terrestrial crab.

## Sheep (and Mankind)

Sheep are another fascinating example of God's creation. Sheep not only display God's glory in their biology, they can provide very good eating, both as meat and through their dairy products. Different varieties of sheep display various traits appreciated by their domesticators, depending upon the variables of climate, habitat, disease resistance, type of meat, and dairy product advantages.<sup>10</sup>

Sheep are herbivores, eating grasses and grass-like roughage. Sheep chew their cuds. Similar to other ruminant animals, sheep digestion permits complex carbohydrates (including the cellulose in grasses, which are digested by microorganisms in the sheep's multi-chambered gut) to be broken down into simpler carbohydrates that in turn are metabolized according to the sheep's food energy needs. There is no evolutionary explanation for the detailed digestive systems of sheep—it is as



John Tamm/Flickr.com  
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if the bodies of the sheep are biochemically singing to their Creator “How great Thou art!”

Christians are often familiar with the Bible’s teachings about sheep. On the negative side, our predisposition to stray is compared to that imprudent behavior of sheep (Isaiah 53:6). On the positive side, sheep are known to recognize the voice of their shepherd (John 10:3-16). Although they generally prefer lighted places to dark ones, sheep are known to move in the dark toward the voice of their shepherd, and often they vocally respond to his or her voice. Sheep usually (although not always) tend to stay together, whether they are where they should be or where they should not be (Luke 15:4-7). Such gregarious behavior can be either good or bad. Sheep are trusting animals (Isaiah 53:7).

Of course, Jesus Himself was the ultimate Passover Lamb (1 Corinthians 5:7). John the Baptist aptly identified Christ as “the Lamb of God” who takes away (i.e., removes) the sin of the world (John 1:29).

The relationship between God and His redeemed human children is likened to that of a good shepherd and his sheep (Psalm 23; Psalm 100). Yet, unlike sheep who have a mere mortal as their shepherd, believers in Christ are created by their Shepherd:

Know ye that the LORD he is God: it is he that hath made us, and not we ourselves; we are his people, and the sheep of his pasture. (Psalm 100:3)

No human can honestly say he or she is a “self-made” man or woman. The Lord made us, and not we ourselves. The proof of this is in our own physical bodies, which we inhabit each moment of our earthly lives:

Because that which may be known of God is manifest in them [i.e., in God’s human creatures]; for God hath shewed it unto them. (Romans 1:19)

All of us know that we did not make ourselves. This author was reminded of that simple fact, recently, while watching a one-year-old child intently looking at the fingers of his hands as he turned them

back and forth. Even little babies learn that they have hands with fingers that move, but their control of those finger movements must be learned—we did not invent our own fingers, so we must learn how they work, and they work according to the design of their Designer!

And, even as exceptionally trained as our human bodies may

become—capable of extraordinary feats, as athletes remind us of from time to time—our physical bodies are still dependent upon our Creator God (Colossians 1:17).

Furthermore, as we age—if we live long enough to qualify for senior coffee discounts—we will learn to be even more dependent upon our Creator to sustain these physical bodies that provide daily evidence of their divine Manufacturer.<sup>11</sup>

In sum, we have a harmonious chorus of four witnesses singing out God’s glory as the awesome Creator He is: the bodies and behaviors of tuna fish, and those of red crabs, sheep—and even us.

Truly, no one has an excuse for failing to glorify and thank God for being the wonderful Creator He is. Even our own bodies testify—we might say they “carol”—that He is our great God. ●

#### References

1. Christ Himself, in Matthew 7:10, used fish as an example of good food.
2. Walsh, B. The End of the Line. *The New York Times*, July 7, 2011.
3. Greenberg, P. 2010. *Four Fish the Future of the Last Wild Food*. New York: Penguin Books.
4. Two of the more famous varieties of tuna are confusingly named the yellowfin tuna, a.k.a. “ahi” (*Thunnus albacares*), and the albacore tuna (*Thunnus alalunga*). Note that the species name *Thunnus albacares* does not apply to the albacore tuna. Both, however, are well worth eating!
5. Greenberg, *Four Fish*, 199-200.
6. Regarding the beautifully complex life cycles of various crabs, see Dorothy E. Bliss’ *Shrimps, Lobsters, and Crabs: Their Fascinating Life Story* (New York: Columbia University Press, 1990), especially 29-38, 44-50, 53, 72-78, 108-120, 128-143, 160-179, 184-193. See also, regarding crab bodies, *Handbook of the Marine Fauna of North-West Europe*, edited by P. J. Hayward and J. S. Ryland (New York: Oxford University Press, 1995), 442-461.
7. Johnson, J. J. S. 2011. Our Daily Bread: How Food Proves God’s Providence. *Acts & Facts*. 40 (4): 8-9.
8. See Christmas Island National Park’s website page on the annual red crab migration at environment.gov.au.
9. Ibid, quoting the transcript to “Viewing the Annual Red Crab Migration.” See also the *National Geographic* video clips “National Geographic—Great Migrations” (Red Crab marathon; Crab Dance; Millions of Crab Babies; Moonlit Crabs), posted with transcripts at environment.gov.au.
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# The Truth of Genesis Revealed in the Rocks

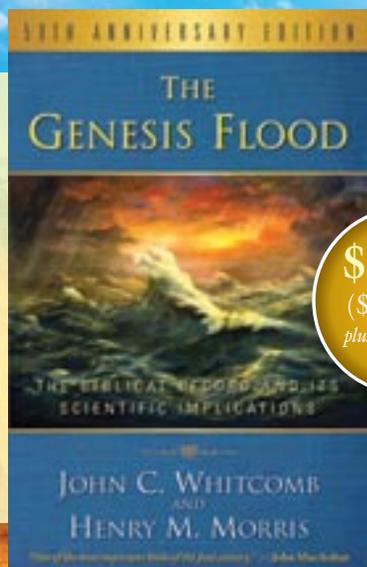
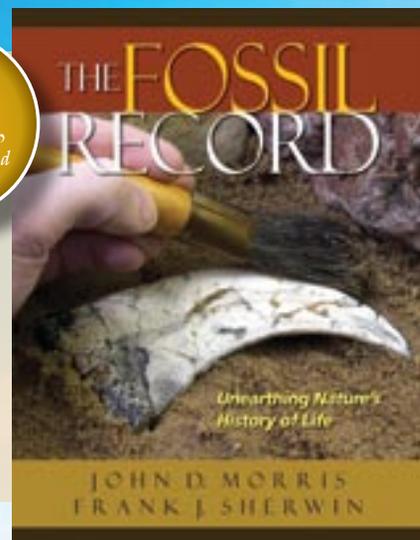
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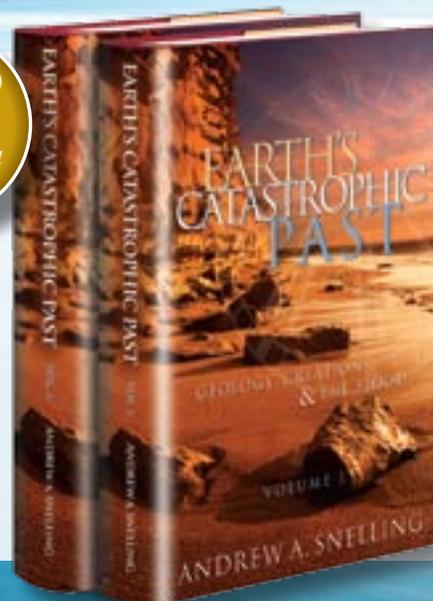
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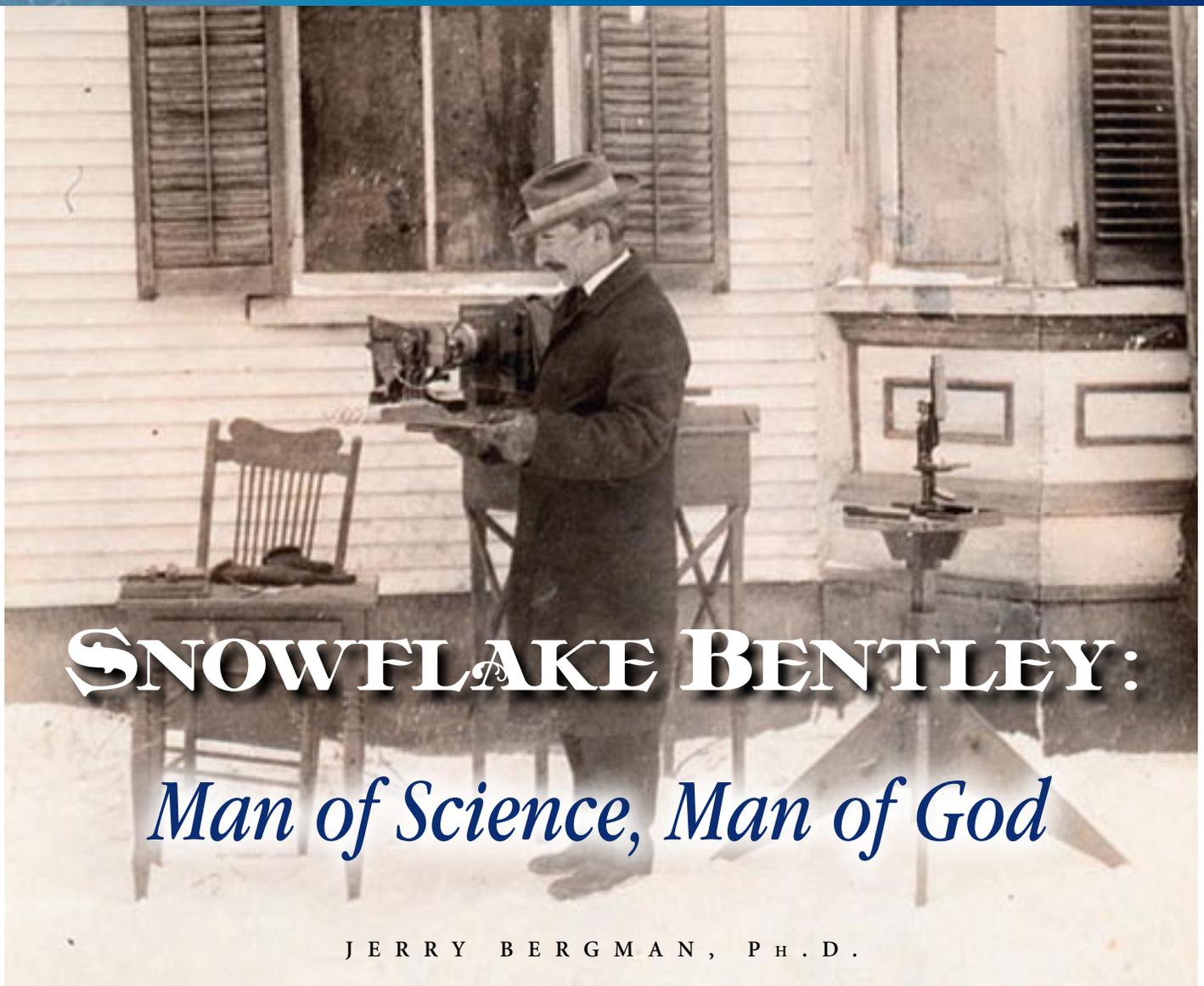
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# SNOWFLAKE BENTLEY:

## *Man of Science, Man of God*

J E R R Y B E R G M A N , P H . D .

**W**ilson (Willie) Bentley (1865-1931) was born on a farm in Jericho, Vermont. Jericho was an ideal place to study snow because it was in the heart of the snowbelt, producing an average annual snowfall of over 120 inches.<sup>1</sup> Willie was homeschooled until age 14, then he attended public school for several more years.<sup>2</sup> By age 14 he wanted to explore the world of science firsthand:

He went from exploring the vastness of the universe, seen in the heavens through a telescope, to the tiny, nearby world seen under the lens of a microscope. The very first money earned in his early teens was invested in a telescope. At night he would look at the stars and the planets, and by day he observed the sunspots on the face of the sun. But one year later an old microscope was to change his life forever.<sup>3</sup>

A true experimentalist, he meticulously collected large amounts of data on the weather, and completed a variety of pioneering experiments to understand raindrops, frost, solar wind, and moisture. While he was still a boy, his mother, a school teacher, gave him a microscope that he used to observe everything from flowers to snow—and snow especially fascinated him.<sup>4</sup>

One of his inspirations to study snow was the Bible verses in Job 38 about the “treasures of the snow.”<sup>5</sup> When asked why he took an interest in snow, he answered that

snowflakes were miracles of beauty; and it seemed a shame that this beauty should not be seen and appreciated by others. Every crystal was a masterpiece of design; and no one design was ever repeated. When a snowflake melted, that design was forever lost. Just that much beauty

was gone, without leaving any record behind. I became possessed with a great desire to show people something of this wonderful loveliness, an ambition to become, in some measure, its preserver.<sup>6</sup>

In his study of snowflakes, he learned that almost all snow crystals have six similar branches, and a few very rare ones have three. He at first expected that all snowflakes would be the same, but was surprised to learn that all of those he examined were different. Bentley concluded that, to the best of his knowledge, no snowflake “was an exact duplicate of any other snowflake!,” adding “with profound humility, we acknowledge that the Great Designer is incomparable and unapproachable in the infinite prodigality and beauty of His works.”<sup>7</sup>

At age 15 he began drawing snowflakes while looking at them through his micro-



scope—no easy task, because most of them melted before he could complete a drawing. At age 16 he learned about a camera that could be used with a microscope. His parents saved the money—and when Willie was 17 they bought him the camera.<sup>8</sup> It took him over a year of failures before he finally achieved his goal—a photograph of a snowflake, the first one ever taken. To obtain his pictures, he had to create a complex system that required working rapidly to achieve a photograph before the snowflakes melted.<sup>9</sup> Each year he was able to produce at least a few photos—but in some years he managed to make hundreds!

He also carefully studied snowflakes, learning that cold, wind, and moisture variations could produce very differently shaped snowflakes. For example, very cold weather produced three-sided snowflakes.<sup>10</sup> He learned that temperatures close to zero degrees were ideal for his work; if the temperature was too warm, the snowflakes melted too fast, and if too cold, they were too brittle and easily shattered like glass.<sup>11</sup>

One interviewer wrote concerning her trip to Bentley's home in Jericho that her visit gave her a

reason for feeling humble. Out in that remote farmhouse, I sat until far into the night listening to an extraordinary story, the story of how the Great Designer found an interpreter in an insignificant country boy.<sup>12</sup>

Blanchard wrote that Bentley “saw God in the workings of the universe and in particular in the splendor and grandeur of the snow crystals...he was familiar with the Bible, for in two or three of his articles on snow crystals he quoted some scripture.”<sup>13</sup> His work has inspired many a sermon, and one example is below:

In 1925 Bentley said, “Under the microscope...every crystal was a masterpiece of design and no one design was ever repeated...” The biblical sermon becomes

a microscope by which the intricacies of God's design in the world can be seen by others....God uses his creation to declare his glory to us.<sup>14</sup>

Bentley believed it is not only “the sheer scope of creation that fills us with praise for the Creator” when examining snowflakes, but the

wonders of God's handiwork are to be found in the tiniest details of all He has made. One powerful example of this beauty is the intricate design of a snow crystal. Anyone who's seen snowflakes under a microscope cannot help but be amazed by how beautifully complex they are....Bentley spent nearly fifty years of his life devoted to the study and photography of these fragile jewels. Fascinated

both scientifically and artistically by snow crystals, he marveled at what he called the wondrous beauty of the minute in nature. As he observes from the 5,000 photographs of snow crystals he collected, “Under the microscope I found that snowflakes were miracles of beauty.”<sup>15</sup>

*One of Bentley's inspirations to study snow was the Bible verses in Job 38 about the “treasures of the snow.”*

Bentley learned that the reason no two snowflakes are exactly alike is because all ice crystals—whether shaped like simple plates, bullets, needles, solid or hollow columns, dendrites, or sheaths—are hexagonal. As they descend from the clouds, they ride air currents up and down for an hour or more through regions of differing temperatures and humidity that leave their marks on snowflakes' growth and shape. Given how they form, it is extremely unlikely that two complex snow crystals will end up exactly alike. Blanchard wrote that Bentley was puzzled by the fact that the crystal design variations were endless. He said that the explanation “can only be referred to the will and pleasure of the Great First Cause, whose works, even the most minute and evanescent, and in regions the most removed from human observation, are altogether admirable.”<sup>16</sup>

Nor are all water molecules perfectly alike—about 1 in 1,000 is atypical because it



contains a rare form of hydrogen called deuterium. Since even a small snow crystal has about a thousand million billion water molecules, about a million billion will be “rogues.” Given a trillion trillion crystals per year falling on earth, the chance of two ever having the exact same water molecule design is essentially zero. The only exception would be tiny crystals with only ten molecules or so, which *might* be identical to some other crystal.

Bentley became the world’s leading authority on snowflakes, and was even selected to write the article in the *Encyclopedia Britannica* on snow.<sup>17</sup> University of Wisconsin professor W. B. Snow bought Bentley’s photographs for years. After Professor Snow had received the 1916-17 picture set from Bentley, he wrote to him as follows:

They are beautiful and give me the most exquisite pleasure, as they will do over and over again, for I shall see them repeatedly during the coming year. You are doing a great work in enabling students and scientists, and people in many walks of life, to see and to appreciate the infinity and prodigality as well as the beauty of nature.<sup>18</sup>

Bentley also sold his photographs to universities and published them in leading science

magazines, including *Nature* and *The National Geographic Magazine*.<sup>19</sup> At age 66 Bentley published a large, coffee table-size book of his photographs titled *Snow Crystals* with McGraw-Hill, which in 1962 was reprinted by Dover and is still available today.<sup>20</sup> Less than two weeks after his book was published, he walked six miles home in a snowstorm, caught pneumonia, and died two weeks later.

### Conclusions

As a “man of science and man of God,” Willie Bentley made important contributions to several fields of science, including meteorology, physics, and chemistry.<sup>21</sup> One writer concluded after interviewing Bentley that he specialized in photographing water in some form, including

curious forms of hailstones, raindrops, clouds, still pools, and running streams. . . . But it is the snow that commands his really passionate interest. When he said that he wouldn’t change places with Ford or Rockefeller, there was a ring of exultation in his voice. The indifference and ridicule of some people doesn’t hurt—very much. He feels that he is serving the Great Designer; capturing the evanescent loveliness which, but for him, would be unappreciated—even unseen. And with that role he is content.<sup>22</sup>

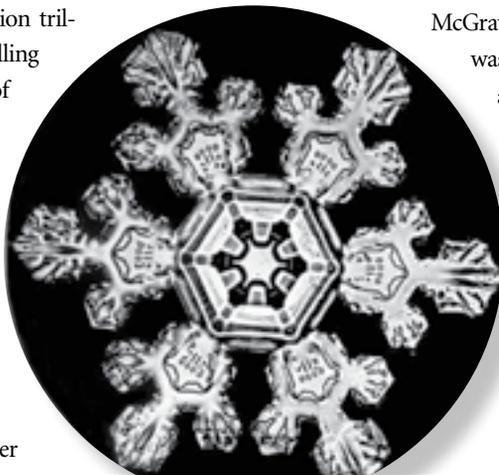
And Levi Smith, president of the local Jericho city bank, said “Mr. Bentley . . . was very much interested in what the good God had done in the way of snowflakes.”<sup>23</sup>

Bentley’s work is still honored today<sup>24</sup> and has inspired new, vastly improved techniques of photographing the beauty of snowflakes, one of the wonders of God’s creation.<sup>25</sup> ●

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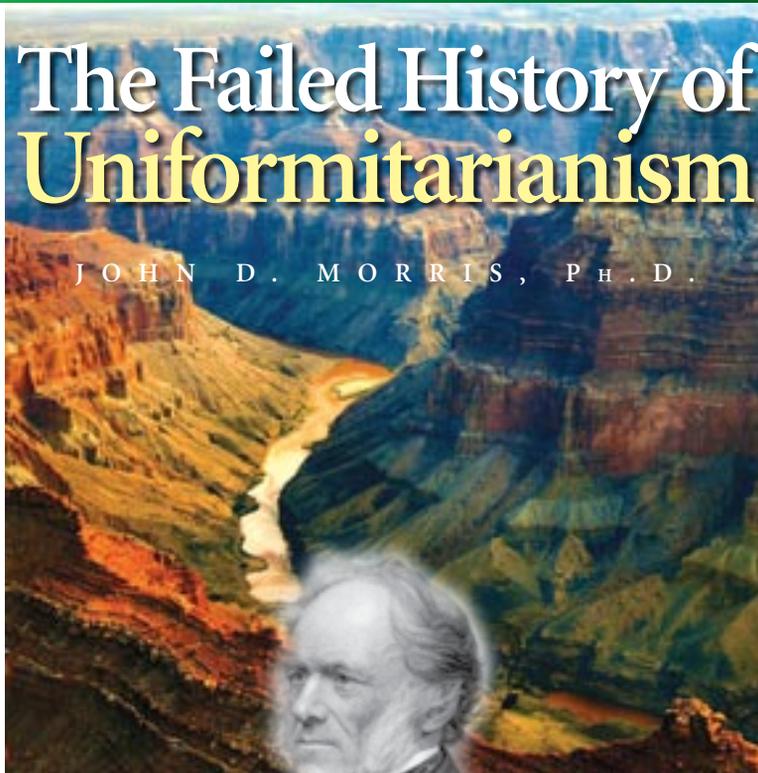
Dr. Bergman is an Adjunct Associate Professor at the University of Toledo Medical School in Ohio.



*Every crystal was a masterpiece of design; and no one design was ever repeated.*

# The Failed History of Uniformitarianism

JOHN D. MORRIS, P.H.D.



Readers of *Acts & Facts* and other creation science literature are well aware of the influence of Sir Charles Lyell. He, more than any other, was responsible for turning the scientific enterprise toward the principle of uniformitarianism. Beginning as long ago as the ancient Greek philosophers, there had been advocates of a great age for the earth. The decades before Lyell, there had been many who had advocated the same. James Hutton had been foremost in this effort, but then his cause was picked up by Lyell and popularized to specialists and non-specialists alike. With the publication of his book *Principles of Geology*, Lyell downgraded God's work in creation and on earth during the great Flood, replacing it with slow and gradual processes acting over long ages. The Bible, supposedly, had essentially been disproved.

Unfortunately, Lyell's influence didn't stop there. He met and mentored a young, but disillusioned, seminary student turned amateur naturalist by the name of Charles Darwin and arranged for him to join a scientific exploration trip around the world as its on-board naturalist. Darwin carried Lyell's book with him on the *HMS Beagle's* voyage around the world and acted as a geologist for the bulk of the trip, interpreting landforms and fossils through a uniformitarian lens. The voyage must have been a rancorous one, for several scientists, surveyors, and anthropologists were present, and records indicate they were not in full agreement with young Darwin. Especially Captain Robert Fitzroy, who would later publically challenge Darwin's views.

One of Darwin's stops was in southeastern Argentina, along the shore of the Santa Cruz River. The river extends from the Atlantic up into the high Andes Mountains, which are today covered by ice and snow. He and the other scientists present spent several weeks exploring and surveying the broad canyon upriver. They documented the gravel bars and volcanic deposits on either side. The canyon is flanked on both sides by flat-lying strata, much like the more familiar Grand Canyon



in North America. Scientists now agree the river and its canyon were carved by major Ice Age meltwater floods, as well as occasional flooding—but Darwin was thinking in terms of uniformity. Postulating ever-so-slow river erosion, he felt the river itself was responsible for carving the wide canyon through the same processes and energy levels it now employs. With Lyell's book in hand, he interpreted the river system as the result of millions of years of calm river flow. In his journal, he wrote:

The river, though it has so little power in transporting even considerable fragments, yet in the lapse of ages might produce by its gradual erosion an effect of which it is difficult to judge the amount.<sup>1</sup>

The *HMS Beagle's* very next (and most famous) stop was on the Galapagos Islands, where Darwin's pattern of wrong thinking set the stage for his claim of evolution by natural selection, eventually resulting in his famous book *On the Origin of Species*, which has successfully challenged the biblical worldview to this day.

But just as Darwin made a wrong turn on the Santa Cruz River canyon in Argentina, he was wrong about his claim of slow and gradual changes in the Galapagos animal populations. They were not new species in the process of evolving. The celebrated finch species are now known to all interbreed. The salt and marine iguanas also interbreed. The different species of large Galapagos turtles are only varieties of the same animal "kind."

Both Lyell and Darwin were wrong. Neither evolution nor long-age concepts represent reality. Evidences wrongly used for both or either can be better understood and interpreted within the creation/biblical model. ●

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Dr. Morris is President of the Institute for Creation Research.



# Evolutionary “Game Changer” Doesn’t Change Anything

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

Widespread news reports recently proclaimed that a collection of primate fossils discovered in a collapsed cave in South Africa just might be an evolutionary “game changer.” *ABC News* reported that this creature, called *Australopithecus sediba*, “could be a key link in the process of evolution that led to modern human beings.”<sup>1</sup> One headline read, “Rethinking Human Origins: Fossils Reveal a New Ancestor on the Family Tree.”<sup>2</sup> But none of these claims is true, and it’s relatively easy to understand why.

If this fossil is a real “game changer,” then it should clearly demonstrate human evolution. Otherwise, it’s just an extinct kind of ape. It should show transitional features, such as bones and body proportions that are on their way to becoming shaped like a human’s. It should also be found in earth layers that are significantly below, and that therefore pre-date, evidence of humans. Does this new fossil meet either expectation?

## Confusion over Sediba’s Age Assignment

Five technical papers in the September 8, 2011, issue of the journal *Science* offered analyses of the various *Australopithecus sediba* bone fossils. In one, researchers explained why they believe that the fossils’ age assignment makes them valid candidates for pre-human ancestors.<sup>3</sup>

The study authors argued that the “Sediba” fossils are almost exactly 1.977 million years old. They then asserted that no *Homo*—the scientific name for human—fossil remains are any older than 1.9 million years, so that Sediba supposedly existed 77,000 years before humans. They reasoned that man therefore could have evolved

from Sediba or a Sediba-like creature.

But genuine human remains have been discovered in earth layers below, and thus were deposited *before*, Sediba fossils. These must be ignored for Sediba to possibly be an evolutionary precursor of humans, because descendants cannot pre-date their ancestors.

In response to 2010 Sediba-related headlines, creation anthropology author Marvin Lubenow noted recognizably human fossils dated by evolutionists at or even *older* than Sediba’s 1.977-million-year age assignment.

Lubenow wrote in an online article:

I list three fossils from Kenya and Tanzania dated by evolutionists at older than 2 million years that, morphologically [based on shape], are indistinguishable from modern humans. Further, I list at least 18 *Homo erectus* fossils that are dated by evolutionists between 1.75 and 2 million years. More recent *Homo* discoveries include an upper jaw (maxilla) from Ethiopia and a lower jaw (mandible) from Malawi, both dated at 2.3 million years.<sup>4</sup>

But there is more evidence of humans before Sediba. In agreement with the original assessment published in *Science* in 1980, two recent analyses concluded that the famous Laetoli footprints in Tanzanian volcanic mud were made by feet that were essentially identical to those of humans.<sup>5,6</sup> The tracks were tacked onto the evolutionary timeline at 3.7 million years ago—long before Sediba—but despite their foot shape, the tracks were assigned to extinct apes!

A human foot bone fossil—the fourth metatarsal—was recently found in Ethiopia among an assemblage of hundreds of unattached bones and assigned an age of three million years. Researchers, also publishing in *Science*, compared it with those of the modern human, chimpanzee, and gorilla.<sup>7</sup> Though their analysis rigorously demonstrated that it perfectly matched a human’s and was totally unlike the apes’, they claimed it was the foot bone of an extinct ape.<sup>8</sup> Was this because it did not match the evolutionists’ consensus time of man’s supposed “emergence” at 1.9 million years?

And what about the evolutionary dating



Image: University of Zurich, Peter Schmid.  
Usage does not imply endorsement.

of “the first appearance of stone tools at 2.6 million years ago” that the Sediba authors acknowledged?<sup>9</sup> As far as is *known*, only people make stone tools. And as described below, Sediba’s hands were not fit for tool-making.

How did the authors promoting Sediba as a “game changer” deal with these human bones, human foot tracks, and human tools, all deposited before Sediba? They simply dismissed them by saying “their age is uncertain.”<sup>3</sup> They *must* say this in order to isolate Sediba’s candidacy as a pre-human ancestor from the fossil facts.

The many pre-Sediba *Homo* remains are the real “game changers.”

### Human Evolution from Sediba?

Even if the human bones, tracks, and artifacts that predate Sediba were somehow not from *Homo*, what is the feasibility that a creature like Sediba could have evolved into a human in 77,000 years? According to the researchers, morphing Sediba into *Homo* would require refashioning at least these features:

Increased brain size and organization, dentognathic [protruding mouth] reduction, ... (a projecting nose), increased body size, biomechanical reorganization of the pelvis for locomotion, relative lower limb elongation, enhanced bipedal characteristics of the foot (a longitudinal arch), and the potential for tool use and manufacture.<sup>3</sup>

All those precise alterations by randomly occurring natural forces in only 77,000 years?

Such drastic changes are not only impossible over such a relatively short time, but *no* amount of time would be sufficient for natural forces to transform one fully formed, well-fitted ape creature into a human because nature alone cannot and does not build complicated machinery. According to observable science, the ravages of time don’t construct, they deconstruct.<sup>10</sup>

### Sediba’s Ape Hand

Pre-Sediba human remains must be ignored to maintain this fossil’s “game changer” status. However, did Sediba at least have

## If this fossil is a real “game changer,” then it should clearly demonstrate human evolution.

transitional features, such as a part-ape, part-human hand?

One of the *Science* reports examined the features of each bone in the wrist and hand from what appears to have been an adult female of this extinct ape kind. The unique hand doesn’t look like a modern ape’s, a modern human’s, or any kind of gradual transition between the two. The researchers wrote that it had a “mosaic” of features.<sup>9</sup>

Its finger bones were long, curved, and—“together with its primitive australopith-like upper limb”—demonstrate that this small primate was fitted for swinging through trees.<sup>9</sup> Human finger bones are straight.

Also, Sediba’s thumb was long and skinny. A human thumb is proportioned to bear “large loads during stone tool production.” So Sediba’s thumb probably “was not subject to the same type or frequency of loading as that of other contemporary or later hominins.”<sup>9</sup> Thus, it *could* swing from tree branches and probably *could not* make tools out of hard stone.

The study authors concluded that the uniqueness of Sediba’s hand “adds to the range of morphological [shape] variation previously documented in the hominin carpometacarpal [wrist] joints and to the ambiguity surrounding the polarity and functional significance of some of these features.”<sup>9</sup>

“Functional significance” refers to the fossil hand’s potential to make tools. As far as is known, only the human hand, integrated with human muscles, nerves, and mental processes, has this capability.<sup>11</sup>

### “Game Changer” Label Totally Unjustified, but Typical

So, if *Science* says that this fossil adds “ambiguity”—a synonym for “uncertainty”—then how can media reports justify the claim that it “reveals a new ancestor”? When it comes to human evolution, headlines don’t match reality. For example, the fossil nicknamed “Ida”

was promoted as the “missing link” in 2009, but almost immediately was debunked as an extinct variety of lemur with no evolutionary significance whatsoever.<sup>12</sup>

Preliminary reports of these same *Australopithecus sediba* fossils made similar claims of possible human ancestry. But it was quickly seen as “not a missing link.”<sup>13</sup> These new Sediba fossil descriptions confirm that it is still “not a missing link.” Rather than showing any transitional features between ape and man, its anatomy, including its hand, was a mosaic of well-matched features that were fitted together as though specially created.

*Australopithecus sediba* had a unique and separate suite of physical and therefore genetic characteristics. It was not a transition toward man, but an extinct ape kind. It is not an evolutionary game changer, but the hype surrounding it shows that the game of promoting human evolution with premature and misleading headlines has not changed at all. ●

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Mr. Thomas is Science Writer at the Institute for Creation Research.



# DEFENDING A “FACT”

FRANK SHERWIN, M.A.

The public is overwhelmed with claims that evolution is a fact—from the classrooms to the courts and clergy. The late S. J. Gould even likened evolution to gravity:

Facts do not go away when scientists debate rival theories to explain them. Einstein’s theory of gravitation replaced Newton’s, but apples did not suspend themselves in mid-air, pending the outcome. And humans evolved from apelike ancestors whether they did so by Darwin’s proposed mechanism or by some other, yet to be discovered.<sup>1</sup>

In past decades, secularists, alarmed by the rise of those who question the unobserved idea of vertical evolution—as opposed to the minor horizontal changes that *can* be observed—have responded with panic. Television programs, educational supplements, and imaginative museum displays have all beat the drum defending the people-from-bacteria philosophy.

Michael Ruse wrote a book in 1982 titled *Darwinism Defended*<sup>2</sup> in which he made the point that minor variation can be observed and measured. Indeed, the cover of Ruse’s book shows the finches Darwin found on the Galapagos Islands that expressed minor variation. But this is clearly not what vertical evolution is, or what the origins debate is all about. It’s not about going from small to large beak; it’s about going from no beak at all to having a beak. Such large change is vertical or “macro” evolution—or, as Darwin described it, descent with modification.

The Subject Index of Ruse’s book shows pages 210 to 228 as covering the word “macroevolution.” But pages 227 and 228 are either blank or just have the title of the book’s next section. That leaves the reader with 15.5 pages, or less than 5 percent of a 356-page book, to defend Mr. Darwin’s strange idea. Though only 5 percent of the book actually addresses the title subject, this is more than what Darwin accomplished in *Origin of Species*, which not one time addressed how species originated.

Ruse showed a diagram (Figure 9.7) of a “clade” that presupposes macroevolution, and minor change in the diameter of the foraminiferan *Lepidolina* (Figure 9.8)—but it’s still *Lepidolina*. Ruse makes much of corn (maize) variation (Figures 9.9 and 10)—but it’s still corn, and fruit flies remain fruit flies (Figure 9.11).<sup>3</sup>

The defense for macroevolution hasn’t changed much. In 2001 a husband/wife team wrote the even more shrill and vitriolic *Defending Evolution*.<sup>4</sup> Its index showed that three pages, or just over 1 percent, of their 246-page book was dedicated to the root question: macroevolution. And those pages offer no facts of macroevolution. Instead, the couple



used a logical fallacy called “begging the question.” They wrote, “Likewise, humans did not directly observe the evolution of the dinosaurs, but their evolution is nonetheless considered to be scientific fact.”<sup>5</sup> But this presupposes that vertical evolution occurred—in a book dedicated to defending vertical evolution!

Meanwhile, a 2011 *Science* magazine article stated:

The demise of *T. rex* and most other dinosaurs some 65 million years ago may grab all the headlines. But paleontologists are equally concerned with puzzling out how these mighty beasts got their start. Who were their ancestors?<sup>6</sup>

To summarize, the best defense is a good offense. A convincing defense of evolution need only list fact after documented fact of macroevolution (“descent with modification”), chapter after chapter, in each field of biology. Instead, we find examples of minor variation coupled with lengthy attacks on those who question vertical evolution. That is no way to defend a “fact.” ●

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Ella Brooke Photography

# First SOBA Class Graduates

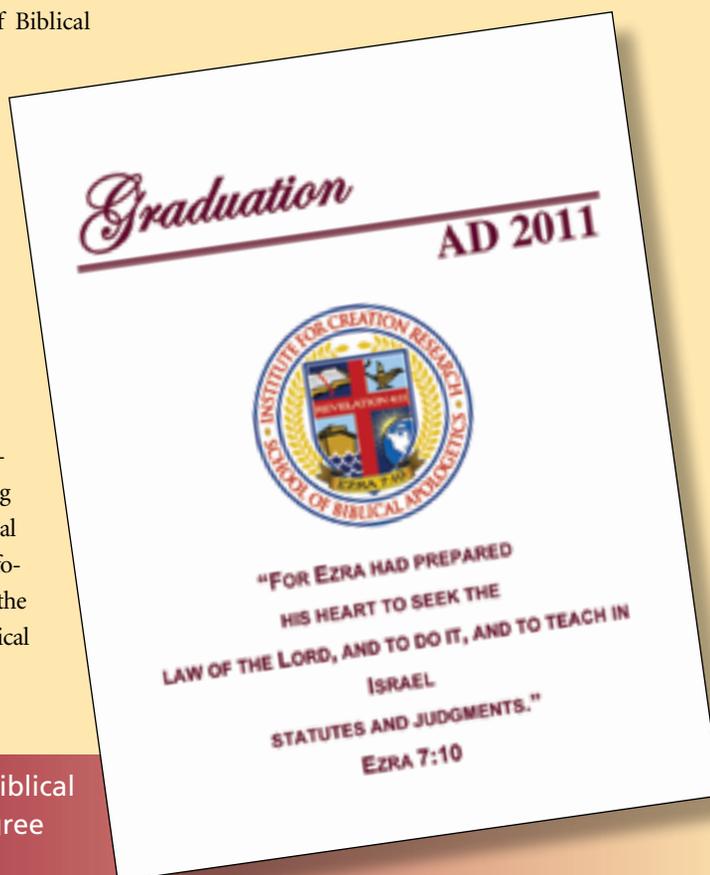
The Institute for Creation Research's School of Biblical Apologetics (SOBA) is proud to announce the graduation of its first class.

Nine students have completed their Christian Education degrees with a joint major in Biblical Education and Apologetics—eight with master's degrees and one with a bachelor's degree. Each student earned one or more of the academic minors Genesis Studies, Creation Research, Sacred Humanities, Christian Leadership and Communication, Specialized Ministries, Creation Theology, and Christian School Teaching.

ICR launched SOBA in 2009 on its Dallas, Texas, campus to promote biblical apologetics by providing postsecondary education programs. SOBA is founded upon an unwavering commitment to the Bible's inerrant authority and the historical and theological importance of Genesis 1–11. The program focuses on training students to understand and communicate the biblical creation apologetic, especially in a culture where biblical compromise de-emphasizes the importance of the Scriptures.

Congratulations to all our graduates!

For more information about ICR's School of Biblical Apologetics, or to enroll in SOBA's online degree program, visit [www.icr.edu/soba](http://www.icr.edu/soba)



# LETTERS TO THE EDITOR

I recently acquired a copy of a quarterly publication that originated from you called *Days of Praise*. I am grateful to see the circulation of such a publication, and I encourage its continuance. Most of all, I applaud the bravery and impetus you exhibit in a day when the mainstream of Christendom appears to be following a watered-down prospectus and practice. Be encouraged to “fight manfully onward” in an effort to sound an alarm amidst the hordes of sleeping virgins. If a midnight cry is to be heard, it must resonate from the Voice of the unadulterated Word of God!

—B.R.J.

Never in my 40+ years as a Christian, or in my more than 12 years of studying Christian apologetics, have I seen an article on Natural Selection to equal [the November *Acts & Facts* article] “Darwin’s Sacred Imposter” by Dr. Randy Guliuzza. It is devastatingly clear and logically coherent, and powerfully exposes evolution’s most important pillar. We needn’t be scientists to see the fallacies in the claims of evolutionists. We simply need only think logically about the points Dr. Guliuzza makes. This explanation should be in the hands of all Christians, especially those in the natural sciences who might have unwittingly stumbled into this trap. A loud and prolonged standing ovation is owed Dr. Guliuzza by all of us who treasure the truth of God’s creation.

—J.F.

Thank you once again for all you have done to help our church present Nathaniel Jeanson

I visit Christian websites that have faithful writers that think and examine Christian life critically. I primarily read from writers who know that the Word of God has withstood, and will continue to withstand, any challenges if viewed with honest intentions. We live in a day which seems as if many of the sacrifices that were made before us will never have to happen again, but to be honest, I’m not so sure about that. Even now, it takes sacrifice and effort to continue to hold the enemy at bay, yet we can only do so with the help of the Holy Spirit.

Yet, like a cool drink of water, God’s Word (through your writers) comes to soothe the sore muscles and bring sustenance to the tired body. Once again, we are able to rise and look forward to the future brimming with confidence and assurance of “Who holds tomorrow”!

Allow me to take a moment to congratulate all the writers as well as staff and webdesigners for a great website. I pray that your lives be filled with the love and comfort that only comes from our Lord Jesus Christ.

I am sure there have been many challenges and changes over the years, and you have probably learned a “few” things here and there, and praise God you have all persevered, and continue to persevere because you know that you are on the greatest mission anyone can be on...doing the Will of God!

—K.M.

in our recent Bible and Science Weekend. We were all greatly informed and inspired by his presentations. He endeared himself to me and our people. We wish you and all of the faithful witnesses at ICR God’s rich blessings in the coming days—especially the holiday season of Thanksgiving and Christmas.

—R.F.R.

Just a note to thank you all for your years of sending us the boxes of *Days of Praise*. The prisoners enjoy them, and are received gratefully. They are also passed out in trains, hospitals, restaurants, and lately now in Starbucks.

Anywhere we have an audience, always for the cause of the Gospel message, and to see people come to understand God’s Word more fully and what He has for them. Thank you again for sending them along. Keep them coming, and may God bless the ministry there.

—J.&P.G.

I received news this week from a pastor in the area that an atheist/evolutionist who attended the ICR conference in May spent the summer reading some books he purchased at the conference. A few weeks ago he came forward to ask Jesus into his heart and is born again! He said it was the evidence presented at the conference that started him down the road.

—R.B.

Thank you so very much for the article entitled “Genesis Under the Microscope” by Brad Forlow. It was outstanding. I am particularly delighted with it as it now gives me in writing, and hence confirms, something I felt the Lord showed

me some time ago, and that is the scriptural impossibility of the Gap theory because death before the Fall is totally incompatible with the Gospel message. Having been subjected to a teaching at one time by someone who believes the Gap theory, I am strengthened in my rejection of that theory by this article.

—S.C.W.

Have a comment? Email us at [editor@icr.org](mailto:editor@icr.org).

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# Christmas Gratitude

HENRY M. MORRIS IV

No matter what our personal situations may be, each Christmas we are reminded just how deeply and completely God loves us. His wondrous plan of salvation—first set in motion in the Garden of Eden soon after creation, preserved during the great Flood through Shem in the shelter of the Ark, and promised to Abraham and David and proclaimed by the prophets through the following ages—was physically and miraculously manifested in the birth of the Lord Jesus Christ some two millennia ago. God’s plan for salvation was finally culminated 33 years later when His perfect Son sacrificed Himself in our place, victoriously conquered sin and death, and is alive forevermore. Indeed, all who have accepted God’s gift of salvation through belief in Christ have much to be thankful for!

We at the Institute for Creation Research are also reminded of the many blessings He has bestowed upon our ministry. Now entering our fifth decade, God has marvelously provided for ICR’s needs through like-minded believers who recognize the pivotal importance of our work in defense of the faith and who have generously given of their resources to ensure our ministry continues. ICR has experienced many remarkable evidences of God’s special provision this past year, and while space does not allow a full report, I believe our readers will be blessed by a brief account of the few which follow.

- Just as ICR began promoting its recently expanded line of *Science Education Essentials* teaching curriculum supplements, a long-time ICR supporter approached us with an offer to help. Their particular interest in our science education ministry made it possible to send a complete five-course set to 100 specially selected Christian schools, teachers, and administrators. Not only were the sets purchased by the supporter at full retail value, but they also paid the shipping costs!

- As ICR’s School of Biblical Apologetics was preparing for its second year of graduate studies, the Pella Corporation unexpectedly contacted us about establishing a scholarship program in honor of Thomas A. Commes. Mr. Commes was retiring from their board after many years of service and, unbeknownst to us, was a fan of ICR’s work. The first grants from the newly established Thomas A. Commes/Pella Corporation Scholarship Fund were awarded this past fall to two worthy students, and thanks to the generosity of the Pella Corporation, scholarships will be available for the next four years.
- The first printing of ICR’s newest scientific resource, *The Design and Complexity of the Cell*, is being marvelously funded by a generous grant from The Believer’s Foundation. Complete with full-color illustrations and a hard-back cover, this high quality book was not an inexpensive venture. Thanks to our friends at The Believer’s Foundation, this wonderful resource will soon be available, demonstrating the perfect accuracy of the biblical record that we are “fearfully and wonderfully made” (Psalm 139:14) by God.

Many similar stories could be shared, but I believe these exemplify how ICR uses the support we receive to uncover and teach the truth of Christ’s magnificent creation. Your gifts this Christmas season will be an especially sweet blessing to us as we make plans for the coming year. New research projects, new online video and educational programs, and many more apologetic tools are in store to equip the saints for God’s work. We invite you to join us—together we can accomplish much for the cause of Christ, our Creator, Savior, Redeemer, and coming King. ●

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



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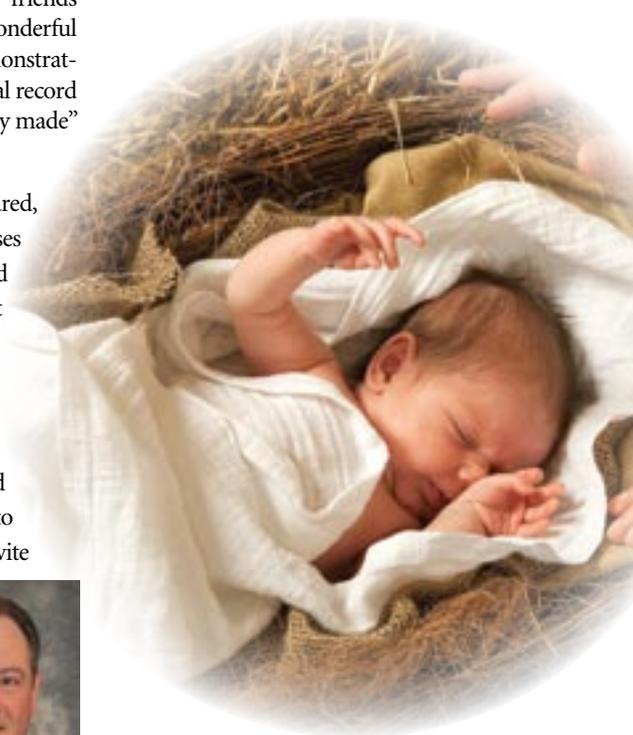
(Galatians 6:9-10)

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# Has Einstein's Limit on the Speed of Light Been Broken?

L A R R Y V A R D I M A N , P H . D .

## Introduction

A consortium of 174 scientists at the CERN and LNGS laboratories announced on September 23, 2011, that they had observed neutrinos traveling 0.0024 percent faster than the currently accepted value for the speed of light.<sup>1</sup> If true, this could unravel Albert Einstein's theory of relativity, or at least cause it to be modified. The famous formula  $E=mc^2$  has stood firm for over 100 years and has been incorporated into much of our understanding of space and time.

The implications are enormous. However, such a major finding will require additional scrutiny before it is accepted. And, even if accepted, it may only apply to very specific circumstances. Would such a finding impact recent creationist research?

## The Experiment

The OPERA Project (Oscillation Project with Emulsion tRacking Apparatus) is a European experiment whose main goal is to detect neutrino oscillations from the appearance of leptons in a detector located a long distance from a high-energy source of neutrinos. The beam of neutrinos is created by the Super Proton Synchrotron at CERN (European Centre for Nuclear Research) in Switzerland, which directs the beam through the earth toward an underground target at the Gran Sasso Laboratory (LNGS) in Italy 730 km (453.6 miles) away.

The equipment is well-suited to determine the neutrino velocity with high accuracy by measuring the time of flight and the distance between the source of the neutrino beam at CERN and the OPERA detector system at Gran Sasso, which is shown in Figure 1. A very complex method is used to calculate the time of flight for the neutrinos. The authors of the related report note, "It is worth stressing that this measurement [time of flight] does not rely on the difference between a start ( $t_s$ ) and a stop signal but on the comparison of two event time distributions."<sup>1</sup> In other words, the time of flight is not measured for a single particle but by a statistical method applied to the distribution of arrival times from multiple neutrinos.

The baseline was also measured to a high precision. The distance between the focal point of the target and the OPERA reference frame was precisely measured in 2010 following a dedicated geodesy campaign. The distance was determined to be  $730,534.61 \pm 0.20$  meters (453.93316  $\pm$  0.000124 miles). This measurement precision is about 8 inches.

Previous experiments for similar baselines but lower neutrino

energies and less precision have reported speeds greater than the speed of light by 0.004, 0.0051, and 0.002 percent, respectively.<sup>2,3,4</sup> The results from OPERA were based on very high precision, not only for the statistical errors but also for the system ( $0.00248\% \pm 0.00028\%$  (stat.)  $\pm 0.0003\%$  (sys.)).

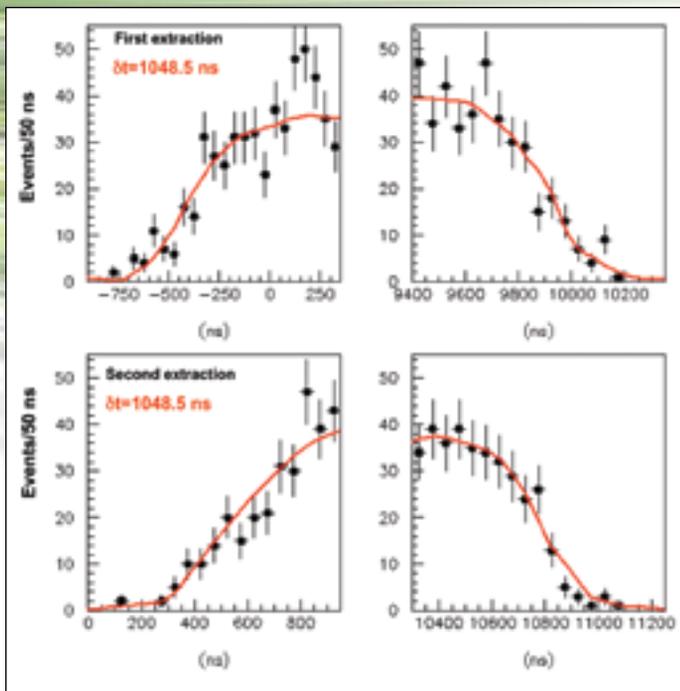


*Figure 1. The OPERA detector system at LNGS in Italy. The black rack to the left is a stack of 150,000 8.3 Kg (~18 pound) bricks of photographic film interleaved with lead sheets and plastic scintillators to count and time-stamp the arriving neutrinos.<sup>5</sup>*

## Possible Sources of Error

The most likely source of error in the experiment would seem to be in the method of fitting the time distributions of protons leaving CERN with the time distributions of neutrinos arriving at Gran Sasso. The two distributions are fit to each other, and when they line up give the time of flight, and thus the speed. Figure 2 shows the distributions of the departure and arrival times at CERN and Gran Sasso, respectively.

The authors slide the red line along the horizontal axis and determine when it best matches the points. This supposedly gives an accuracy of about 10 nanoseconds. This seems too strong a claim, since the horizontal error on the points (the bin width) is five times bigger than this. Also, they seem to assume the red line and the points should match exactly. There seems to be no allowance in their systematic uncertainties for the possibility that the red line might not be a true reflection of the shape of the neutrino "turn on" and "turn off" at Gran Sasso.



**Figure 2.** The leading (left plots) and trailing edges (right plots) of the measured neutrino interaction time distributions (data points) and the proton probability distribution function (red line) for the two SPS (Super Proton Synchrotron) extractions after correcting for  $\Delta t$  (deviations in the time of flight).<sup>1</sup>

For example, at CERN where the red line is measured, all the protons are included in the time profile. By the time the beam gets to Gran Sasso, it has fanned out and is big enough that OPERA only sees neutrinos from part of the beam. So, any correlations between the production time of the neutrinos (where they are on the horizontal axes of those plots) and the angle they are produced at (which determines whether or not they actually get to OPERA) could distort the shape, leading to an uncertainty in the fit and hence an uncertainty in the speed.

Also, note in Figure 2 that the red lines trace a curve that is far from many of the data points. Some are even outside the standard errors shown on the plot. The method by which the statistical error was computed may not adequately account for the variance between the neutrino and proton probability distribution functions.

These concerns are standard fare between theoretical and experimental science. It was Einstein himself, both a theoretician and an experimentalist, who said, “A theory is something nobody believes, except the person who made it. An experiment is something everybody believes, except the person who made it.”<sup>6</sup> So, it’s likely that this controversy will continue for some years to come.

### Implications on Creationist Views

If the findings of the OPERA group turn out to be true, how would such a finding affect creationist research? For many years, creationists were highly skeptical of relativity and quantum mechanics. But in recent years more and more young-earth creationists have come to believe that

relativity is beneficial to young-earth thinking. Humphreys,<sup>7</sup> Hartnett,<sup>8</sup> and Gentry<sup>9</sup> have each used the general theory of relativity to build a case for their cosmogonies. Each has solved various aspects of the mass, space, and time issue in a young universe by solving Einstein’s field equations by using different boundary conditions or suggesting additional coordinates. For example, Humphreys has suggested that rapid expansions of the cosmos at creation and the Flood would have caused time to be accelerated at distances far from earth, permitting light to reach earth from outer space in only thousands of years, not billions.

These theories suggest that the effective speed of light relative to an earth timeframe can change. However, the general theory of relativity they use assumes the speed of light is constant and independent of all moving frames of reference. If it is found that the speed of light is not constant, but can change in the earth’s frame of reference, the equations of relativity may become even more complex than they currently are. Current creationist research is not likely to be nullified by the speed of light not always being constant, but it could complicate attempts to develop alternative cosmogonies.

On the other hand, if the speed of light is found to be changeable under various conditions, this lends credence to the creationist view that basic physical constants are changeable. ICR’s RATE project found evidence that nuclear decay rates have changed in the past.<sup>10</sup> Since decay rates, the speed of light, and other constants are tied to each other through physical laws, it’s becoming easier to justify the view that many parts of the cosmos could have been affected by processes that operated in different ways and at different rates in the past.

Of course, Christians who accept the Bible as the Word of God believe that anything is possible with God. When He said He created the world in six days or that He caused a global flood in about a year, we accept this, without fully understanding it, because an omnipotent God revealed it to us. However, as new knowledge is discovered in the physical world around us, we are coming to understand more fully how He may have done it. What a blessing for a believing scientist! ●

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