

# ACTS & FACTS



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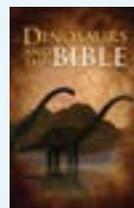
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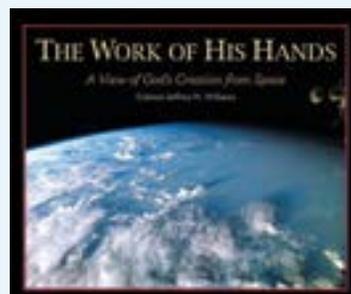
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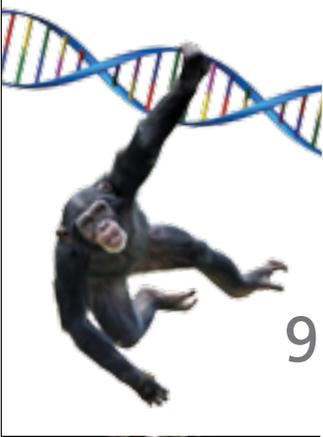
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# Mending the Holes

**N**obody wants to drop money in a pocket only to later find that it slipped through a hole and was lost. Whether we're dealing with pockets, purses, or pots, I think we'd all agree that containers that don't hold things are useless. They don't fulfill the purpose they were created for.

In this month's feature article, Dr. Henry Morris III talks about such "Holey Bags" (pages 5-7) and reminds us that we've trusted a bag with holes when we consume opportunities and resources without thinking about how God wants us to use them. We work hard, believing our riches will bring peace of mind. We tightly grip the things of this world, only to eventually find ourselves clutching an empty sack.

We can be hurt by our "holey bags," the untrustworthy things we depend on for happiness, fulfillment, or security. Have holes sifted out some of the good things, the best things, God intends for your life? Dr. Morris says, "From time to time we all need reminding that we are here on Earth to glorify our Creator, not to use His resources for our own pleasure and aggrandizement" (page 6). Do you trust in money to get you through the day? Is your career, reputation, or position in the community your source of security? Do you fill your bag with trinkets and bank accounts, only to see them disappear? Has your "focus of faith shifted from the work of the Kingdom to the 'bag with holes'" (page 7)?

Maybe your bag has holes of alarm because of environmental or political issues. ICR's Dr. Vernon Cupps and Dr. Jake Hebert discuss a topic that's urgently being debated around the world: global warming and cli-

mate change ("A Realistic Look at Global Warming," pages 10-13). They say, "Much of the alarmism surrounding this issue results from climate computer models....So many variables affect Earth's climate that it's difficult to see how a model can accurately predict future changes, especially given our present imperfect understanding." They also point out "we should be good stewards of what He has given us, but we enter dangerous territory if we presume to be able to control and shape to our will what God has made." Perhaps our fears are based on the need to control what only God can control.

And if your "bag of holes" is the doubt that the Bible can be trusted in matters of science, then we're here to encourage you. Dr. Jason Lisle says, "We can't ever reach God's level of thinking, but we can, by God's grace, learn to reason correctly—in a way that is consistent with His nature" ("Higher Thoughts," page 15). ICR's mission is to help believers discern and trust the higher thoughts of God. You can have confidence that science confirms the Bible. Henry Morris IV

tells us "ICR research feeds our educational programs and publications....Countless people have been trained to believe, teach, and preach the entirety of the gospel message—beginning with the book of Genesis" (page 22).

We pray that the Lord will use ICR to help patch the holes of disbelief or doubt in your life. While the book of Haggai begins on a somber note about the emptiness of lives marked with bags of holes, it ends with hope. Even though God's children sometimes squander opportunities to serve Him, the Lord declares His faithfulness: "I will take you...and will make you like a signet ring; for I have chosen you" (Haggai 2:23). Our Creator delights in patching the holes, mending the sifted and strained pieces of our lives, and using our patchwork vessels for His glory.

*Jayne Durant*

**Jayne Durant**  
EXECUTIVE EDITOR





# Holey Bags

HENRY M. MORRIS III, D.MIN.

“You have sown much, and bring in little; you eat, but do not have enough; you drink, but you are not filled with drink; you clothe yourselves, but no one is warm; and he who earns wages, earns wages to put into a bag with holes.”

( H A G G A I 1 : 6 )

**W**ith the country in such turmoil and the future more bleak and dicey than it has been in a long time, many people are turning inward, hoping to carve out a safety net of some sort—“just in case.” While the Bible certainly cautions prudence and careful consideration of our personal responsibilities for our families, we are never told to trust either our own wisdom or the world’s advice for the future.

### Lessons from Israel

The prophet Haggai lived in a challenging time in Israel’s history. Cyrus of Persia had just let some 50,000 of the Jewish captives in Babylon return to Jerusalem with orders to rebuild their temple and restore worship in their land. That land had long been held under the horrible mismanagement of pagans. The city was in shambles, and local political rule was both ungodly and hostile to the worship of Jehovah. However, Zerubbabel was given authority from Cyrus to rebuild and was in a direct genetic line from King David. Ezra had come with Zerubbabel with priestly authority, some of the major implements of the temple

plundered by Nebuchadnezzar's armies, and a deep and passionate desire to bring revival back to God's people.

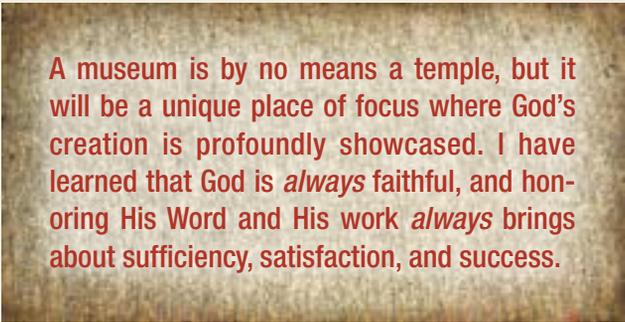
There was hope, but opposition was both immediate and forceful.

It wasn't long after the foundation of the temple was laid that the will of the people began to sag, and the work dribbled off in various spits and starts until it finally stopped—for 16 years! Haggai was among that initial group and was at first swept up in the malaise and spiritual letdown that engulfed God's people to the point where they began to be more concerned with survival than with carrying out God's work.

Apparently, one day the Lord pulled Haggai out of his lethargy to challenge Israel with some very serious admonitions—and gave Haggai the vision of God's promise of fulfillment and victory. Those four messages, two chapters, 38 verses, and 1,133 English words startled Israel and encouraged Zechariah, Haggai's friend and fellow prophet, to get busy and finish the work God had called that generation to do—build the temple of God and make a place of focus for God to return and rebuild the nation.

### Two Stern Admonitions

“Consider your ways!” (Haggai 1:5, 7). Sometimes the Lord seems like an old revivalist preacher. “Look at yourself!” the Lord says through Haggai. “You are working hard but are hardly making ends meet. You keep trying to satisfy some thirst with what the world has to offer, but it does not (and will never) satisfy. You shop at the fancy stores and buy the latest fashions, but they don't give you either the pleasure or the warmth that you thought they would. And to top it off, you are struggling to increase your retirement funds, but the 401K is dropping faster than the money you put into it!”



**A museum is by no means a temple, but it will be a unique place of focus where God's creation is profoundly showcased. I have learned that God is *always* faithful, and honoring His Word and His work *always* brings about sufficiency, satisfaction, and success.**

Yes, that's a rather contemporary paraphrase of what Haggai was told to tell the Lord's people of his day—but the parallels are easily seen among God's family today! Every so often, the family of God has to go through a shakeup. The biblical history is easy to see. God would bless Israel, prosperity would ensue, then Israel would slowly become more and more worldly and ultimately end up in an economic, political, and spiritual imprisonment of their own making. One wonders why God's people can't seem to learn from their own history!

“Build my house!” God demands (Haggai 1:8). Stop focusing on your own plans for prosperity, bigger and better houses, and attempts to drape yourselves with the “look and feel” of the godless world around you. All you are doing is dropping the resources that God has provided you into a “bag with holes.” There is no eternal sense in that. Get busy with the necessary work to accumulate the materials to “build the temple, that I may take pleasure in it and be glorified,” says the LORD” (Haggai 1:8).

Learn from your own past experience, the Lord says. Every time you invested in something that you thought would make you a fortune, “it came to little; and when you brought it home, I blew it away” (v.9). Do you want to know why, says the Lord of hosts?

“Because of My house that is in ruins, while every one of you runs to his own house. Therefore the heavens above you withhold the dew, and the earth withholds its fruit. For I called for a drought on the land and the mountains, on the grain and the new wine and the oil, on whatever the ground brings forth, on men and livestock, and on all the labor of your hands.” (Haggai 1:9-11)

From time to time we all need reminding that we are here on Earth to glorify our Creator, not to use His resources for our own pleasure and aggrandizement. Yes, God has graciously allowed us to “occupy” until He returns (Luke 19:13, KJV) and has given us a tremendous amount of liberty to do as we wish with the station in life, genetic inheritance, and practical acumen that can be developed within our lifetimes. However, once we are twice-born we are *primarily* His children, granted positional holiness and status for an ultimate eternal reign with the Lord Jesus as “joint heirs” (Romans 8:17).

“I am the LORD, that is My name; and My glory I will not give to another.” (Isaiah 42:8)

### Two Significant Warnings

“Consider your problems and my judgments,” the Lord admonishes (Haggai 1:7-11). Give some serious thought, He says, to what is happening to you and your country. Pay attention to the long view of history. Remember what made this God-founded nation so strong in its beginning and trace the decline over the decades as God has withdrawn His blessing from the country and from His people as both have grown further and further away from seeking the Kingdom first (Matthew 6:33).

One does not have to be a trained theologian or wise counselor to see the hand of God's judgment in weather-related disasters, economic surprises, and business greed that have manifested themselves in the labor troubles, bankrupt companies, swindles, and outright fraud that have become more normal than not. The legal system in our country has done little to “bear the sword”

as “God’s minister” (Romans 13:4), and because “the sentence against an evil work is not executed speedily, therefore the heart of the sons of men is fully set in them to do evil” (Ecclesiastes 8:11). “When the righteous are in authority, the people rejoice; but when a wicked man rules, the people groan” (Proverbs 29:2).

“Obey my voice!” (Haggai 1:12) is the command and the solution. Once the people of Israel paid attention to the message of history and the voice of the prophet, God began to bless and restore the nation. Once the message got through, the people of God “hitched up” their work clothes and got busy with the real work of eternity. Haggai was even told to mark the day that the decision was made: They started on the 24th day of the sixth month (Haggai 1:15).

### Remember and Separate

Once the decision to work was made and the change in behavior begun, the Lord reminded His people that they must remember what it was like when they were in disfavor and keep their families, their temple, and their identity as God’s people separate from any kind of mixture with the ungodly principles of the world (Haggai 2:10-19). Just so, the New Testament is replete with similar warnings (2 Corinthians 6:17; 7:1; Romans 12:1-2).

God even went further in His promise: Stay committed and I will bless you from this day onward. “Consider now from this day forward, from the twenty-fourth day of the ninth month, from the day that the foundation of the LORD’s temple was laid—consider it” (Haggai 2:18). God loves to bless His people—and *will* bless His people—if they do what is expected and asked of them to do.

Finally, the promise was extended

and extrapolated to eternity (Haggai 2:20-23). Ultimately, God will shake the heavens and the earth to eliminate anything and everything that is contrary to His will, and establish the “new heavens and a new earth in which righteousness dwells” (2 Peter 3:13). With Haggai setting the stage and the positive response of the people, Zechariah is given some absolutely marvelous insights to the coming events that will consummate in the total takeover by the Creator and those who have trusted Him for their salvation.

### Well, So What?

Why the reminder from Haggai and the attempt to draw parallels to our time? ICR’s folks come from a wide background within the Lord’s family. In many ways we represent a small group of “returning” Christians who had been held captive by an educational and a social matrix that either ignores or denies the Creator. A few “prophets” like ICR’s founder have led the way to build a testimony to the accuracy and authority of the biblical foundations of a recent creation, a rebellious fall, and a horrible destruction of the planet by God’s judgment through the Flood of Noah’s day.

Millennia have passed since the Flood and since Israel failed to follow the leadership of its prophets and godly kings. Even after the great Incarnation of our Lord Jesus, the Church has struggled to keep its focus and its commitment to God’s Word. Our country saw a return to a creation-based science in the early 1970s but has been bombarded by friends and enemies alike to abandon the need for a recent creation. Zeal for the truth of Scripture has faded into a need for entertainment and broad acceptance by the people of the world.

God has graciously empowered ICR with the knowledge and the initial resources to build an ICR Museum of Science and Earth History as a lasting legacy tool that will teach many generations to come. But we are sensing a concern on the part of some that the state of our country is so tenuous that

some have lost sight that the human effort to stave off personal difficulties has never worked—especially when the focus of faith has shifted from the work of the Kingdom to the “bag with holes.”

### Help ICR “Build the House”

Please accept this as a word of encouragement from me. I make no claim to be a prophet or even to classify myself as a “righteous man” like Elijah (James 5:16-18), but we are on a mission. A museum is by no means a temple, but it will be a unique place of focus where God’s creation is profoundly showcased. I have learned that God is *always* faithful, and honoring His Word and His work *always* brings about sufficiency, satisfaction, and success.

If you will help us “build the house,” God will bring both blessing to us and glory to Himself. Some can give significant gifts out of significant resources, but most of us can give something to share in the work. Join with me in “gathering the wood” from the mountain (Haggai 1:8) and bringing it to the site where the building is beginning to rise on the foundation laid in years past. “Consider now from this day forward...Is the seed still in the barn? As yet the vine, the fig tree, the pomegranate, and the olive tree have not yielded fruit. But from this day I will bless you” (Haggai 2:18-19).

One thing I can most certainly guarantee both the reader and myself—with a rather obvious allusion to the illustration in Haggai, our Lord made this marvelous promise to each of us: “Sell what you have and give alms; provide yourselves money bags which do not grow old, a treasure in the heavens that does not fail, where no thief approaches nor moth destroys. For where your treasure is, there your heart will be also” (Luke 12:33-35). ✍

*Dr. Morris is Chief Executive Officer of the Institute for Creation Research.*



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\*\*See the back cover of this issue for more information about *Made in His Image* or visit [ICR.org/store](http://ICR.org/store) or call **800.628.7640**.

# A More Accurate Chimpanzee Genome

Evolutionists claim that genetics has proved humans and chimpanzees are close evolutionary relatives. The current chimpanzee genome, however, was not constructed on its own merits. Instead, the human genome served as a framework for developing it. All of the short DNA sequences produced from the chimpanzee genome were assembled onto the human genome, using it as a reference sequence.<sup>1,2</sup> This problematic shortcut was taken due to budget constraints, convenience, and a healthy dose of evolutionary presuppositions that humans evolved from apes.

Another serious potential problem with the chimpanzee genome is human DNA contamination—human sequences inadvertently included with the chimp sequences. That would also help to produce a more human-like chimpanzee genome. In 2011, a very interesting study was published in which the researchers screened 2,749 non-primate public DNA databases from all over the world and found 492 to be contaminated with human sequence—almost 18%.<sup>3</sup> These DNA databases represented species ranging from bacteria to plants to fish. Ape and monkey databases were not tested, leaving the question open as to how much human DNA contamination may be present in them.

Given that these problems may very well have led to the development of a chimpanzee genome that appears more human-like than it actually is, ICR has initiated research to assess the quality of chimpanzee DNA sequences. This involves testing for anomalies that would indicate human DNA



contamination. DNA sequence datasets that appear to have reduced levels of human DNA contamination will then be used to reassemble the chimpanzee genome in a *de novo* assembly, meaning that no reference genome will be used.

At present, there are 101 DNA sequence datasets available to the public that were produced using an older technology that yielded much longer chunks of DNA than current technologies, which produce a greater amount of total bulk sequence of much shorter lengths. The longer the length of the DNA sequence, the easier it is to computationally assemble into contiguous genomic regions called *contigs*. I downloaded all 101 of these datasets and end-trimmed the sequences to remove poor-quality bases and bacterial DNA contamination, since that type of sequencing process utilized a lab strain of the *E. coli* bacterium.

To ascertain the quality of each chimpanzee end-trimmed dataset, 25,000 DNA sequences were selected at random and queried against the human genome using a new version of the BLASTN algorithm.

This not only checked for differences in individual bases but also allowed for small gaps in the compared sequences.

When basic statistics were performed on the resulting data, it was clear that a major difference existed between the datasets for overall DNA similarity—a trend that corresponded with the timeframe in which the sequences were produced.

The initial chimpanzee genome publication was drawn from sequences produced early on in the chimpanzee genome project. These sequences were considerably more similar to human than those that were produced later in the project, by an average difference of about 5%. In fact, many datasets exhibited over a 10% difference in similarity. It may be that greater precautions against human DNA contamination were taken later in the project and thus produced less contamination. If the data from these seemingly less-contaminated sets are considered, the chimpanzee genome is no more than 86% identical to the human genome—a number that is in stark disagreement with evolution. We are now actively exploring these promising findings. ☞

## References

1. The Chimpanzee Sequencing and Analysis Consortium. 2005. Initial sequence of the chimpanzee genome and comparison with the human genome. *Nature*. 437 (7055): 69-87.
2. Tomkins, J. P. 2011. How Genomes Are Sequenced and Why It Matters: Implications for Studies in Comparative Genomics of Humans and Chimpanzees. *Answers Research Journal*. 4: 81-88.
3. Longo, M. S., M. J. O'Neill, and R. J. O'Neill. 2011. Abundant Human DNA Contamination Identified in Non-Primate Genome Databases. *PLoS ONE*. 6 (2): e16410.

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



# A Realistic Look at GLOBAL WARMING



V E R N O N R . C U P P S , P H . D . , A N D J A K E H E B E R T , P H . D .

Since the late 1980s, global warming has been hotly debated, with many arguing that Earth is undergoing potentially catastrophic man-made climate change. Is Earth getting warmer? Is such warming, if real, dangerous? And is it caused by human-produced carbon dioxide (CO<sub>2</sub>)? Or, to put it another way, is catastrophic anthropogenic (man-made) global warming (abbreviated as CAGW) real?

There has been a warming trend for much of the 20th century. In fact, ICR scientist Larry Vardiman did his own independent analysis of three different datasets and concluded that warming had probably occurred for at least the last 30 to 50 years.<sup>1</sup>

But past warming is no indication that such warming will necessarily continue. In fact, there has been an apparent pause in this warming trend for the last 18 years.<sup>2</sup> Nor does a warming trend automatically prove that human activity is responsible.

A recent article in *Eos*, however, attempted to establish as fact that human activities drive global warming.<sup>3</sup> The author, Dr. Shaun Lovejoy, did this by supposedly disproving the only alternative—that observed warming is due to natural causes. He calls those who support this alternative hypothesis “denialists” because they supposedly deny the obvious facts of science.

Lovejoy attempts to show that increased amounts of atmo-

spheric carbon dioxide are responsible for an increase in global temperatures of about 1° Celsius over the last 125 years. He does this by making a plot of change in global temperature against a “stand in” or “proxy” for radiative forcing due to atmospheric CO<sub>2</sub> (Figure 1).<sup>4</sup> Radiative forcing is an indication of a gas’s ability to affect the earth’s climate. (See the sidebar for a more detailed discussion.) Lovejoy argues that there is only a one-in-three-million chance that natural causes could produce this temperature rise, although he later acknowledges that a more realistic estimate is one in a thousand.

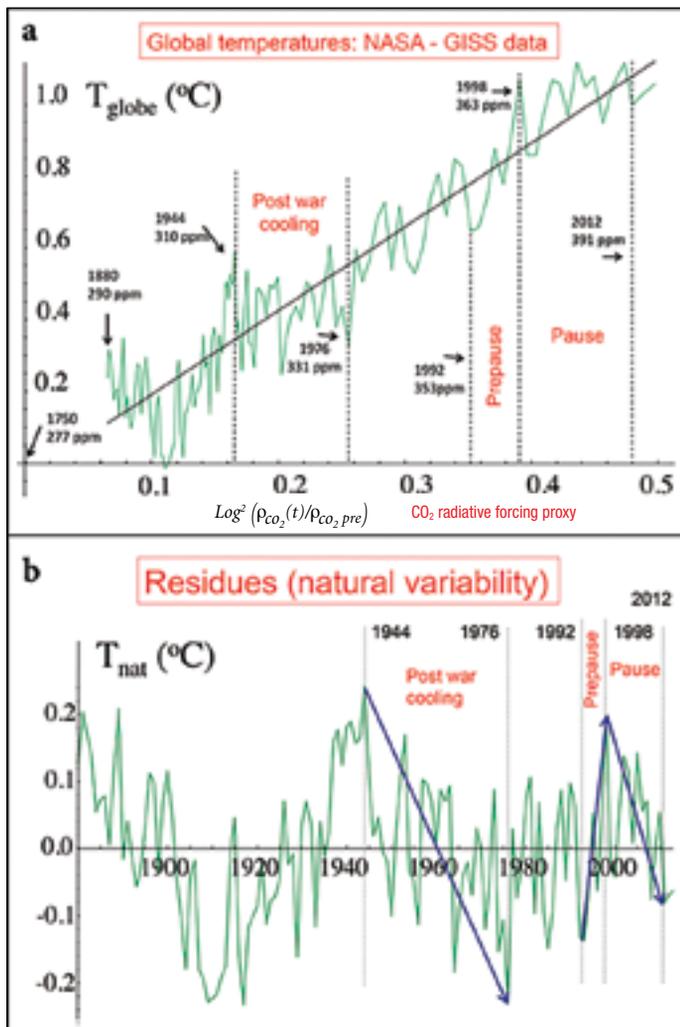


Figure 1.

Image Credit: American Geophysical Union. Adapted for use in accordance with federal copyright (fair use doctrine) law. Usage by ICR does not imply endorsement of copyright holder.

## A History Lesson

But are long-lasting changes in climate really that unlikely? Abundant historical evidence shows that significant, long-term climate fluctuations lasting hundreds of years *have* taken place. These fluctuations occurred long before human CO<sub>2</sub> contributions became significant. Even scientists who believe that humans are causing global warming acknowledge that human contributions to atmospheric CO<sub>2</sub> were practically negligible until the early- to mid-1900s.<sup>5</sup>

## Radiative Forcing

Most of the sun’s energy striking the earth warms our planet’s surface and atmosphere, but some of this energy ultimately escapes back into space. If the total energy absorbed by the Earth-atmosphere system is a little greater than the amount lost to space, then this net gain in energy will have a global warming effect. But if this input of energy is a little less than the energy lost to space, then global cooling will occur.

Radiative forcing ( $\Delta F$ ) is a measure of the ability of a greenhouse gas like CO<sub>2</sub> to affect this energy balance. It is equal to the change, caused by a change in concentration of the gas, in the net energy input per unit time (measured in watts) to a square meter (and at a specified height) of the earth’s atmosphere. Radiative forcing is approximately equal to:

$$\Delta F \equiv \left( A \times \ln \frac{C}{C_0} \right) \text{ in units of } \left\{ \frac{\text{W}}{\text{m}^2} \right\}$$

The constant A depends on which greenhouse gas is being studied. For CO<sub>2</sub>, A is 5.35 W/(m<sup>2</sup>). C is the concentration (in parts per million by volume) of the greenhouse gas in question, and C<sub>0</sub> is a reference concentration of the gas, normally taken to be that from the pre-industrial era.

One expects increased atmospheric carbon dioxide to result in a higher average global surface temperature. This increase in temperature is called the *temperature anomaly* and is indicated by the symbol  $\Delta T$ . But the actual amount of this warming depends on a quantity called the *climate sensitivity*  $\lambda$ , measured in °C/(W/m<sup>2</sup>).

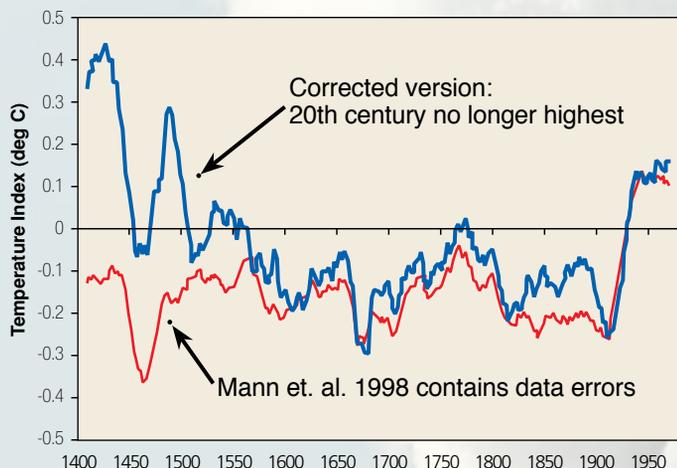
$$\Delta T \equiv \lambda \times \Delta F \text{ in units of } ^{\circ}\text{C}$$

Because the atmosphere’s behavior is quite complicated, there are feedback processes that can either enhance or diminish any potential warming caused by an increase in atmospheric CO<sub>2</sub>. These processes affect the value of  $\lambda$ , which in turn affects the amount of warming that actually occurs. A high value of  $\lambda$  (for CO<sub>2</sub>) would imply that a given increase in atmospheric CO<sub>2</sub> will result in significant warming, while a lower value would imply that it would not. Those who are very concerned about this issue generally argue that the climate is very sensitive to increased atmospheric CO<sub>2</sub>, with a high value of  $\lambda$  (say, 1.2°C/(W/m<sup>2</sup>)), while those who are less concerned tend to argue that the sensitivity for CO<sub>2</sub> is smaller (say, 0.4°C/(W/m<sup>2</sup>)). For this reason, the true sensitivity  $\lambda$  of the climate to increases in atmospheric CO<sub>2</sub> is at the heart of the “climate change” debate.

This issue of sensitivity is closely related to the reason past climate models have often failed to accurately predict future warming—complicated feedback processes in the Earth-climate system make this a difficult exercise.

Yet there have been two significant changes in climate within the last thousand years—the Medieval Warm Period (roughly 950–1250 A. D.) and the Little Ice Age (roughly 1300–1850 A. D.). Because these changes in climate occurred before humans could have caused them, the mere existence of these two periods is a real problem for any attempt to dismiss the possibility of natural changes in climate. For this reason, some who believe in CAGW have attempted to minimize the significance of these past climate fluctuations, despite abundant historical evidence for their reality.<sup>6,7</sup>

For instance, one of the best-known images in the global warming debate is the “hockey stick” graph of Penn State University climatologist Michael Mann, so-called because it resembles a hockey stick turned on its side with the blade pointing up. The hockey stick has been used to argue that the late 20th century was characterized by unprecedented warming, since Mann’s statistical analysis significantly “cooled” the Medieval Warm period. However, Mann’s work has been widely criticized, and a more conventional analysis indicates that 20th-century warming is not unprecedented (Figure 2).<sup>8</sup>



**Figure 2.** The red line is the smoothed version of Mann’s estimated northern hemisphere temperature anomalies index for 1400–1950 A.D. The blue line shows the results if the data are analyzed correctly rather than using Mann’s unconventional approach. The Medieval Warm Period dramatically re-emerges, and the 1990s ceases to be the hottest period of the millennium.

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The Medieval Warm Period and the Little Ice Age raise an obvious question about Lovejoy’s reasoning. If not one but two significant long-term changes in climate have occurred within the last thousand years, before humans could have influenced climate to any significant degree, then perhaps such naturally occurring changes in climate are not nearly as unlikely as Lovejoy claims!

Moreover, Lovejoy seems to be underestimating the probability of natural changes in climate. His argument assumes that temperatures from hundreds of years ago can be known accurately to within just one-tenth of a degree Celsius (0.1°C).<sup>3</sup> But these temperatures

were not measured with thermometers—not even crude thermometers. Rather, they were estimated from things like tree rings, boreholes, ice cores, etc. Because these are indirect estimates of temperatures, the true uncertainty is almost surely a lot more than Lovejoy’s optimistic estimate of 0.1°C. Using the same reasoning he used, but with larger estimates for these temperature uncertainties, would imply that significant natural changes in climate are much more probable than he asserts.<sup>9</sup>

An interesting side note is that many evolutionists absolutely dismiss out of hand the possibility that any observed global warming could be due primarily to natural causes. For instance, the National Center for Science Education has made advocacy of a belief in man-made global warming a priority.<sup>10</sup> Yet even by Lovejoy’s own calculations, the lowest probability he can estimate against recent warming being the result of natural causes is one in three million (1 in  $3 \times 10^6$ ). Compare this to a probability of 1 in  $1 \times 10^{106}$  that the simple protein insulin can form by pure chance.<sup>11</sup> Yet evolutionists claim that the insulin protein did somehow form by chance, even though such an event is much less likely (by their own reasoning) than long-term natural climate variation, which many of them confidently dismiss as an impossibility. Why? Could it have something to do with their worldview?

Lovejoy quickly dismisses other factors that can affect climate, such as changes in solar activity. But mounting evidence shows that the sun can indeed subtly influence weather and climate by affecting the number of cosmic rays (energetic protons) entering the atmosphere. In fact, the Ph.D. work of one of this article’s authors found additional evidence for this possibility.<sup>12</sup> Also, increases in temperature can actually cause an increase in atmospheric CO<sub>2</sub> via releases from the oceans. A well-known rule in chemistry called Henry’s law states that the amount of gas that can be dissolved in a liquid decreases with increasing temperature at constant pressure. This is the reason a can of soda goes flat as it warms. Indeed, some datasets show atmospheric CO<sub>2</sub> increasing *before* temperature goes up.<sup>13</sup> So, are temperatures, particularly ocean temperatures, causing an increase in atmospheric CO<sub>2</sub>, or are warmer temperatures the result of increased atmospheric CO<sub>2</sub>, or is it some of both?

Another problem with the argument that human-produced carbon dioxide could lead to climate catastrophe is that this argument implicitly assumes that the concentration of atmospheric carbon dioxide in the pre-industrial era was consistently much lower, about 270 parts per million (ppm), than today’s value of about 400 ppm. It also assumes that today’s value is truly abnormal.

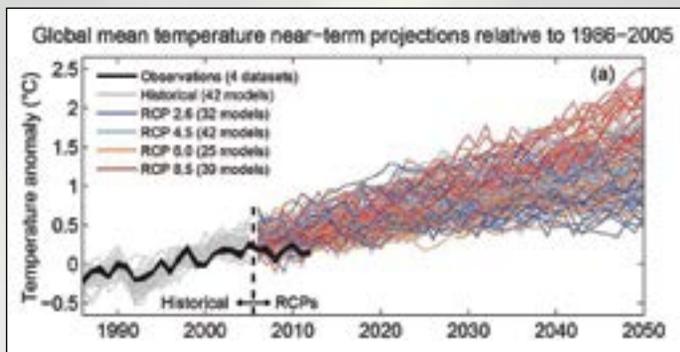
Systematic measurements of atmospheric carbon dioxide have been made at Mauna Loa Observatory in Hawaii since 1959, and these measurements do indeed show an increase in CO<sub>2</sub> from about 310 ppm to today’s value of 400 ppm.<sup>14</sup> However, scientists also made thousands of measurements of atmospheric CO<sub>2</sub> between 1812 and 1958. Although not as precise as the modern Mauna Loa readings,

many of these older measurements are estimated to have been accurate to within 3% of the true values and were good enough to show a seasonal cycle that is also apparent in the Mauna Loa measurements. These suggest high values of atmospheric carbon dioxide around the years 1825, 1857, and 1942, with the 1942 value comparable to today's value of 400 ppm.<sup>15</sup>

Specialists are aware of these data but generally dismiss them in favor of estimates of atmospheric CO<sub>2</sub> inferred from ice cores. However, gases tend to escape from the cores after their removal from the surrounding ice, which implies that such estimates will tend to be lower than the true values. Even so, there is evidence from a shallow Antarctic ice core that amounts of CO<sub>2</sub> may have been as high as 328 ppm within the last hundred years or so.<sup>16</sup> But recent jumps in the amount of atmospheric CO<sub>2</sub>, both before and during the industrial period, suggest that atmospheric CO<sub>2</sub> can vary due to natural causes, not just human influences. We have already mentioned one possible source for such variation—warming oceans, which would release more CO<sub>2</sub> into the atmosphere.

### The Climate Change Model Problem

Finally, much of the alarmism surrounding this issue results from climate computer models that predict considerably higher temperatures in the coming decades as a result of increasing atmospheric carbon dioxide. Obviously, the particulars of different models will vary, but a general overview is presented in the sidebar. However, in the past these climate models have consistently overestimated the amount of future warming, as shown in Figure 3.<sup>17</sup> If one looks at these climate change model predictions for the temperature anomaly from the present to 2050, they vary from 0 to 2.5°C, a significant disparity between models. The observational data are very near 0 for the temperature anomaly.



**Figure 3.** ExxonMobil's compendium of observed data and model predictions, based upon IPCC reports, for global temperature change over the next 35 years.

Image Credit: Intergovernmental Panel on Climate Change. Adapted for use in accordance with federal copyright (fair use doctrine) law. Usage by ICR does not imply endorsement of copyright holder.

Clearly, there are major disagreements between different models about any significant global warming. But the data accumulated

thus far seem to support the models (hypotheses) predicting global warming of no more than 0.5°C through 2050.

It should also be remembered that carbon dioxide was part of God's "very good" creation (Genesis 1:31). Plants "breathe" carbon dioxide, and there is evidence that increased atmospheric carbon dioxide is causing more plants to grow, even in dry areas.<sup>18</sup> There are also indications that the pre-Flood world may have had more atmospheric carbon dioxide than we do at present, and this increased CO<sub>2</sub> may have contributed to a much more temperate pre-Flood climate.<sup>19</sup> So even if CO<sub>2</sub> is warming the planet today, Christians have no reason to panic over this issue.

So many variables affect Earth's climate that it's difficult to see how a computer model can accurately predict future changes, especially given our present imperfect understanding. Earth's atmosphere is subject to numerous intricate interactions, and we still don't have a firm understanding of its overall long-term sensitivity. If we want a realistic assessment of climate change, we need to 1) do our homework and learn from history, 2) continue to study the data with great diligence, and 3) refrain from jumping to conclusions based on skewed climate models and short-sighted assumptions.

To be sure, God has appointed man to be custodian of His Earth. We should be good stewards of what He has given us, but we enter dangerous territory if we presume to be able to control and shape to our will what God has made. The law of unanticipated consequences inevitably intervenes. ✎

### References

- Vardiman, L. 2007. Evidence for global warming. *Acts & Facts*. 36 (4).
- IPCC AR5 Working Group 1 Highlights. *Climate Change 2013: The Physical Science Basis*. Center for Climate and Energy Solutions. Posted on c2es.org, accessed January 21, 2016.
- Lovejoy, S. *Climate Closure*. *Eos*. Posted on eos.org October 20, 2015, accessed January 21, 2016.
- Ibid, Figure 1a.
- Stocker, T. F. et al. 2013. *Climate Change 2013: The Physical Science Basis*. T. F. Stocker, eds. New York: Cambridge University Press, 51.
- Klevberg, P. and M. J. Oard. 2011. The Little Ice Age in the North Atlantic Region Part I: Introduction to Paleoclimatology. *Creation Research Society Quarterly*. 47 (3): 213-227.
- Watts, A. The truth about 'We have to get rid of the medieval warm period.' *Watts Up With That?* Posted on wattsupwiththat.com December 8, 2013, accessed January 21, 2016.
- McIntyre, S. and R. McKittrick. 2003. Corrections to the Mann, et. al., (1998). *Proxy Data Base and Northern Hemispheric Average Temperature Series*. *Energy & Environment*. 14 (6): 751-771. Figure 2 of this article was taken from Figure 8 of the McIntyre and McKittrick paper.
- This was astutely noted by commenter "Tyler Durden" in the Comments section below the online version of Lovejoy's article (reference 3).
- Showstack, R. 2012. *Defending climate science*. *Eos*. 93 (5): 51.
- Coppedge, J. F. 1977. *Evolution: Possible or Impossible?* Grand Rapids, MI: Zondervan, 102.
- Hebert, L., B. A. Tinsley, and L. Zhou. 2012. Global electric circuit modulation of winter cyclone vorticity in the northern high latitudes. *Advances in Space Research*. 50 (6): 806-818.
- Vardiman, L. 2008. Does Carbon Dioxide Drive Global Warming? *Acts & Facts*. 37 (10): 10.
- Full Mauna Loa CO<sub>2</sub> Record. NOAA Earth System Research Laboratory. Posted on esrl.gov, accessed January 18, 2016.
- Beck, E. G. 2007. 180 Years of Atmospheric CO<sub>2</sub> Gas Analysis by Chemical Methods. *Energy & Environment*. 18 (2): 259-282.
- Jaworowski, Z. Climate Change: Incorrect information on pre-industrial CO<sub>2</sub>. Statement written for the Hearing before the U.S. Senate Committee on Commerce, Science, and Transportation March 19, 2004. Posted on john-daly.com, accessed January 18, 2016.
- Adapted from Figure TS.14 in Stocker et al, *Climate Change 2013*, 87.
- Thomas, B. Global Warming? Trees to the Rescue! *Creation Science Update*. Posted on ICR.org July 22, 2013, accessed January 21, 2016.
- Humphreys, R. God's global warming worked just fine. *Creation Ministries International*. Posted on creation.com August 11, 2009, accessed January 18, 2016.

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# The Rodent Record



Evolutionists claim rodents evolved from an unknown ancestor 60 million years ago. But when fossils are found of these placental mammals, they are always 100% rodents.<sup>1</sup> They never show a transition from non-rodents. The evidence evolutionists use to support their contention is flimsy at best, and even they acknowledge the significant challenges in tracing the rodent family tree.

It is so uncertain where they came from that experts still dispute whether the South American rodents are more closely related to African or North American species.<sup>2</sup>

If rodents evolved from evolutionary ancestors, clear evolutionary (phylogenetic) relationships should exist between rodent groups. But secular scientists' findings are inconclusive.

Although intensively studied, the phylogenetic relationships between the different groups of rodents have been a matter of debate for over 150 years.<sup>3</sup>

The key morphological feature evolutionists use to recognize and group rodents with other creatures is their teeth (dentition). But there are serious problems with this approach.

There is clearly no one-to-one relationship between individual cusps or other features on a tooth crown and genes....Dental features may be highly correlated, and homoplasy [similar structures] is likely to be rampant.<sup>4</sup>

In other words, tooth structure doesn't necessarily reflect genetic history. Ungar believes rodents could have individually evolved similar traits in their teeth, an idea known as *convergence*. If this were true, it would make tracing their family tree even more difficult because similar dentition wouldn't indicate an evolutionary relationship.

When it comes to the evolution of African murid rodents, the confusion continues.

The high level of morphological convergence is confirmed here and a new morphological phylogenetic analysis based upon tooth cusp characters provides an extremely unresolved phylogeny.<sup>5</sup>

Evolutionists use the molecular clock hypothesis to determine the rodent tree of life. They compare DNA sequences from two living species, determine the differences, and then calibrate the whole dataset with hypothetical deep evolutionary time. The degree of molecular difference between the two species supposedly gives an estimated time of divergence, the point at which the two creatures split off from the same branch of the evolutionary tree. But for all animal groups—including rodents—the molecular clock<sup>6</sup> and fossil evidence (paleontology) do not agree.

"Paleontology and molecular clocks have a long, uneasy relationship," said Peter Wilf, a paleobotanist and professor of geoscience, Penn State.<sup>7</sup>

The virtual absence of Miocene sigmodontines [the world's second-most varied subfamily of rodents] in the South American fossil record contradicts molecular dating results.<sup>8</sup>

And what about everyone's favorite rodents, the Old World rats and mice (subfamily Murinae)? What was their origin? In the past, evolutionists suggested a creature called *Progonomys* was the ancestor of mice, but

Currently, there is no evidence that supports *Progonomys* as the most recent common ancestral stock of extant Murinae (Phloeomyini included).<sup>9</sup>

Evolutionists thought a creature called *Karnimata* was an ancestor of rats, but secular zoologists suggest that "*Karnimata* includes specimens from different species or genera."<sup>10</sup>

When it comes to rodents, evolutionists conclude that "reconstruction of phylogenetic trees is limited by the phenomenon of convergence."<sup>11</sup> They believe that creatures from different branches of the evolutionary tree evolved similar traits independently, making it hard to determine which creatures are directly related and which just happen to share similar traits. Creationists don't have to confront the entanglement and confusion of evolutionary trees when they believe Genesis as it is written: God made land animals according to their kind on the sixth day of the creation week.

Two evolutionary rodent authorities recently exclaimed, "Indeed, from a quick look at the fossil record, it is easy to get the impression that rodents have always been rodents."<sup>12</sup> Whether it's a quick look or an in-depth examination, creationists heartily agree. ☞

## References

1. Sherwin, F. 2012. Big or Small—Rodents Have Always Been Rodents. *Acts & Facts*. 41 (7): 17.
2. Ridley, M. 2004. *Evolution*, 3rd ed. Malden, MA: Blackwell Publishing, 513.
3. Hautier, L., P. G. Cox, and R. Lebrun. 2015. Grades and clades among the rodents: the promise of geometric morphometrics. In *Evolution of the Rodents*. P. G. Cox and L. Hautier, eds. Cambridge, UK: Cambridge University Press, 277.
4. Ungar, P. S. 2010. *Mammal Teeth: Origin, Evolution, and Diversity*. Baltimore, MD: Johns Hopkins University Press, 69.
5. Denys, C. and A. Winkler, Advances in integrative taxonomy and evolution of African murid rodents: how morphological trees hide the molecular forest. *Evolution of the Rodents*, 210.
6. Douzery, E. J. et al. 2003. Local molecular clocks in three nuclear genes: divergence times for rodents and other mammals and incompatibility among fossil calibrations. *Journal of Molecular Evolution*. 57: S201.
7. Messer, A. E. Turn back the molecular clock, say Argentina's plant fossils. Penn State News. Posted on news.psu.edu December 2, 2014, accessed February 2, 2016.
8. Fabre, P.H., L. Hautier, and E. J. P. Douzery, A synopsis of rodent molecular phylogenetics, systematics and biogeography, *Evolution of the Rodents*, 55.
9. Ibid, 51.
10. Denys and Winkler, *Evolution of the Rodents*, 197.
11. Hautier, Cox, and Lebrun, *Evolution of the Rodents*, 293.
12. Hautier, L. and P. G. Cox, Rodentia: a model order?, *Evolution of the Rodents*, 4.

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# Higher Thoughts

The television show *Limitless* explores the fiction of unlocking the full potential of the human mind through medication. In the story, a miracle pill named NZT-48 supposedly allows the brain to work at superhuman efficiency, giving the user perfect recall and leaps of intuitive insight. In reality, there is no magical smart-pill. But there are ways to improve our thinking. To understand this issue, we need to go back to Genesis.

God created humanity (Genesis 1:26-27), both our physical form and our immaterial spirit. So, we shouldn't be surprised that the brain is remarkably well-designed and surpasses anything that humans have created. Somehow our mind—the seat of our consciousness—is able to use the synapses of the brain to draw inferences and conclusions. Indeed, our ability to reason is one aspect of our having been made in the image of God (Isaiah 1:18).

But we don't always reason *correctly*. When Adam rebelled against his Creator, the Lord cursed the earth (Genesis 3:1-19). This has resulted in disease, suffering, and ultimately death (Romans 8:17-23; Romans 6:23). The human mind did not escape the effects of the Curse. Our inability—and in many cases our unwillingness—to reason correctly is caused, either directly or indirectly, by the effects of the Fall. In some cases, the brain itself is the problem. It may not function as originally designed due to mutations or disease. But more often the problem is not with the brain but rather with the way we use it.

In some ways, the brain is like the hardware of a computer. A computer has memory capacity and a central processor



Like King David, do you meditate daily upon God's Word, filling your mind with truth? Or do you spend most of your time installing the malware of the world?

that can access memory and process information. But a computer won't work properly unless it also has the right software. The information stored in its memory banks must be accurate. The computer's programming must be consistent with its design and free of viruses or other malware that can slow its performance or cause it to crash.

Likewise, what we choose to fill up our

mind is often the root of our faulty reasoning rather than any problem with the brain itself. Like King David, do you meditate daily upon God's Word, filling your mind with truth?<sup>1</sup> Or do you spend most of your time installing the malware of the world?

In Isaiah 55:7-9, the Lord challenges the sinner to repent of his way and his *thoughts*. The reason is given in verse 8: Sinners do not *think* like God, and their ways are not God's ways. Such rebellion displeases the Lord and destroys the individual. God designed our minds to operate within a biblical worldview. They cannot and will not function consistently and reliably with any other worldview. We are supposed to base our thinking and our ways upon God's thoughts and God's ways as revealed in God's Word (Matthew 7:24-25). Anything else is "shifting sand" (Matthew 7:26-27).

The Lord reminds us in Isaiah 55:9 that as the heavens are higher than the earth, so are His thoughts above our thoughts and His ways above our ways. We can't ever reach God's level of thinking, but we can, by God's grace, learn to reason correctly—in a way that is consistent with His nature. If you want to reason properly, if you want your brain to work as well as it possibly can, then study God's Word. Don't just passively read it. Study it. Memorize it. Meditate on it. This has benefit in this life and for all eternity, for our thinking ability as well as our spiritual growth. ✎

**Reference**  
1. Psalm 119:97, 148

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# Hummingbirds!

Who doesn't pause to marvel when a hummingbird flies by? These tiny, colorful birds perform amazing aerobatic feats, and yet some very smart scientists insist that mere natural forces mimicked a real engineer to construct these fascinating flyers. Authors of a *Nature* paper on hummingbird flight wrote in 2005 that "the selective pressure on hummingbird ancestors was probably for increased efficiency."<sup>1</sup> They imagine that hummingbirds evolved from ancestors that could hover only briefly. But an examination of just a few key hummingbird features leaves no doubt "that the hand of the LORD has done this,"<sup>2</sup> not natural selective pressures.

Hummingbird beaks, bones, and feathers differ from those of all other living or extinct bird kinds.<sup>3</sup> Their wings don't fold in the middle. Instead, they have a unique swivel joint where the wing attaches to the body so that the wings rotate in a figure-eight pattern. And they move fast! They have to beat their wings rapidly to hover, levitating with level heads as they extract nectar from flowers for hours per day. Scientists still need to discover the bird's mental software that coordinates information about the location of a flower's center with muscle motion that expertly stabilizes the hummingbird's little head as it drinks.<sup>4</sup>

Its long, slender beak and skinny tongue dip into and out of the flower to gather nectar using a clever automatic fluid-trapping mechanism. Tiny, curved structures along the tongue's tip open to hold nectar, then curl up tightly after the bird swallows.<sup>5</sup> When the hummingbird finishes with one flower—or with the backyard hummingbird feeder—it moves away by flying backward! It could not do this, nor could it twist, dive, or maneuver through the air the way it does, without having extra-long primary feathers on its wings. These are the largest body feathers and produce most of the needed lift.

Could evolution transform a bird like a treeswift into a hummingbird by adding required parts one at a time? Imagine that nature

had somehow selected a bird with a hinge joint, long primary feathers, and head-balancing and body-leveling circuitry, but it still had a short beak with a short tongue to fit—or even a long tongue that didn't fit! Such a creature might hover in front of a flower but could never reach its food without a suitable beak. Wouldn't such a partly evolved creature starve to death before selection "forces" could add the right beak?

Even if nature somehow crafted a hummingbird with every flight-required part except one—say, its primary feathers were a centimeter too short, or it had everything in place except its unique hinge joint—the creature could not fly. Therefore, it could not reproduce or evolve.

New hummingbird research has revealed other fascinating features. Birds generate a lot of heat when they fly. Considering their speed, you might expect hummingbirds to burst into flames at any moment. Where does all that body heat go? Infrared cameras revealed hummingbird "radiators" that direct body heat out through the feet, shoulders, and eye areas.<sup>6</sup> And some male hummingbirds use air flowing through their tail feathers to produce melodious sounds during courtship.<sup>7</sup> Our great Creator expertly integrated all these phenomenal features into His tiny aerobatic experts. ✂

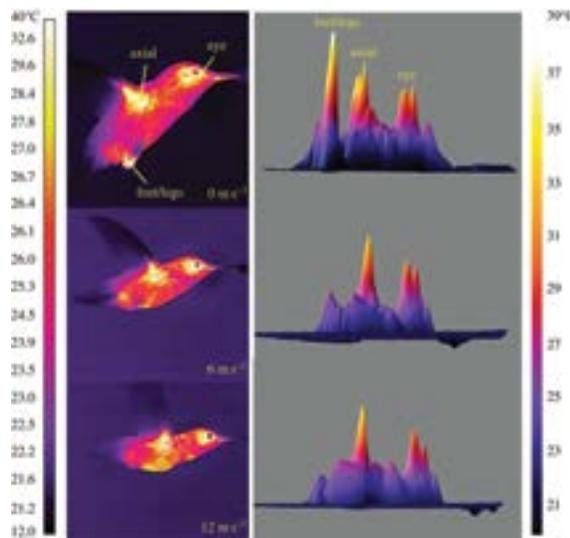


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## References

1. Warrick, D. R., B. W. Tobalske, and D. R. Powers. 2005. Aerodynamics of the hovering hummingbird. *Nature*. 435 (7045): 1094-1097.
2. Job 12:9b.
3. Hummingbird fossils look like modern hummingbirds. See Mayr, G. 2004. Old World Fossil Record of Modern-Type Hummingbirds. *Science*. 304 (5672): 861-864.
4. They also eat spiders and insects for proteins and lipids.
5. Rico-Guevara, A., and M. A. Rubega. 2011. The hummingbird tongue is a fluid trap, not a capillary tube. *Proceedings of the National Academy of Sciences*. 108 (23): 9356-9360. Also see the online video FLIGHT: The Genus of Birds -Hummingbird tongue. Illustra Media. Posted on youtube.com June 18, 2013, accessed January 26, 2016.
6. Powers, D. R. et al. 2015. Heat dissipation during hovering and forward flight in hummingbirds. *Royal Society Open Science*. 2: 150598.
7. Clark, C. J., D. O. Elias, and R. O. Prum. 2011. Aeroelastic Flutter Produces Hummingbird Feather Songs. *Science*. 333 (6048): 1430-1433.

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# The “Poor Design” of Our Recurrent Laryngeal Nerve

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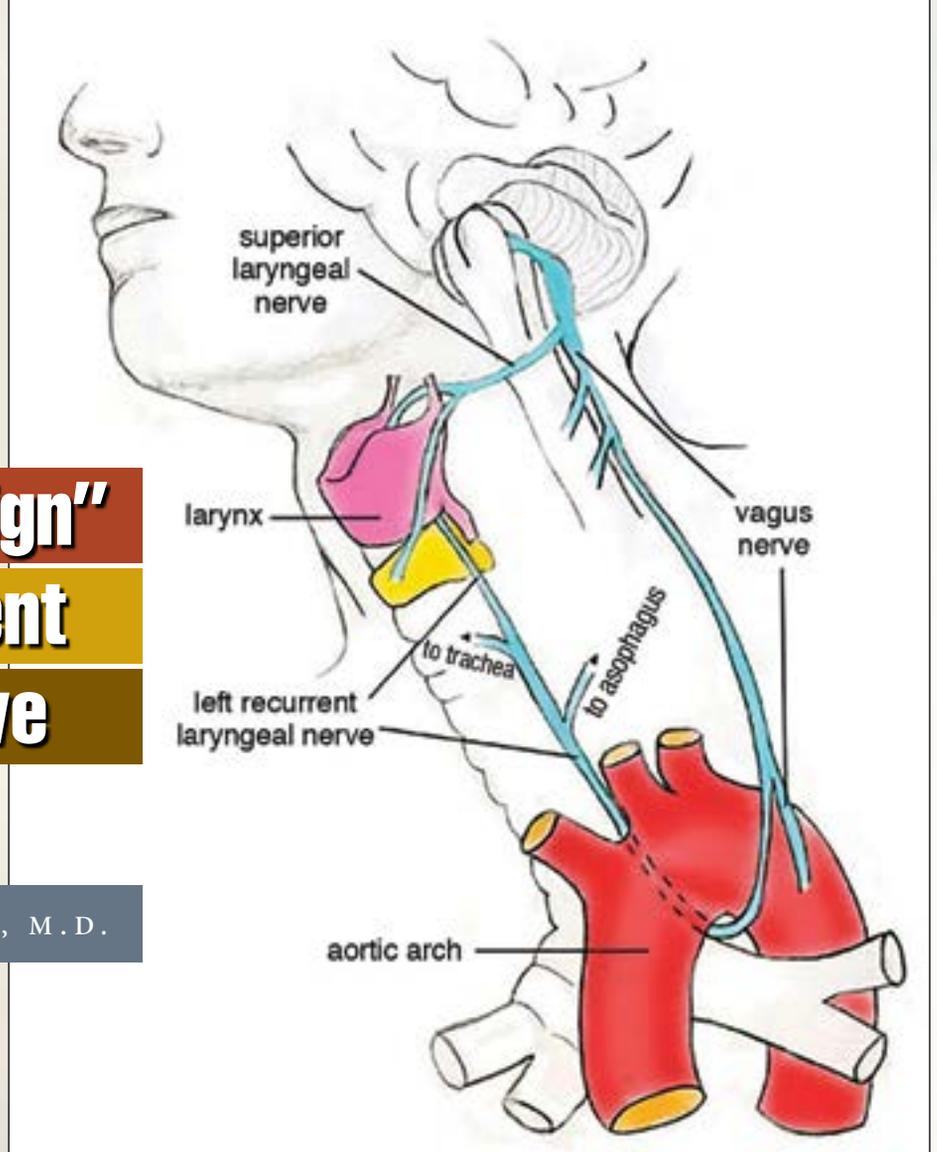


Image credit: Susan Windsor

“There you go again” is Ronald Reagan’s unforgettable line from his 1980 United States presidential election debate with incumbent President Jimmy Carter. This pithy phrase is not insulting but is certainly less than flattering. It is meant to characterize an opponent’s claim as a worn-out, ill-conceived non-truth.

Well, “there you go again” fits David Barash’s recent *Wall Street Journal* opinion piece. Titled “Imperfect Reproductions,” it parroted the tired evolutionary assertion that human bodies are Exhibit A for all things poorly designed.<sup>1</sup> Barash, an evolutionary psychologist, was thrilled to review Jeremy Taylor’s book *Body by Darwin*,<sup>2</sup> which itemizes several alleged examples of how the human body reflects an evolutionary history. Many evolutionists believe that sticking a “poor design” tag onto a creature’s

traits constitutes scientific evidence against creation and for evolution. But that line of thinking is beset with problems.

Opinions that an Intelligent Designer would not be a poor designer, though reasonable, are theological in nature, not scientific. Nonetheless, many evolutionists believe that pursuing evidence for poor design is a scientific search. However, classifying a structure as “poorly designed” amounts to little more than another area of discussion involving evolutionary extrapolation (i.e., imagination).<sup>3</sup> There is no objective test for poor design. So, how do evolutionists look at a feature and actually “see” poor design?

Seeing poor design invokes as many “there you go again” flights of imagination as seeing creatures with “primitive” or “transitional” features, “seeing nature select,” or “seeing convergent evolution.” These are all mystical mental constructs that are only

mental visualizations, not realities flowing from tangible observations. However, secular scientists’ naturalistic worldview compels their persistent quest to find nature’s poor designs.

## Evolutionists Believe Nature Blindly “Cobbles Together” Organisms

The expectation of poor design is inseparable from the belief that mindless nature is life’s creator. How could nature shape organisms? Boston University’s vocal and dogmatic evolutionary biologist David Levin recently outlined how he thinks nature slowly patches organisms together. First, random mutations in a creature’s DNA are caused by nature’s forces. Later, nature dispenses death to the unfit, whereby nature selects only the fittest survivors, and in this way “natural selection is the sculpting

Developmental research shows how the RLN could be seen as a wise mechanism, designed to provide the right supporting conditions during a baby's development for the ductus arteriosus to form correctly. There are multiple purposes for this nerve beyond activating the left vocal cord. Its length, location, and function all point to ingenious—not poor—design.

of the genome by the environment.”<sup>4</sup>

Sculpting? A reader may be misled to think of the artistic attention to detail exhibited by Michelangelo. Levin's sculpting, in contrast, comprises millions of imagined genetic tweaks honed through struggle and death over eons. The only supporting evidence for the sculpting process envisioned by Levin is that he “sees” many designs that his own mind characterizes as “poor.” But neither the sculpting process nor the classification of poor design is based on objective observations.

Evolutionists like Levin believe this ubiquitous process to be an inherently unplanned, hodgepodge affair. Two evolutionary biologists hold that “regulatory [genetic] elements that are cobbled together, incorporating binding sites [in the genome] for multiple collaborating transcription factors to take advantage of an existing landscape of developmental regulators, appear to be common.”<sup>5</sup> Other evolutionary researchers claim that “the discovery that the hemoglobins of jawed and jawless vertebrates were invented independently provides powerful testimony to the ability of natural selection to cobble together similar design solutions using different starting materials.”<sup>6</sup> It appears that even though nature cannot exercise any detected agency, the minds of selectionists readily project onto nature incredible creativity and resourcefulness.

Lists of “poorly designed” human structures include eyes, throats, and birth canals, along with molecular features like the blood-clotting cascade and DNA itself. Evolutionists also assert that one long nerve in our neck, the recurrent laryngeal nerve (RLN), not only reflects poor design but is evidence that we long ago descended from

fish. As additional scientific information is gained, these claims are being exposed as one major evolutionary blunder after another. Examination of the RLN reveals its “poor design” claim to be another classic blunder.

### The “Maladaptive” Recurrent Laryngeal Nerve

Vocal cords in the larynx are innervated by the right and left laryngeal nerves. These nerves branch off of their respective vagus cranial nerves. On the left side, the vagus nerve travels from the skull, down the neck, toward the heart, and then past it. The recurrent laryngeal nerve branches off from the vagus just below the aorta. Looping under the aorta, the RLN then travels upward (or recurs) to serve several organs as it travels up to the larynx. Evolutionists see poor design in the fact that the left nerve does not branch off closer to the larynx. (It should be noted that even though the left RLN is longer than the right nerve, signals to each nerve are adjusted so that the vocal cords are stimulated simultaneously so normal speech is produced.)

Suppose an advocate for Intelligent Design debated Dr. Jerry Coyne, emeritus professor of evolution at the University of Chicago. “There you go again” would be a fitting response to his list of poor designs. In *Why Evolution Is True*, Coyne affirms that “one of nature's worst designs is shown by the recurrent laryngeal nerve in mammals. The curious thing is that it is much longer [about two feet longer] than it needs to be.” He later adds, “This circuitous path of the recurrent laryngeal nerve is not only poor design, but might even be maladaptive.”<sup>7</sup>

He claims that the only reasonable ex-

planation for the route of the nerve is that it originally started out innervating gills in fish. Later, amphibians evolved from fish and reptiles, and mammals evolved from them. Then, he says, “during our evolution” as our heart moved into our chest (unlike fish) “to keep up with the backward evolution of the aorta, the laryngeal nerve had to become long and recurrent” up to our larynx (which fish also don't have).<sup>7</sup>

Paleontologist Donald Prothero echoes, in another “there you go again” conclusion, the same assertion: “Not only is this design wasteful, but...the bizarre pathway of this nerve makes perfect sense in evolutionary terms. In fish and early mammal embryos, the precursor of the recurrent laryngeal nerve [is] attached to the sixth gill arch, deep in the neck and body region.”<sup>8</sup>

These are definitive declarations, considered undeniable evidence of poor design and for evolution.

### The RLN: Evolutionary Declarations Are Stunningly Wrong

Scientific literature published over a decade prior to either Prothero's or Coyne's book detailed a very good reason why the RLN loops under the aortic arch. The RLN plays several key roles during a baby's pre-birth development, one of which is absolutely vital and quite intriguing.

To set the stage, we know that while a baby develops in his mother's womb, he is living in a watery world in which his lungs are not functioning for oxygen exchange. Therefore, most blood bypasses the lungs through some temporary shunts. One shunt is a small artery with a very muscular wall that connects the pulmonary trunk to the aorta. Its Latin name is *ductus arteriosus*. When the baby takes his first breath upon birth, the artery detects specific signals, and the muscular wall constricts in order to close the vessel. Blood is now forced into the lungs. Why does the ductus arteriosus have such a muscular wall compared to other blood vessels that have far more elastic fibers?

Investigations at Johns Hopkins Medi-

cal School found that during development, “the left vagus nerve and its recurrent laryngeal branch form a sling supporting the distal (or ductus arteriosus component) of the left sixth aortic arch.” Remarkably, these researchers found in their study that

The media [composition of the blood vessel wall] of the ductus arteriosus beneath the supporting nerves is thinner and has less elastic fiber formation than the elastic lamellar media of the adjacent aortic arches. The study shows that the vagus and recurrent laryngeal nerves are in a position to provide mechanical support to the ductus arteriosus during its development and that the morphology [or composition] of the media of the supported ductus arteriosus differs from that of the adjacent unsupported aortic arches. It is suggested that this local mechanical support may be the reason that the normal ductus arteriosus differentiates as a muscular artery and is therefore able to obliterate its lumen in postnatal life. Without such support the ductal media could develop the abundant elastic fibers characteristic of the normal unsupported aorta and pulmonary trunk and become an abnormal, persistently patent [or open] ductus arteriosus [not a good situation].<sup>9</sup>

Developmental research shows how the RLN could be seen as a wise mechanism, designed to provide the right supporting conditions during a baby’s development for the ductus arteriosus to form correctly. There are multiple purposes for this nerve beyond activating the left vocal cord. Its length, location, and function all point to ingenious—not poor—design. The assertion that its position in our body is due to a remote fish ancestry is yet another colossal evolutionary blunder.

### “Poor Design” Is an Assertion Made from Ignorance

When they present a “poor design” argument, critics usually demonstrate a profound lack of knowledge of the structures they fault. Their criticisms are not backed up by people who actually conduct research

on those parts. Though these critics may not know what they are talking about in regard to function, there are other problems with their argument.

From a design perspective, the blunder over the RLN clearly shows that evolutionists may be unaware of the need to balance several competing interests. This principle of design is known as *optimization*. Because a design doesn’t maximize the performance of the one particular trait capturing evolutionists’ interest, they don’t think it relevant to search out whether the entity as a whole was designed. They may be ignorant of good reasons for design tradeoffs between various traits, as well as other traits yet to be discovered. Balancing design tradeoffs is difficult work. It is a powerful indicator of intelligence behind a design.

But even if a claim of poor quality were true, that alone would not disestablish design. Items designed by humans range in quality from careless to extremely fine. Quality in itself is not the sign of intellectual activity. Genuine design does not demand anything be of the best quality. Questioning *how* something was designed has nothing to do with the question of *whether* it was designed.

### Poor Design: Real or Imaginary?

What would be a good reply to Dr. Abby Hafer’s new book, *The Not-So-Intelligent Designer: Why Evolution Explains the Human Body and Intelligent Design Does Not*,<sup>10</sup> or when Jerry Coyne chimes in, “In clear and lively prose, [Kenneth] Miller shows that complex biochemical pathways are cobbled together from primitive precursor proteins that once had other functions but were co-opted for new uses?”<sup>11</sup> There you go again.

When reading evolutionary literature, be sensitive to the fact that you are destined to hear many words that are toxic in the way they misrepresent reality and that substitute fantasies for observation. Such writings habitually personify nature as being able to “cobble together,” “invent,” and exercise agency through “natural selection [as] the

sculpting of the genome by the environment.”<sup>12</sup> It is legitimate to ask how much of the Darwinian process is just a phantasm that exists only in one’s mind. No wonder that when evolutionary theory is extrapolated to real life it leads to one blunder after another.

Worldviews matter. Creationists infer that since organisms and sophisticated human-made things have analogous characteristics, they were both designed and crafted for a purpose. Environmental elements alone do not achieve even shoddy design, since they have not been shown to produce *any* design. There is absolutely no need from the outset to ever concede that anything on creatures is poorly designed. In reality, creatures in their prime normally exhibit breathtaking fit and finish. For most people, the complexity and near-perfect function in living things are “clearly seen”<sup>13</sup> (Romans 1:20) and absolutely amazing.<sup>14</sup> ❧

### References

1. Barash, D. Imperfect Reproductions. *The Wall Street Journal*. Posted on wsj.com January 29, 2016, accessed February 4, 2016.
2. Taylor, J. 2015. *Body by Darwin: How Evolution Shapes Our Health and Transforms Medicine*. Chicago, IL: The University of Chicago Press.
3. Guliuzza, R. J. 2015. Major Evolutionary Blunders: The Imaginary Piltown Man. *Acts & Facts* 44 (12): 12-14.
4. Spetner, L. M. Information and mutation—Responding to David Levin. *Evolution News and Views*. Posted on evolutionnews.org February 2, 2016, accessed February 5, 2016.
5. Hersh, B. M. and S. B. Carroll. 2005. Direct regulation of *knot* gene expression by Ultrathorax and the evolution of *cis*-regulatory elements in *Drosophila*. *Development* 132 (7): 1567-1577.
6. Simons, T. Biologists find that red-blooded vertebrates evolved twice, independently. University of Nebraska-Lincoln news release. Posted on newsroom.unl.edu July 26, 2010 accessed February 9, 2016.
7. Coyne, J. 2009. *Why Evolution Is True*. New York: Viking, 82-84.
8. Prothero, D. R. 2007. *Evolution: What the Fossils Say and Why It Matters*. New York: Columbia University Press, 37-38.
9. Leonard, M. E., G. M. Hutchins and G. W. Moore. 1983. Role of the vagus nerve and its recurrent laryngeal branch in the development of the human ductus arteriosus. *American Journal of Anatomy* 167 (3): 313-327.
10. Hafer, A. 2015. *The Not-So-Intelligent Designer: Why Evolution Explains the Human Body and Intelligent Design Does Not*. Eugene, OR: Cascade Books.
11. Coyne, J. A. Seeing and Believing: The never-ending attempt to reconcile science and religion, and why it is doomed to fail. *The New Republic*. Posted on newrepublic.com February 3, 2009, accessed December 29, 2015.
12. Spetner, Information and mutation—Responding to David Levin.
13. Guliuzza, R. J. 2010. Fit & Function: Design in Nature. *Acts & Facts* 39 (2): 10-11.
14. For an informative review of the important role of the RLN, see Bergman, J. 2010. Recurrent Laryngeal Nerve Is Not Evidence of Poor Design. *Acts & Facts* 39 (8): 12-14.

Dr. Guliuzza is ICR’s National Representative.



# Q: Does Modern Genetics Confirm a Historical Adam?

**A:** If mankind evolved from ape-like ancestors, then our DNA should look messy from millions of years of trial-and-error mutations. Instead, it looks nice and tidy. Almost every cell in our bodies contains DNA. It holds much of the information needed to construct and maintain a human body by managing everyday cellular life. If all mankind came from Adam as the Bible teaches, then God must have packaged encyclopedias of coded instructions into Adam and Eve right from the start. Four amazing genetics discoveries powerfully confirm our biblical origins.

First, evolution-minded geneticists assert that our ape-like ancestors lived around three million years ago and had other descendants that evolved into modern apes. If so, then human and modern ape DNA sequences should closely match. They don't. A comparison of whole genomes, instead of select sequences already known to be similar, shows that natural processes would have needed to add at least 360 million precisely placed, information-packed DNA differences.<sup>1</sup> This would be like asking wind or waves to write 10,000 useful instruction manuals. The most scientific explanation requires a master Programmer with unheard-of expertise in nanotechnology who created Adam and ape kinds separately from the start.

Second, nature-only devotees used the phrase “junk DNA” to describe 95 percent of the human genome they assumed had no function. Supposedly, millions of years of evolutionary mistakes accumulated all that “junk.” But when geneticists actually investigated those DNA sequences, they discovered that cells use and need them.<sup>2</sup> Bye bye, evolutionary junk. Hello, well-crafted Adam.

Third, studies reveal genetic “clocks” that confirm the Bible's timeline of a recent creation. Every generation, sperm and egg cells incorporate over 100 DNA copying errors.<sup>3</sup> These errors, or mutations, gradually build up. This means you have at least 100 more mutations than your parents, 200 more than your grandparents, 300 more than your great-grandparents, etc. Wind back the mutation

clock far enough and we arrive at Adam and Eve, whose DNA was created error-free.<sup>4</sup> At this rate, humanity wouldn't last for even 1,000 generations.<sup>5</sup>

Finally, geneticists have found evidence for Eve in mitochondrial DNA (mtDNA). We inherit this kind of genetic code from our mothers, and it accumulates mutations like nuclear DNA does. Every person tested so far has one of three fundamental lineages, or versions, of mtDNA: M, N, or R.<sup>6</sup>

The wives of Noah's three sons explain this intriguing detail of modern human genetics. Genesis 10:32 says, “These were the families of the sons of Noah, according to their generations, in their nations; and from these the nations were divided on the earth after the flood.” Geneticists worked out the equivalent of Eve's mtDNA sequence by subtracting all the mutations that have occurred since its creation.<sup>7</sup>

Human-chimp DNA differences, densely packed and functional DNA information, genetic clocks, and mtDNA reconstructions clearly point



to recent creation.<sup>8</sup> Genetics strongly confirms Adam and Eve were real. ✎

## References

1. Tomkins, J. 2015. Documented Anomaly in Recent Versions of the BLASTN Algorithm and a Complete Reanalysis of Chimpanzee and Human Genome-Wide DNA Similarity Using Nuclemer and LASTZ. *Answers Research Journal*. 8: 379–390.
2. Tomkins, J. 2012. Junk DNA Myth Continues Its Demise. *Acts & Facts*. 41 (11): 11-13.
3. Thomas, B. The Human Mutation Clock Is Ticking. *Creation Science Update*. Posted on ICR.org July 7, 2011, accessed February 12, 2016.
4. Evolutionists argue that human DNA contains more variants than the known mutation rate could ever hope to add over just 6,000 or so years. However, their argument assumes that every DNA variant arose from a mutation when God could well have encoded DNA variation into Adam. These designed variations combine with mutations to produce trait variations, like different hair colors or body sizes.
5. Mankind can't last more than about 20,000 years, assuming a generation time of 20 years and the measured mutation rate of 100 per generation. See Sanford, J. 2014. *Genetic Entropy*. Waterloo, NY: FMS Publications. See also Williams, A. 2008. Mutations: evolution's engine becomes evolution's end! *Journal of Creation*. 22 (2): 60-66.
6. Carter, R. W. Adam, Eve and Noah vs Modern Genetics. Creation Ministries International. Posted on creation.com May 11, 2010, accessed February 12, 2016.
7. Carter, R. W. 2007. Mitochondrial diversity within modern human populations. *Nucleic Acids Research*. 35 (9): 3039-3045.
8. Tomkins, J. 2015. Genetic Clocks Verify Recent Creation. *Acts & Facts*. 44 (12): 9-11.

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# Evolutionary Naturalism vs. Biblical Providence

Evolutionists are quick to credit random chance when explaining the origins of humans, animals, plants, or Earth's sedimentary rock layers, even though the evidence points to God's handiwork. Oddly enough, ancient Philistines likewise exhibited reluctance to give God credit for His work in the world, especially if doing so reminded them of their sin.

Concurrent calamities began when the Philistines captured the Ark of the Covenant from Israel, took it to the city of Ashdod, and put it inside the temple of Dagon, their national god.<sup>1</sup> Inexplicably, the idolatrous statue of Dagon, which had seemed safe and secure, suffered vandalism.<sup>1</sup> Many Philistines died from some mysterious disease,<sup>2</sup> and the bodies of others who survived grew "tumors" or "buboes."<sup>2-4</sup> A flood of rats plagued Philistine lands.<sup>4</sup> Why were these extraordinary events striking Ashdod simultaneously? Were they connected?

In a bizarre response to the emergency, Philistine goldsmiths made replicas of the disease symptoms—and of the rats they suspected as the culprits.<sup>1</sup> (Ironically, the rat sculptures may indicate that some Philistines mistook the affliction to be hemorrhoids when it was actually the bubonic plague, transmitted by infected rats and their fleas.<sup>3,4</sup>)

Worse than underestimating the symptoms, the Philistine experts were irrationally slow to recognize God's hand in the plague. Seven months after the capture of the Ark, they devised an experiment to test whether the Ark of the Covenant was having a supernatural influence upon living things near to it.

"Now therefore, make a new cart, take two milk cows which have never been yoked, and hitch the cows to the cart; and take their calves home, away from them. Then take the ark of the LORD and set it on the cart; and put the articles of gold which you are returning to Him as a trespass offering in a chest by its side. Then send it away, and let it go. And watch: if it goes up the road to its own territory, to Beth-Shemesh, then He has done us this great evil. But if not, then we shall know that it is not His hand that struck us—it happened to us by chance."<sup>5</sup>

By chance? Like modern evolutionary naturalists, the Philistines tried to favor their "test" results to suggest that their troubles were caused by random coincidences—just a series of bad luck unrelated to their blasphemous actions that insulted Israel's God.

But it eventually became obvious to the Philistines in the afflicted communities of Ashdod, Gath, and Ekron that they were experiencing God's "heavy hand." Four *not-so-random* coincidences—insulting the Ark of the Covenant followed by Dagon's broken idol,

many Philistine deaths, many Philistines afflicted with tumors, and ravaging rats—confronted the Philistines with inescapable proof of God's judgment.

The Bible's lesson is that judgment awaits those who resist the evidence of God's handiwork and disregard His authority. God is more powerful than anyone or anything and deserves all the glory. ☞

## References

1. See 1 Samuel 4–6.
2. See 1 Samuel 5:6, 9, 10-12.
3. These words appear in 1 Samuel 5:6, 9, 12 and 6:4-5, 11, 17-18 as emerods (KJV, Geneva Bible), hemorrhoids (Darby), and tumors (NKJV, NAS, NIV), indiscriminately translating both 'echôrim (1 Samuel 6:11, 17) and 'epholim (1 Samuel 5:6, 9, 12; 6:4-5). The Philistines' rat images are twice called hemorrhoids ('echôrim, a noun derived from the verb "to strain," the action that produces them, in 1 Samuel 6:11, 17). Yet elsewhere the disease symptoms are reported as 'epholim, meaning mound-like "bulgings, swellings," matching the large swollen lymph nodes ("buboes," from βουβών, Greek for "groin") indicative of the bubonic plague (i.e., the Black Death). The providential plague was 'epholim, categorized in Deuteronomy 28:27 as a plague of the flesh.
4. See 1 Samuel 6:4-5, 11, 18 ('achbarim = "rats"). The swollen infection sites (1 Samuel 5:9) correspond to buboes at the overwhelmed lymph nodes in the groin, armpits, neck, etc. That the plague in question was the bubonic plague—proximately caused by *Yersinia pestis*, a bacillus bacterium, being transmitted by the rat flea (*Xenopsylla cheopis*) and the black rat (*Rattus rattus*)—is inferred by corroborating information with the biblical data provided in 1 Samuel 5–6 and elsewhere. See, Thomas, B. The Plague: Birth of a Killer. *Creation Science Update*. Posted on ICR.org September 21, 2011, in light of Cansdale, G. S. 1976. *All the Animals of the Bible Lands*. Grand Rapids, MI: Zondervan, 132-134.
5. 1 Samuel 6:7-9.

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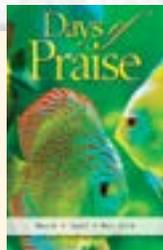
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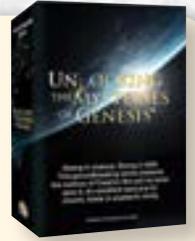
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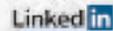
While I take a dim view of creationism, I do appreciate you allowing me to post here. You show a lot of guts.

— R. W.

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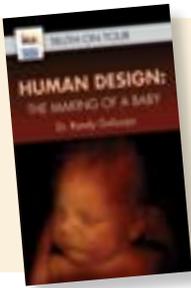
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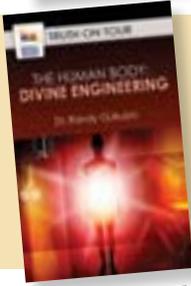
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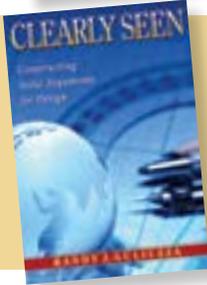
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