

Creation Matters

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Wolves Turn the Other Cheek: Spiritual Insight from Nature

by E. Norbert Smith, Ph.D.

But ask the animals, and they will teach you, or the birds of the air, and they will tell you; or speak to the earth, and it will teach you, or let the fish of the sea inform you.

(Job 12:7–8, NIV)

This scripture passage was a major factor in my becoming a zoologist, and much of my life has been spent asking questions of animals. I am certainly not alone in this endeavor, as many scien-



tists have been motivated to seek information from nature. Johannes Kepler, Isaac Newton, Blaise Pascal, and James Irwin are a few notable examples.

We are to study nature not only to develop a better understanding of the world around us, but also to learn important life lessons. Two familiar teachings of Jesus illustrate this important principle. Are not two sparrows *sold for a penny*? Yet not one of them will fall to the ground apart from the will of your Father. (Matthew 10:29, NIV) If God determines the life and death of even the sparrows, how much more is

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Update on the Mysterious Bell Found in Coal

by Dave Woetzel

The Genesis Flood was an act of judgment, purposely sent to destroy the wicked civilization of Noah's day (Genesis 6:5–7). It could well be that the entire inhabited region of the early earth (likely a single continent at the time) was resurfaced and all traces of human activity wiped clean or buried under masses of sedimentary rock. Therefore, it should not seem strange that we find almost no trace of the civilization of long-lived patriarchs mentioned in the beginning of Genesis.

In his classic article entitled *Where are All the Human Fossils?*, Snelling (1991) reviewed flood realities like human mobility, the destructive power of the flood waters, and differential suspension. Then he wrote:

When we take all these factors into account, it would seem unlikely that many of the people present at the time the Flood waters came could have ended up being fossilized. Even



if a handful, perhaps a few thousand, were preserved, when such a small number is distributed through the vast volume of Flood sediments, the chances of one being found at the surface are mathematically very, very low, let alone of being found by a professional scientist who could recognize its significance and document it properly.

There have been many promising stories about the discovery of pre-Flood giant skeletons, antediluvian artifacts, and even the ark itself. Typically, the end result of these stories is disappointment. So it is important to employ caution and objectivity regarding such claims. It is easy, even for trained scientists, to make observational mistakes, or to jump to conclusions too quickly when presenting a dramatic find to bolster their own arguments.

Figure 1.

Photograph of the bell found in coal.

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Bell in Coal

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The historical accuracy of God's Word has been demonstrated many times, and Christians do not need artifacts to substantiate their faith. The Bible says, "So then faith cometh by hearing, and hearing by the word of God" (Romans 10:17). Nonetheless, it is intriguing to investigate an archaic implement that might provide clues about the world before the Flood. We seek to glorify God by harmonizing the revealed truth of Genesis with appropriate scientific research, seeking to understand His original creation.

Newton Anderson and the bell

One such discovery worthy of further study is that of a bell which was found imbedded in a lump of coal by Newton Richard Anderson. The circumstances surrounding this event and subsequent investigations of the bell by various entities are described herein, based primarily on my recorded interview of Mr. Anderson on January 20, 2007, and a phone conversation May 19, 2013.

In 1944, as a ten-year-old boy, Anderson's task was to keep the coal furnace stoked at his home in Buckhannon, West Virginia (WV). One evening he went into the basement to refuel the furnace and carried a particularly large lump of coal on his shovel. As he carried the loaded shovel, it wobbled and the coal fell onto the floor, breaking the lump in two. A slender metallic object was revealed, protruding from one

of the broken halves. Newton set aside the piece with the curious object and placed the remainder into the furnace.

Over the next couple of days the boy extracted a small bell from the coal, first by whacking it with a croquet mallet and then by cleaning it with lye and a scrub brush. Unfortunately he scoured all the coal off the intriguing artifact! But his parents and others witnessed the bell that he brought up from the basement and it became an object of conversation, residing on an old secretary desk shelf.

Eventually the "bell found in coal" became somewhat famous, being featured in creationist and apologetics books (see for example Sharbaugh, 1997). An evangelistic tract was made that presented the bell as indisputable proof of the worldwide deluge. Ripley's "Believe it or Not" found out about the bell and sent a representative to investigate. Anderson was interviewed and the bell was prominently featured in the 1992 CBS docudrama production called *Ancient Secrets of the Bible*. Creationist books and articles continue to describe this mysterious bell, touting it as a genuine antediluvian artifact (see for example Morris, 2008). The bell was even displayed at the San Diego Museum of Natural History for a couple of years, and they made an offer to purchase it.

West Virginia coal

In the 1940's a neighbor named Carl Hoylman delivered coal to the Anderson household. He negotiated with landowners to extract the coal, mined it, sold it, and deliv-

ered it. The bituminous coal found in West Virginia's Upshur County is dated as Carboniferous Period and Pennsylvanian Epoch, which is supposed to have lasted from roughly 323 to 298 million years ago (Anonymous, 1997). Obviously, a discovery like that of the bell would present a serious problem for the evolutionary timescales. How is it possible that a bronze bell could be found in coal that was formed before the dinosaurs had even evolved?

The coal that is mined at the southern end of WV, near the Kentucky and Pennsylvania borders is anthracite, which is very hard and the highest in quality, having a shiny black appearance. But 90% of WV coal is bituminous, which is softer and flat black in appearance. Yet another type of WV coal is lignite, an even softer, brown coal with less carbon content. Anderson declared that he wouldn't have even tried to burn the lump if it was brown. They probably would have thrown it away. Thus, the bell was most likely found in a lump of *black* coal, probably bituminous.

Analysis of the bell

In the 1963–1964 timeframe, a man named Boris Bilas took the bell to the geology department at the University of Delaware at Wilmington, where it was studied and then returned. They confirmed that the bell was handmade. Anderson eventually moved to Florida and became a chemistry teacher. In 1973 he attended a presentation by Dr. John Morris of the Institute for Creation Research and brought the bell to John's attention. Morris analyzed the artifact in the

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Editor:

Glen W. Wolfrom

Assistant Editors:

Jean K. Lightner
Robert Hill

**For membership / subscription information,
advertising rates, and information for authors:**

Glen W. Wolfrom, Editor
P.O. Box 8263
St. Joseph, MO 64508-8263

Email: CMeditor@creationresearch.org
Phone/fax: 816.279.2312

Creation Research Society Website:
www.creationresearch.org

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lab at the University of Oklahoma. He subsequently wrote (Morris, 2010), “Nuclear Activation Analysis determined it to be primarily of bronze with a curious admixture of zinc. A micro probe showed no residual traces of coal.”

The fact that the bell’s metallurgical fingerprint is odd should not be surprising if, indeed, the bell is from pre-Flood times. It would not necessarily be expected to match any mix of known, post-Flood metal workings. The clapper inside the bell is composed of iron and it still rings beautifully. Genesis 4:22 states that Tubal-Cain was “an instructor of every artificer in brass and iron...” These then were two of the metals with which craftsmen worked in the pre-Flood economy.

Polygraph testimony

As a creationist speaker I became intrigued by the story of the bell and managed to track down Newton Anderson in Greenville, SC. After some discussions I agreed to acquire the fascinating artifact from Anderson, but requested that he take a lie detector test to further validate his story.

In 2007 I hired Stan Fulmer, an expert polygraph specialist who worked on death row cases. Anderson was found to be credible and he clearly passed the test. The polygraph examination report can be viewed online (Fulmer, 2007).

The figure atop the bell

Anderson spent a great deal of time researching the demon-like figure positioned atop the bell (Figure 2), sending inquiries to multiple universities. He discovered similarities to Pazuzu, the Babylonian Demon of the Southwest Wind, and the Hindu deity Garuda. Both the Babylonian Demon and the bell figurine have a telltale horn on their heads (partially broken off on the bell). Their narrow faces are eerily alike. Garuda (a beaked, flying god) is sometimes depicted on top of bells, as is the Egyptian winged goddess Isis.

The wings and kneeling posture of the bell figurine are typical of the Garuda. Certain worship seems to take on similar forms in various cultures (like the Venus figures from disparate lost cultures and the ancient fascination with pyramids), which doesn’t necessitate that they were culturally related. Perhaps a spirit being (maybe even named “Pazuzu” or “Garuda”) was worshiped by a pre-Flood cult. After the earth’s populations began to grow again, this same spirit



Figure 2. Front and back views of the bell’s figurine.

could have inspired similar religious worship in the Orient during more recent times.

Critics of the bell artifact have seized on the similarity to Garuda bells (Figure 3) to suggest that the Anderson bell is of modern origin. A typical argument along these lines is presented by Hudson (2010). He argues that the bell is a Garuda bell, made of brass that could have come from pieces of scrap metal remanufactured by an artisan in India or elsewhere in Asia. He goes on to say:

All we have is the testimony of one person who says he found the bell when he was ten years old (over 60 years before he took the polygraph test). Polygraph tests are unreliable because they only tell us if someone thinks they are lying and there is no doubt that Mr [sic] Anderson believes he is telling the truth. Another intriguing possibility is that the bell appeared to be in coal but was actually in a concretion of coal slurry and coal lumps hardened over time so that it appeared to be inside a contiguous lump of coal.

Hudson presents a far-fetched scenario in which someone carried a Garuda bell from the Far East up into the mountains of West Virginia. Then it was accidentally dropped onto an exposed vein of coal, such that a coal slurry would quickly gather around it (before it could be contaminated with dirt, leaves, and such). A coal slurry consists of coal dust, particles, and water that is typically a by-product of coal mining. The slurry then completely buried the bell and eventually dried, hardening into a pure coal concretion that appeared to be a solid lump of coal when it was later mined!

Anderson responded to this hypothesis by reminding me that the bell was not found

in lignite (soft, brown coal), but came from a block of hard, black coal. Moreover, he was unaware of anyone in his community that was Hindu, of Indian descent, or had traveled to the Far East and returned with any artifacts.

Discovering the mine

Not very long ago I had the opportunity to speak for a series of creation meetings in Clarksburg, WV. As might be expected, there was considerable interest from the audience when I discussed the Genesis Flood and presented the bell found in coal. A local realtor agreed to assist in identifying the location of the actual mine from which the bell-containing coal would have been mined.

It is important to note that there were two primary types of coal mining procedures common in the area during the 1940’s, surface mining and underground mining. If the coal seam was close to the surface (typically a flat topography), the dirt and rock overburden could be easily stripped away and the coal harvested. If the vein ran into a hillside, then a shaft was dug into the ground to follow the coal seam and mine it out.

After considerable research into prop-



Figure 3. A Garuda bell referenced by Hudson (2010) for its figurine’s similarities to the bell found in coal. Image downloaded from Hudson (2010).

erty records and walking lots, the realtor was able to find the location of Carl Hoylman's dilapidated old mine (Figure 4) and even the remnants of his decaying coal wagon.

This particular mine location tapped into coal from the Redstone Coal Seam, which is clearly composed of bituminous coal (Lotz, 1970). It is often found underground at depths of 100 feet. This information is helpful in testing the viability of Hudson's scenario (Hudson, 2010). If the coal had been mined on the surface, then it would be slightly more reasonable that the bell might have fallen into an exposed coal seam.

But the reality is that the mine was far underground, making the critic's just-so story a combination of whopping unlikelihood stacked upon impossibility! How is it possible for an artifact to fall into an *underground* coal seam, there to be encased in a slurry such that it becomes part of a large block of solid, black coal?

Bronze implements could easily survive for the roughly 4,000 years from the Flood to the present. Moreover, one can speculate that when civilization came to an end in the Flood, one of the bells made prior to the Flood was buried with a floating mass of vegetative debris that would later become WV coal, and finally end up, thousands of years later, in Newt Anderson's coal bin.



Figure 4. Site of old mine operated by Carl Hoylman. This black and white photo shows the collapsed mine's entrance (ca. 3 ft wide).

Conclusion

There is no doubt that the best-case scenario for a pre-Flood artifact would be to have evidence which has been documented in-situ by a professional scientist. Lacking that, the mysterious "bell found in coal" is perhaps the best candidate we have for an antediluvian artifact. The story behind its finding has been related by its discoverer, Newton Anderson, who appears to be a credible witness. The workmanship and authenticity of the bell have been examined. The probable location of the original mine was established, essentially ruling out claims by critics that the artifact is of modern origin.

From a creationist worldview, it certainly seems reasonable that the bell could be the work of an antediluvian artificer like Tubal-Cain (Genesis 4:22). Though certainly not

definitive, it makes more sense than believing in the extremely improbable chain of events presented by critics. It is clear that a bell emplaced in Carboniferous coal would present a serious challenge to the evolutionary timeline.

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GM

Letters

Feedback Control

Editor:

"Charles Darwin had no idea of this fact of life." These words were written in a personal note to me by T. Gordon Scott, PhD in chemistry, and retired associate professor of chemistry at Winston-Salem State University. He was referring to feedback control systems in humans. He continued:

It is a clear example of the fact that Creator Christ designed us "fearfully and wonderfully" (Psalm 139) long before twentieth-century scientists "discovered" this feature of living beings. It illustrates plainly that Intelligent Design is one aspect of the marvelous omnipotence and omniscience of our loving Creator-God.

Dr. Scott's words relate to Claude Bernard's *milieu interieur* (the environment within) and Walter B. Cannon's term *homeostasis*, which comes from the Greek. It means literally "same state." The body must maintain an internal equilibrium to survive, in spite of having to live in a changing environment. In his communication, Dr. Scott added:

As the product of one metabolic reaction builds up to satisfy the chemical compound (substrate) needs for other metabolic sequences and reaction cycles (for example, the energy-producing Krebs Cycle), it reaches a level that meets the needs of the body in general ... The product of the reaction sequence, now in sufficient supply for the cell, feeds back to the first committed step of the system and deactivates (i.e., inhibits) the enzyme catalyst for step

one. As the product of the sequence begins to run low, production of the inhibitor ceases or slows, allowing step one to resume.

There are many systems in the human body that utilize finely-tuned "feedback control" mechanisms to maintain homeostasis. One example at the cellular level is caloric homeostasis, which provides a way to regulate body weight (Berg, Tymoczko, and Stryer, 2002):

During periods when more energy is expended than ingested (the starved state), adipose tissue loses mass. Under these conditions, the secretion of both leptin and insulin declines, fuel utilization is increased, and energy stores are used. The converse is true when calories are consumed in excess.

Another example is the body's regula-

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Biblical Math Refutes Numerical Skeptics

by

D. Russell Humphreys, PhD

For decades, liberal theologians have been promoting the theory that in Moses' time, the Hebrew word now translated "thousand" meant a number much less than 1,000. They do this in order to avoid the conclusion that God supernaturally fed over 600,000 Israelite soldiers in the wilderness (Numbers 2:32), along with over 1,500,000 Levites, women, and children.

Sadly, even some creationists have adopted the liberal theory in order to support some of their own theories. They do not see themselves as having the same attitude toward Scripture as Bible-compromisers on scientific issues, such as the day-agers who claim that God really meant "ages" instead of "days" in Genesis one. This attitude places one's own human reasoning above the plain meaning of the words of Scripture. This article is a little note I wrote nearly a decade ago to help some creationist Bible-compromisers see that the liberal theory on "thousands" is wrong.

The second chapter of the book of Numbers contains mathematical proof that the Hebrew word *'eleph* (plural *'elaphim*)

really does mean "1,000" — not some lesser number, as a few theologians claim. The chapter divides the army of Israel into four camps, lists the three tribes in each camp, enumerates the number of men from each tribe, and gives the total number in each camp.

The way God spelled out the numbers in Hebrew gives us a way to use simple algebra to determine the exact number He meant by the word *'eleph*. For example, Numbers 2:4 tells us the muster from the tribe of Judah was "four and seventy *'eleph* and six hundred." Let x be the supposedly unknown number that *'eleph* represents. Then the number from the tribe of Judah would be $(74x + 600)$.

For the two other tribes in the camp of Judah, namely Issachar and Zebulun, verses 2:6 and 2:8 give us $(54x + 400)$ and $(57x + 400)$.

Finally, verse 2:9 gives us the total of all three tribes in the camp of Judah: "a hundred *'eleph* and eighty *'eleph* and six *'elaphim* and four hundred," or $(186x + 400)$.

The following table helps us to evaluate

Item	Verse	Tribes	Camp
Judah	4	$74x + 600$	
Issachar	6	$54x + 400$	
Zebulun	8	$57x + 400$	
3-tribe total		$185x + 1400$	
Camp of Judah	9		$186x + 400$

$$185x + 1,400 = 186x + 400$$

As my 10th grade algebra teacher back in the Antediluvian Age taught me, we can manipulate this to solve for x :

$$\begin{aligned} 185x - 186x &= 400 - 1,400 \\ -x &= -1,000 \\ x &= 1,000 \end{aligned}$$

This means that *no other number* besides 1,000 for *'eleph* will allow the two totals to be the same. I leave it as an exercise for the theologians to convince themselves of what I have found: that for the other three camps in the chapter also, *'eleph* means precisely 1,000.

GM

Feedback Control

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tion of fuel (glucose). Blood levels of glucose must be maintained within narrow limits (Anonymous, n.d.):

The amounts of glucose available to the blood vary with the nutritional status. In response to dietary glucose, homeostatic mechanisms come into play to promote uptake of glucose into cells and its use by tissues, thereby lowering glucose in the blood. When glucose levels fall, several hours after a meal, other mechanisms promote both glucose release, from intracellular glycogen stores, and gluconeogenesis, so that the normal level is maintained.

The outcome of these and other cellular homeostatic processes can effect changes to our body's physiology. We get hungry and need food, but there is a system also in place that communicates, "You've had enough to eat." We get tired and sleepy, but wake up refreshed the next morning. Bones in children grow, but there is also a system in place that tells the bones to stop growing. When we run a mile, breathing increases, but the body also informs us that fast breathing is no longer needed, after the race has ended. The same is true for the heart. It beats quickly during the race, but it calms down when the race ends.

It is a very good thing that feedback control works. Interruption of these control mechanisms can result in diseases. Dr. Scott concluded:

If feedback control does not reflect intelligent design, and hence, a Designer, then you have to believe that a finely-crafted Swiss watch "just

happened" without a watchmaker, or that a 2014 model car "just happened" without the need for automotive engineers or design planners. ... Acknowledge the obvious. Put your trust in Creator Christ.

— Paul G. Humber

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- Editor's note: Some of Dr. Scott's statements have been edited for clarity.
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GM

Wolves

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He involved in our lives?

Unlike the animals, we were created in His image. Consider another example, this one from plants. *And why do you worry about clothes? See how the lilies of the field grow. They do not labor or spin. Yet I tell you that not even Solomon in all his splendor was dressed like one of these.* (Matthew 6:28–29, NIV) Think about these things the next time you are tempted to worry about such trivial things as which program to watch on TV, or what to wear to school or work.

Turning the cheek

Jesus taught another important life principle in the following passage, yet it is often misunderstood today. *But I tell you, do not resist an evil person. If someone strikes you on the right cheek, turn to him the other also. And if someone wants to sue you and take your tunic, let him have your cloak as well. If someone forces you to go one mile, go with him two miles. Give to the one who asks you, and do not turn away from the one who wants to borrow from you.* (Matthew 5:39–42, NIV)

There is a similarly perplexing passage in the Old Testament. *If you come across your enemy's ox or donkey wandering off, be sure to take it back to him. If you see the donkey of someone who hates you fallen down under its load, do not leave it there; be sure you help him with it.* (Exodus 23:4–5, NIV)

These passages confused me for many years. At first they seemed to teach meekness and humility. Later, I saw them as teaching passiveness and even a hint of cowardice. It is obvious Jesus was NOT a coward. Not only did he willingly die a painful, brutal, and shameful death for us, but at any time during the terrible ordeal he could have ended it instantly by calling down legions of angels from heaven.

Certainly, thousands of Christians have died as martyrs from New Testament times to today. Current data suggest that approximately 500 Christians are killed every day for their faith. Yet there is a huge difference. Mere humans have no choice but to endure and die. True, many are offered life if they denounce their faith, but they are not willing to do this as God provides strength and comfort.

Consider for example a martyr tied to

a stake, and fire begins to consume him. If he could cry out for angels to rescue him, he would probably do so. Our survival instincts are powerful. Jesus had the power to be released at any moment during his torment, but chose instead to die a painful and humiliating death for our sins. Jesus was certainly not a coward. There must be a deeper meaning to these passages from Scripture.

Wolf behavior

A little known aspect of wolf behavior helps us understand the deeper meaning of these important teachings. The year was 1980 and I was keynote speaker at an international radio telemetry conference at Oxford University in England. The BBC TV documentary *A smile for the Crocodile*, which featured my alligator research, had just been released. At the conference I met Dr. David Mech, a respected wolf expert. He knew of my work with alligators and we chatted for some time. I spoke to him recently by phone and he still remembered me from that conference years ago.

The gray wolf, *Canis lupus*, is a species of canid native to remote areas of North America, Eurasia, and North Africa. As one of the largest members of the dog family, males weigh nearly 100 pounds. It is similar in general appearance and proportions to a German shepherd or a sled dog. Its winter fur is long and bushy, and predominantly a mottled gray in color, although nearly pure white, red, or brown to black wolves also occur.

Dr. Mech remains an internationally recognized wolf expert and senior research scientist for the U.S. Department of the Interior. He also serves as an adjunct professor at the University of Minnesota. He has studied wolves in their natural habitat since 1958 in Minnesota, Yellowstone National Park, Alaska, Canada, and Italy as well as in other places where wolves survive today. He has published ten books and numerous scientific articles about wolves and other wildlife (see Mech, 1981).

At that conference he shared something that illuminates not only wolf behavior, but also provides insight on the teaching of Jesus that had troubled me for many years. It is simple, yet deeply profound and can be life changing when applied to humans.

Wolf packs usually stay within well-defined home ranges. Under normal conditions the home range provides ample living space and food for the pack. Occasionally, during difficult years, there are battles be-

tween neighboring wolf packs to expand their territory in order to have more food, but these encounters are rare. More common are fights within the pack between adult males for food or for a female.

Like most predators, they have overkill potential and can kill animals many times their size. They could easily kill another wolf, yet a curious behavior allows the loser to escape unharmed. After an intense struggle the beaten wolf demonstrates a strange and seemingly unwise behavior. He rolls over onto his back and reveals his most vulnerable area...his throat. In a very real sense he is "turning the other cheek." This submissive posture by the one who is attacked inhibits further aggressive behavior from the attacking wolf and peace returns to the wolf community.

So it is with human behavior. If someone abuses you verbally or in other ways, human nature is to fight back. An argument ensues and the situation can rapidly escalate. This is our human nature and we all understand it. The next time this happens, consider applying the profound teaching of Jesus. Instead of striking back, turn the other cheek by apologizing or complimenting the enemy. A surprising outcome often happens. As with the fighting wolves, further escalation and aggressive behavior are suddenly inhibited.

A personal example

Let me give a personal example that has come to have deep meaning to me over the years. My varied work history includes a stint as an electronics technician at a consumer products application laboratory at Texas Instruments near Dallas, Texas. We had an excellent manager whom everyone liked. Sadly, he was promoted to a higher management level. We knew the previous boss left some huge shoes to fill, and we were apprehensive about his replacement. We had heard the scuttlebutt, and it was all bad. Soon the new boss arrived, and although concerned, we were anxious to meet him.

During his first week, he made it a point to have a little "one-on-one time" with each member of his new team. After chatting with each of us for a short time about what we did and what our own aspirations were for the company, he did something that, at the time, I thought was strange. In hindsight, I see it as genius. He found something about each one of us that was an important part of who we were and complimented us on that very thing.

At the time, I was the only technician sporting a beard. He complemented me on my beard. No one had ever done that before, and certainly not a supervisor. Needless to say I instantly felt connected to him and liked him. He had disarmed me and I could find no fault in him. He did the same with each of the other team members and the transition to a new leader was smooth. We liked and respected him even more than the previous team leader.

Life lessons

There are not one but two lessons here. If

someone insults us or hurts us either intentionally or by a misunderstanding, we MUST resist our human nature to retaliate and escalate the situation. Instead, we should think of something kind to say; offer a compliment instead of an insult. In doing so we are “turning the other cheek” and, potentially could turn an enemy into a friend.

In a similar way, when we meet people for the first time we need to spend a bit of time getting to know them. Find something that is important to each one and find a way to compliment him or her on this trait. It

can be seen as pro-active cheek turning. Jesus taught this important life lesson and we should follow the principle with confidence. I learned this important life principle from one of North America’s most majestic creatures, the timber wolf, *Canis lupus*.

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Photo credit: Gray wolf (*Canis lupus*) by G. Kramer, April 18, 2008. U.S. Fish and Wildlife Service (WV-9428-010).

CM

Matters of Fact

by

Jean K. Lightner, DVM, MS

Editor's note: You may submit your question to Dr. Jean Lightner at jean@creationresearch.org. It will not be possible to provide an answer for each question, but she will choose those which have a broad appeal and lend themselves to relatively short answers.

Q What is epigenetics and why is it important?

A While DNA provides important coded instructions for life, other information is required to access these instructions at appropriate times and places. Genetics focuses on the study of heredity involving DNA sequences, especially the sequences of genes which code for proteins. The Greek root *epi* means over or above, so epigenetics is the study of the biochemical reactions which affect the final expression of the DNA sequence. Largely, this involves molecules that switch genes on and off, and the various factors that influence these molecular switches. In a broad sense, epigenetics refers to anything, other than the DNA sequence itself, which affects the phenotype of the cell or organism (Anonymous, 2013).

Some researchers object to labeling all nongenetic systems as epigenetic. They view epigenetic systems as heritable, self-perpetuating, and reversible. They question whether histone modifications and many noncoding RNAs are actually self-perpetuating and inherited (Riddliough and Zhan, 2010). Regardless of how epigenetics is defined, it is clear that much is involved in the proper expression of the information stored in DNA, and we are only just beginning to discover the details.

Essential for life, learning, and health

Epigenetic programming is essential for development. Humans and animals begin life as a single cell. Simple division to increase the numbers of cells will not result in a viable creature. Early on, important signals orient the body (e.g., head vs. tail). Various tags are used to influence which genes are expressed. This permits cells with essentially identical DNA to form very different tissues that are necessary for a functioning body.

Even in differentiated cells there are various signals which fine-tune gene expression, allowing creatures to learn and adapt to changes in the world around them (The University of Utah, 2013). Lifestyle factors such as nutrition, exercise, smoking, work habits, and stress affect human health via epigenetic mechanisms. Physical exercise, especially long-term, repetitive, strenuous exercise, has been suggested to be a positive form of stress which induces epigenetic changes, positively affecting metabolism and human health (Sanchis-Gomar et al., 2012).

Not only can epigenetic information be transmitted cell-to-cell as they divide, but sometimes epigenetic information can be passed from parent to offspring. In some instances this may be after conception, by in utero exposure. For example, exposure of the fetus to high glucocorticoid levels from the mother can result in high glucocorticoid levels in the infant postnatally. In other instances, it appears that epigenetic information is actually passed through the

germ cells. This came as a surprise because it was believed that after fertilization epigenetic tags are erased before they are re-established in the developing embryo. However, some tags remain, such as methylation for imprinted genes. There is still much to be learned about the details of how this all works (Drake and Liu, 2010).

Different mechanisms for regulating genes

Adding and removing epigenetic tags are important means of controlling gene expression. Methyl tags are added to specific cytosine (C) residues in DNA. These usually prevent the gene from being transcribed by blocking transcription factor binding. Interestingly, it appears methylation affects transcription factors, and transcription factors affect methylation in a complex way that is not well understood (Blattler and Farnham, 2013).

Epigenetic tags can also be added to histones, the proteins around which DNA is wound. In addition to methylation of certain amino acid residues, acetylation, phosphorylation, and other biochemical modifications have been identified as tags which affect the chromatin structure (Bannister and Kouzarides, 2011). Some tags cause the chromatin to be more condensed, blocking access to the DNA. Others result in a less compact structure that allows for transcription, replication, or repair. Interactions have been identified between histone methylation and DNA methylation, indicating that crosstalk plays an important

... continued on p. 8

Epigenetics

...continued from page 7

role as well (Stancheva, 2005).

Non-coding RNAs regulate various aspects of gene expression, from transcription to post-transcriptional gene silencing. These RNA products of what was once termed “junk DNA” play essential roles in methylation of DNA and histones as well as playing other roles in DNA maintenance (Sabin et al., 2013). Thus, a myriad of factors is necessary for proper transcription; a breakdown in this regulation is associated with cancer and various other diseases.

Implications for evolutionists

Evolutionists often imagine that evolution involves merely changing the DNA sequence to convert one kind of creature into another. Of course, when only the DNA sequence is considered, one can always propose a way to change any sequence into any other; it is just a matter of adding, deleting, and/or changing nucleotides. This of course ignores the fact that the sequence specifies important information that is essential for life, and random changes destroy information. Epigenetics, though, compounds the problem significantly — it is not just the DNA that codes for information, but there are layers of additional information that are required to properly access the instructions specified by the DNA.

Epigenetics poses another serious problem: loss of so-called junk DNA. Evolutionary population geneticist JBS Haldane recognized a serious problem with natural selection’s capacity to act on creatures such as mammals. These animals have too long a generation time and not a large enough population size for the mathematics to work, even on evolutionary time scales. This has been called Haldane’s dilemma. Kimura proposed neutral evolution, where

most DNA was considered non-functional and could accumulate mutations by genetic drift, unaffected by selection. The concept of “junk DNA” is necessary for evolutionists to account for differences between species, such as the millions of differences between human and chimp DNA which supposedly arose during the 100,000 to 300,000 generations since their purported divergence (Carter, 2009).

Bottom line

In summary, epigenetics creates problems for evolutionists. First, it is counter to the concept of “junk DNA.” These sequences that do not code for protein actually store critical information for regulating the protein-coding genes — the opposite of evolutionary predictions! Evolutionists lack a plausible, mathematically-sound model to account for the large differences in DNA sequence between organisms, even with their long evolutionary timescales. Furthermore, there is now more information to account for.

Second, creatures can adapt to their environment by changing gene expression. Thus, when a beneficial change in the DNA sequence does arise which may not be associated with a great improvement in survival and reproduction, it is likely to be near neutral. Without a large advantage to the beneficial allele, natural selection cannot significantly affect allele frequency (Rupe and Sanford, 2013). This is consistent with the creationist prediction that factors other than random mutation and natural selection must be responsible for the variation and adaptation seen within created kinds today (Lightner, 2013).

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by Timothy R. Stout

The Testimony of God's Revelation: Natural and Written

God has blessed man by revealing Himself through His creation and His written Word, the Bible. When we look at the creation, we find precise structure (from the macroscopic to the sub-atomic), incomprehensibly complex relationships between the created entities, and a universe of unfathomable scope and size. Science is replete with examples of discoveries that appear very simple at the outset, but have been found to have incomprehensible depth. The more one studies any aspect of the creation, the more he finds that he doesn't understand. The creation teaches us of the unbounded nature of God's wisdom, power, attention to detail, and consistency. These characteristics are the natural outflow of His character.

The written Word

His written Word is also the natural outflow of His character. Therefore, it is by nature authoritative, reliable, true, and with unlimited depth. It, too, can appear very simplistic on a first reading. However, the more one examines it, the deeper it becomes. His Word is inexhaustible in its riches.

From the very beginning God has tested man. This is His prerogative as the Creator. There are typically two phases to a test. The first is whether a person will believe what God has revealed. The second is how a person's actions demonstrate belief or lack thereof. Adam failed the first test and plunged man into rebellion against God. As a result, we read in 2 Peter 3 (NKJV):

⁵ For this they willfully forget: that by the word of God the heavens were of old, and the earth standing out of water and in the water,

⁶ by which the world that then existed perished, being flooded with water.

⁷ But the heavens and the earth which are now preserved by the same word, are reserved for fire until the day of judgment and perdition of ungodly men.

These verses speak of three phases of God's plan: His initial creation of earth



standing out of water (Genesis 1:9), the flood of Noah's day (Genesis 7:17–20), and the pending judgment for each man personally, before God Himself, with a possibility of a Redeemer coming to the aid of some (Job 19:25–26). God has revealed these things to man, initially verbally as attested to by Moses and Job, and then recorded in Scripture.

However, unsaved man does not want to know about God as Creator, which implies responsibility to Him, nor of pending judgment and possible redemption, which implies increased responsibility to Him. Therefore, man has *willfully forgotten* these doctrines. He does *not want* to know about them. Instead, man through his humanistic philosophies gives himself alternative explanations of man's origin and destiny. God's evaluation of these explanations is that they are foolish (Romans 1:22).

A test for mankind

The opening chapters of Genesis become a test. God has told us what He did — not the details of how He did it, but the highlights of what He did. The test is simple. Are we willing to believe what He said as factual, demonstrating truths of unfathomable depth, and then to seek Him as the Creator? Or, are we going to follow the way of rebellious, unsaved man, and place our wisdom, knowledge, and experience as more authoritative than God's revealed truth?

Many gods are worshipped by man, all but one of whom are false and do not have the power to save. In order to come to the God who created space and matter, one must believe that He exists. So, God tests us by observing our response to the opening chap-

ters of Genesis — do we believe God is the Creator of all there is?

The Bible and science

There are many illustrations of creationists applying the fundamental truths of science to God's Word and becoming awed by the depth of what is revealed. One example is that of DeRemer, Amunrud, and Dobberpuhl (2007) who offer a well-thought-out analysis of the first four days of creation. However, even as 2 Peter 3 discusses, unsaved man does not want to know about this. He will suppress it and fight it. Man says that light appeared first, then matter, while God reveals that He started with matter, and then light came later.

Therefore, the test for us is simple. Do we believe the Bible is a product of the living God and absolute in its accuracy and authority? Or, do we place higher credence in the interpretations of science offered by those who hate God and are trying to forget what He has revealed? God is testing each of us and observing our heart's response to His word. He further says that we have no excuse for following those who profess to be wise, but are fools (Romans 1:20–22).

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Speaking of Science

Editor's note: Unless otherwise noted, S.O.S. (Speaking of Science) items in this issue are kindly provided by David Coppedge. Opinions expressed herein are his own. Additional commentaries and reviews of news items by David, complete with hyperlinks to cited references, can be seen at: <http://crev.info/>. Unless otherwise noted, emphasis is added in all quotes.

Amazing Fossils, Dead and Alive

Australia's oldest bird tracks with dinosaurs, "living fossil" sponges, and other strange and wonderful findings accentuate the news on strange animals.

Cretaceous bird tracks: The oldest bird tracks in Australia, claimed to be 105 million years old, were reported by *ScienceDaily*.¹ Anthony Martin (Emory U) commented, "These tracks are evidence that we had **sizeable, flying birds living alongside other kinds of dinosaurs** on these polar, river floodplains, about 105 million years ago." The tracks show skidmarks of landing, as if made by large birds like herons or egrets. Martin said, "I immediately knew what it was — a flight landing track — because **I've seen many similar tracks made by egrets and herons on the sandy beaches of Georgia.**"

Megan Gannon at *LiveScience* noted a conundrum: "The bird tracks were **found very close to another footprint** that looks like it was **left by a non-avian theropod**, possibly one of the coelurosaurs, the group of **dinosaurs most closely related to birds** that includes beasts like the *Tyrannosaurus rex*."² The abstract of the paper in *Palaeontology* says these are "the **oldest known fossil bird tracks in Australia** and the **only Early Cretaceous ones from Gondwana.**"³

Living fossil sponges: Glass sponges are among the oldest multicellular animals in the evolutionary chronology, but they're doing just fine near Canada, reported *National Geographic*⁴ about the "First-ever Submarine Dive on **Vancouver's 'Living Fossils' Glass Sponge Reef.**" What a surprise it was:

"It was **like discovering a herd of dinosaurs on land,**" says Manfred Krautter, a paleobiologist at the University of Stuttgart in Germany. "It was **like going back in time** because I had been **looking at the fossil sponges for decades, and here they were alive.**"

The area covers 280 square miles. "It's an **oasis,**" Sally Leys [U of Alberta] said. "You come along in the mud [on the seafloor] and then **all of a sudden, kapoof, it's life.**" The first such reef was discovered in 1986. In the evolutionary scenario 160 million years ago, these reefs were the largest in earth history.

Had hadrosaur: An early Cretaceous hadrosaur in China was announced on *PhysOrg*.⁵ Although the discoverers claimed this fossil "**can elucidate the evolution** of hadrosauroids, especially the **origin** of hadrosaurids," the article made it clear it's an evolutionary mystery: "**The origin of hadrosaurid dinosaurs is far from clear,** mainly due to the paucity of their early Late Cretaceous close relatives."

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Wrong Again: Several Species of Homo Collapse Into One

A well-preserved complete skull from Dmanisi, Georgia, has ignited a firestorm, threatening to declassify various claimed species of *Homo* into one, *Homo erectus*. A paper in *Science*¹ by Lordkipanidze *et al.* has upset the applecart of human evolution again. The Abstract says,

The Dmanisi sample, which now comprises five crania, provides **direct evidence for wide morphological variation within and among early *Homo* paleodemes**. This **implies the existence of a single evolving lineage of early *Homo*, with phylogeographic continuity across continents**.

With a new well-preserved, complete Dmanisi fossil, researchers at the cave in Georgia (near the Black Sea) have found five crania with more morphological variation between them than between the various proposed species of *Homo* (*Homo rudolfensis*, *Homo habilis*, etc.). This implies that all these assumed different species should be lumped into *Homo erectus*. The *BBC News*² called this a "**blow to the multiple species idea.**" All these types were just variations on mankind, as shown in comparisons of the skulls side by side.

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Findings that Comport with Genesis

The history of the world and its life could hardly be more different between the Bible's account and that of modern evolutionary naturalism. Some recent scientific reports fit with a designed, recent creation, and not with evolution.

According to Genesis: "In the beginning God created the heavens and the earth." The world and its life were created in six normal days not that long ago (thousands, not billions of years). Each animal and plant reproduces after its kind. The original perfect world was cursed due to sin. A global Flood destroyed the air-breathing animals, except for survivors on Noah's ark. The descendants of Noah dispersed around the globe rapidly after God's judgment at the Tower of Babel.

Evolutionists mock these accounts, but will have trouble with some recent findings that are puzzling for their worldview, but not for Biblical creation. The findings involve negative evidence against evolution, and positive evidence for creation. It's not that secularists are unable to come up with rationalizations, but findings should fit, rather than surprise, one's worldview. In science, the

fewer “auxiliary hypotheses” needed to force a finding into one’s web of belief, the better.

Instant galaxies: The farthest and oldest galaxy yet (700 million years after the Big Bang in the secular cosmological view, or redshift 7.51) was already fully mature, creating stars hundreds of times faster than the Milky Way does (according to evolutionary dating), and is **“richer in heavy elements”** than expected — requiring multiple generations of stars to have formed, aged, and exploded. This **“exceptional”** galaxy, so near the beginning, requires secular cosmologists to invent special conditions that are not acting today. Yet, mature galaxies would be expected from Genesis 1:1. Sources: *Nature News*,¹ *ScienceShots*,² and the *BBC News*,³ in which it was stated “there are already quite surprisingly evolved galaxies in the very early Universe.”

Young earth core: *Science*⁴ just reported a “new core paradox” — the earth’s core is more conductive than previously thought. Implications: “The **conventional view** is that **convection** in the liquid outer core provides most of the **energy for the geodynamo**, and does so **not just today, but also in the past, stretching backward in time for at least 3.4 billion years**,” Peter Olson wrote. “**Now that view is being challenged by fresh laboratory measurements** and first-principles electronic structure calculations, **indicating a far greater capacity for the core to transport heat** by conduction and, by implication, less ability to transport heat by convection.” Creation geophysicists have long argued that the earth does not need a dynamo, and that the rapid decay of the earth’s magnetic field shows the earth cannot be older than a few tens of thousands of years at most. Olson’s solution: “The **best way around this paradox** is to **think beyond the standard model of core evolution**.” Good idea.

Origin of life: There are so many problems with evolutionary scenarios for the origin of life, we would need a separate page to just list them. One such problem was recently reported by *ScienceDaily*.⁵ It falsifies one of the favorite scenarios over the last few decades: the “RNA World” hypothesis. “**The RNA world hypothesis is extremely unlikely**,” said Charles Carter [U of North Carolina School of Medicine]. “**It would take forever**.” His solution, though, requires even more complexity: combinations of RNA and peptides working together. That sounds even more unlikely. He only imagines more primitive precursors to the complex proteins and nucleic acids we know about. *PhysOrg* introduces an article, “Chemists show **life on earth was not a fluke**.”⁶ It begins, “**How life came about from inanimate sets of chemicals is still a mystery**.” For Bible believers, it’s no mystery. Complex cells were created from the start by intelligent design, not by chance or “self-organization” of fat globs that “show **one** way in which life **might** have started.”

Catastrophic geology: In Darwin’s day, Lyell and other uniformitarian geologists proposed slow-and-gradual processes accounting for all the world’s structures — the same processes visible in the present. Over the years many extremely large scale, rapid changes have been reported. Here are a few of the more recent findings:

1. A relatively rapid formation of the current Grand Canyon by a dam breach (*ScienceDaily*⁷).
2. Catastrophic erosion of a large canyon by huge dam-breach megafloods in the eastern Himalayas (*Geology*⁸).
3. Rapid erosion of mountains by lightning (*ScienceDaily*: “**proving that mountains are a lot less stable than we**

think”⁹). See also a good summary on *LiveScience*¹⁰ about the unexpected rapidity of this process.

4. Discovery of a large “**paleo-megalake and paleo-megafan** in southern Africa... 90,000 km² **larger than Earth’s most extensive freshwater body today**” (*Geology*¹¹), a possible post-Flood remnant.

5. *PhysOrg*¹² reported a spectacular earth rupture after one 7.2-magnitude earthquake in the Philippines on October 15th made a 10-foot high rocky wall that stretches for miles. Imagine what larger earthquakes and volcanic eruptions could do.

Human genetics upset: *Science*¹³ reported a finding that complicates the notion that Native Americans are descended from Siberians crossing the Bering Strait. A new study links Native Americans with Europe. “**I’m still processing that Native Americans are one-third European**,” one geneticist remarked; “**this is going to stimulate a lot of discussion**.” Biblical creationists will quibble about the 24,000 years date of a specimen mentioned in the study, but agree that worldwide colonization was rapid in the recent past. Evolutionists believe that humans with equivalent intelligence and physical ability equal to ours existed for almost 2 million years, but in all that time, never decided to discover America.

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All by Design

by Jonathan C. O'Quinn, D.P.M., M.S.

Nature's Drone

Dragonflies are not only beautiful and often brightly colored insects; they are also designed for extreme precision. They hatch from aquatic larvae that spend weeks to several years swimming via water jet propulsion and catching small aquatic prey. When they metamorphose, dragonflies are skillful aerialists, able to fly in any direction, even upside-down, turn on a dime, and reach speeds of up to 30 miles/hour.

Each of the dragonfly's four wings is attached to the thorax by separate muscles that operate independently. They have the largest of any insect eyes, each made up of roughly 30,000 facets and offering 360-degree vision that is among the sharpest of all insects. They are able to maintain the image of a moving prey insect on the same point of the retina, locking in on the target.

Dragonflies have a 95% success rate in catching their prey (flying insects), compared with 25% for African lions and 50% for great white sharks. Researchers have



found a nearly human-like capacity for selective attention in dragonflies, allowing them to zero in on a particular insect, even a swarm of similarly flying insects, while their brains essentially ignore other nearby insects. Dragonflies have a kind of master circuit of 16 specialized neurons that connect the brain to the flight-motor center in the thorax operating the wings. It is as if the wings automatically determine how to function to bring the dragonfly to its target, once it has been selected.

Due to the specialized vision, wings, and neuronal connections, a dragonfly can track a moving target, calculate a trajectory to intercept that target, and quickly adjust its path as needed — all without having to stop and think about what it is doing! Rather than evolving in a step-wise fashion, these specialized abilities had to act in concert from the dragonfly's first appearance, assuring the survival of these uniquely designed insects.

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Photo identification and credit:

Meadowhawk dragonfly, *Sympetrum* sp. (Newman 1833). David Cappaert, Michigan State University, www.Bugwood.org image no. 5381080.