Creation Matters

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Did Animals Eat Meat Before the Flood?

by Andrew V. Ste. Marie

The Bible describes the perfect world God created in Genesis 1 and 2. One of the most notable attributes of the pre-Fall world was the absence of carnivorous (meat-eating) behavior.

> And God said, Behold, I have given you [Adam and Eve] every herb bearing seed, which *is* upon the face of all the earth, and every tree, in the which *is* the fruit of a tree yielding seed; to you it shall be for meat. And to every beast of the earth, and every fowl of the air, and to every thing that creepeth upon the earth, wherein *there is* life, *I have given* every green herb for meat: and it was so. (Genesis 1:29–30)[1]

Figure 1. Bite mark in the top of an Edmontosaurus *skull. The bite marks in this skull match* Tyrannosaurus rex *teeth perfectly. Artificial cast on display at the Mt. Blanco Fossil Museum. Photograph by Joe Taylor; used by permission.*

Of course, Adam and Eve sinned and everything changed, including diets. Carnivorous activity is a prominent aspect of our world today, but when did it begin? It is not specifically mentioned in the Curse (Genesis 3:14–19). In fact, at the time of the Curse God told Adam "thou shalt eat the herb of the field" (Genesis 3:18b). People were not given meat to eat until after the Flood (Genesis 9:2–4).[2] But what about the animals? Did they begin to eat meat before the worldwide Flood? Scripturally and scientifically, the answer appears to be yes.

Biblical evidence

The Bible is the final authority, and in any question it should be consulted first. The Bible describes the world before the Flood in Genesis 6:11–12:

> The earth also was corrupt before God, and the earth was filled with violence. And God looked upon the earth, and, behold, it was corrupt; for all flesh had corrupted his way upon the earth.

... continued on p. 2

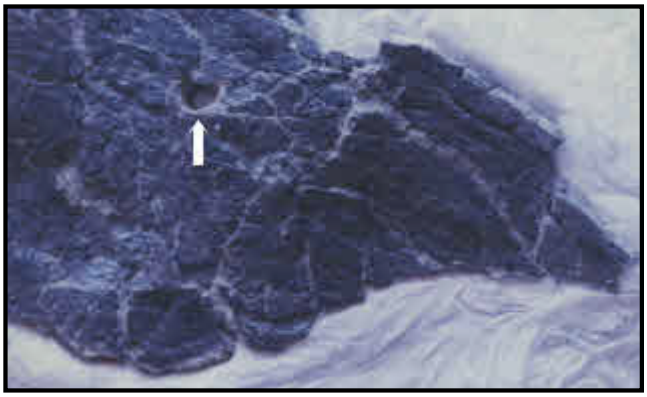

Figure 2. A partial stegosaur back plate with a bite mark from an allosaur or large crocodile. Photograph by Joe Taylor; used by permission.

Darwinism Inspired the Chinese Communist Holocaust

by Jerry Bergman, Ph.D.

Charles Darwin and his close disciples, including Thomas Henry Huxley and Ernst Haeckel, had a profound influence on the Chinese Communists' policies and the enormous holocaust that they inflicted on their own people as well as others. Professor Azar even concluded that Darwinism was the foundation of modern totalitarianism in China and elsewhere (1990). Milner (2009, p. 79; quoted from *Living Philosophies*, 1931, published in Chinese) noted that, according to Chinese historian Hu Shih,

> …when Thomas Huxley's *Evolution and Ethics* was published in 1898, it was immediately acclaimed and accepted by Chinese intellectuals. Rich men sponsored cheap Chinese editions so they could be widely distributed to the masses "because it was thought that the Darwinian hypothesis, especially in its social and political application, was a welcome stimulus to a nation suffering from age-long inertia and stagnation."

Within only a few years Darwinism became so widely accepted in China that "evolutionary phrases and slogans" were common Chinese proverbs. The Darwin

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Notice the phrase "all flesh had corrupted his way." Flesh is the Hebrew *basar*, meaning flesh or, by extension, a person or body.[3] Corrupt is the Hebrew *shachath*; some of the meanings listed for this word by Strong include "to *decay*…batter, cast off, corrupt…destroy…lose, mar…"[4] (emphasis original). The Hebrew word *basar* (flesh) seems to refer mainly to people, but also to animals (see Genesis 6:19, 7:15–16, 21, for references which certainly mean both people and animals, or only animals).

People had corrupted their way and "cast[ed] off" God's laws. The animals had apparently done the same. The phrase "corrupted his way" indicates people were involved in every sin imaginable. Animals were only given two commandments, however: multiply and eat plants (Genesis 1:22, 28, 30). Of course they did not stop reproducing, but these verses seem to indicate that at least some animals were not following God's command to eat plants. This is not meant to imply that animals were willfully sinning; how and why some animals stopped eating plants and began to eat meat is unknown because Scripture does not give us the details. The point is that animals, as well as people, were engaging in corrupt activities which God had not originally built into His perfect creation.

The Bible clearly implies that there was violent animal life prior to the Flood. Paleontology tells the same story.

Pre-Flood violence and carnivorous activity revealed in the fossil record

Much of the fossil record was certainly formed during the Genesis Flood. While this is still a rather controversial subject, there is general agreement among many young-earth creationists that at least the so-called Cambrian through Cretaceous rock layers were laid down in the Flood, although some of these rocks may have formed before the Flood. Therefore, in this paper only evidence of carnivorous activity in these layers will be presented.

Even though many examples could be cited, I shall present four lines of supportive data that can be used as evidence of carnivorous behavior in the fossil record. These are: fossilized remains of animals in the gastrointestinal tracts of other fossilized animals; bite marks on fossil bones; animal remains in coprolites (fossilized dung); and animals preserved in combat.

Arthropod. A new (but as yet unnamed) type of arthropod was found in the Kaili Formation, southern China. Arthropods are members of a large group including insects, crustaceans, spiders, scorpions, etc. This fossil had a well-preserved gut filled with trilobite pieces. Because only one type of trilobite was found in the Kaili arthropod's gut, it was speculated that it attacked the trilobites live instead of scavenging (most scavengers eat a wide variety of animals). Whether or not this speculation is correct, this arthropod was a carnivorous trilobite-eater.[5]

Ichthyosaurs. Ichthyosaurs were marine reptiles which resembled dolphins. Many well-preserved skeletons have been found in various places around the world. Gut contents have also been found; fish and fish scales, cephalopod (squids and octopi are cephalopods) hooklets, smaller ichthyosaurs, small turtle bones, and even a bird bone and pterosaur (flying reptile) remains have been found in the stomach areas of fossilized ichthyosaurs.[6, 7]

Mosasaurs. Mosasaurs are placed in the lizard group. They were marine reptiles with a lizard- or crocodile-like body shape, paddles instead of hands and feet, and long, rather crocodile-like heads. Their tooth marks have been found on ammonites (similar to today's chambered nautilus).[8] The first mosasaur-bitten ammonite discovered had been bitten sixteen times and was killed by the attacking mosasaur.[9] The large mosasaur *Tylosaurus* is known to have consumed *Clidastes* (another, smaller type of mosasaur) as well as fish, sharks, and swimming birds.[10] One specimen of the mosasaur *Platecarpus* has a mass of tightly packed, partially digested fish bones in its gut area.[11]

Sharks. Sharks were also predators before the Flood. The (now presumed extinct) "Ginsu Shark" *Cretoxyrhina* seems to have been a vicious mosasaur killer. Partly digested mosasaur pieces have been found inside fossil specimens of *Cretoxyrhina*. The shark's teeth are sometimes found embedded in mosasaurs; one specimen had two vertebrae bitten completely through. One mosasaur seems to have had its neck twisted

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Types of paleontological evidence indicative of carnivorous behavior:

1) **remains of animals in the gastrointestinal tracts of other fossilized animals**
2) **bite marks on fossil bones**
3) **animal remains in coprolites (fossilized dung)**
4) **animals preserved in combat**

off by a *Cretoxyrhina*, which also bit through most of the rib cage. A smaller shark, *Squalicorax*, seems to have subsequently scavenged this mosasaur.[12] At Farmersville, Texas, a tylosaur (type of mosasaur) was found which had been bitten by sharks — its head was bitten in two.[13]

One fossil of a shark (*Triodus sessilis*) had two amphibians, an *Archegosaurus* and a *Cheliderpeton*, in its stomach area. The *Cheliderpeton*, in turn, had a fish (*Acanthodes*) in its stomach area![14]

Crocodile-like reptiles. Phytosaurs were reptiles similar to crocodiles with nostrils near their eyes. An animal vertebra has been found with tooth marks perfectly matching phytosaur teeth. One metoposaur (giant amphibian) skull has a row of phytosaur tooth marks from the back of the skull into the brain case.[15] Stomach contents found in *Belodon*, a type of phytosaur, indicate it fed on a variety of reptiles.[16]

Near Raleigh, North Carolina, the 70 percent-complete articulated (i.e., the bones are positioned as in life) skeleton of a new *Postosuchus*-like animal was discovered.[17] *Postosuchus* was a crocodile-like reptile with a head very similar to the head of *Tyrannosaurus rex*.[18] This new fossil creature had pieces of several other animals in its stomach area: a skeleton of *Aetosaurus* (crocodile-like plant- or clam-eater), a piece of an amphibian, partial skull and postcranial pieces of the cynodont *Plinthogomphodon herpetairus*, and a dicynodont toe. Beneath the *Postosuchus*-like creature was another crocodile-like animal. The two appear to have been fighting when they died. The lower crocodile-like creature has a bite mark on its neck which is about the right size for the *Postosuchus*-like animal.[19]

Tooth marks attributed to *Deinosuchus*, a giant alligator, have been found on the bones of hadrosaurs and tyrannosaurs.[20]

Snakes. In India, a remarkable fossil revealed a new type of snake, *Sanajeh indicus*, sitting in a sauropod nest with three eggs and a hatchling sauropod. At least three such fossils have been found. It is possible these snakes were in the nests to eat eggs or hatchlings.[21]

Theropod dinosaurs. Theropods were the two-footed, meat-eating dinosaurs such as *Tyrannosaurus rex* and *Velociraptor*. There is a large amount of evidence showing many of these animals to have been carnivorous.

Tyrannosaurus rex is by far the best-known theropod. There is good evidence it ate meat and may have attacked live animals. Bite marks attributed to *T. rex* have been found on approximately 18 dinosaur bones.[22, 23] For instance, such bite marks have been found on a ceratopsian (horned dinosaur) hip and on an *Edmontosaurus* skull.[24, 25] Bird-hipped dinosaur bones have been found in a coprolite attributed to *T. rex*.[26] Marks which are probably healed *T. rex* bite marks have been found on the tail of an *Edmontosaurus*[27] and on a *Triceratops* bone.[28] These two fossils show *T. rex* probably attacked other live dinosaurs, since dead, scavenged animals do not heal.[29] Tyrannosaurid (not necessarily *T. rex*) tooth marks have also been found on bones of *Saurornitholestes* (another theropod), other tyrannosaurids,[30] and a hadrosaur (*Saurolophus*) upper arm bone.[31]

Velociraptor is another well-known theropod. It had a large sickle claw on its hindfoot, long assumed to have been used as a weapon. There is indeed evidence showing *Velociraptor* to have been a carnivore after the Fall. The famous "fighting dinosaurs" fossil preserves a *Velociraptor* locked in combat with a *Protoceratops* (similar to a small *Triceratops*).[32] Other *Protoceratops* bones bear *Velociraptor* tooth marks.[33]

Tooth marks have revealed many interesting glimpses into theropod diets. *Troodon* tooth marks have been found on a horned dinosaur bone. A *Saurornitholestes* tooth mark has been found on an ornithomimid (ostrich mimic theropod) tail bone;[34] a *Saurornitholestes* tooth has been found embedded in a pterosaur (flying reptile) bone.[35] A spinosaurid tooth has also been found in a pterosaur vertebra.[36]

A nearly complete *Compsognathus* specimen from Germany has bones of a lizard, *Bavarisaurus*, in its stomach area.[37]

A specimen of *Baryonyx* included in its gut area many teeth and scales of fish as well as the bones of a young *Iguanodon* (a bird-hipped dinosaur).[38]

Allosaurus is known to have had a predator-prey relationship with *Stegosaurus*. *Allosaurus* bite marks have been found in *Stegosaurus* back plates. A *Stegosaurus* spike hole has been found in an *Allosaurus* tail bone, and broken *Stegosaurus* spikes have also been found — perhaps broken in a fight with an *Allosaurus*.[39]

A fossil from South America of a small theropod, *Herrerasaurus*, had a juvenile of another reptile (the rhyncosaur *Scaphonyx*) in its rib cage.[40]

Even with all this evidence of violence and carnivorous activity in the fossil record, the fossils tell of yet more pre-Flood corruption of God's perfect creation — cannibalism. Some fossils of the theropod *Majungatholus* from Madagascar have teeth marks exactly matching *Majungatholus* teeth. Whether *Majungatholus* hunted or scavenged its own kind, it was a cannibal.[41]

One can hardly mention the subject of dinosaur cannibalism without discussing *Coelophysis*. Two nearly complete, articulated specimens of *Coelophysis* from New Mexico were long thought to have had young *Coelophysis* in their stomach cavities. Recent research has shown most of the assumed gut contents were not gut contents at all. Those which are have been shown to be the bones of a small crocodile-like animal, not a young *Coelophysis*.[42]

Summary

God created a world which was perfect and free of death, violence, and carnivorous behavior. After the Fall and the Curse, some animals became violent carnivores and even cannibals. The fossil record bears abundant testimony to this fact. Man, however, was not given meat to eat until after the Flood. The Bible also tells of the new heavens and new earth, where once again meat-eating and violence will be unknown.

> The wolf also shall dwell with the lamb, and the leopard shall lie down with the kid; and the calf and the

young lion and the fatling together; and a little child shall lead them. And the cow and the bear shall feed; their young ones shall lie down together: and the lion shall eat straw like the ox. And the sucking child shall play on the hole of the asp, and the weaned child shall put his hand on the cockatrice' den. They shall not hurt nor destroy in all my holy mountain: for the earth shall be full of the knowledge of the LORD, as the waters cover the sea. (Isaiah 11:6–10)

References and notes

[1]All Scripture quotations are from the King James Version.

[2]Some creationists believe people may have eaten meat before the Flood. It is beyond the scope of this article to address this subject, although my personal opinion is that people were not allowed to eat meat before the Flood.

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[19]Reference 17.

[20]Farlow, J. O., and T. R. Holtz, Jr. 2002. The fossil record of predation in dinosaurs. *Paleontological Society Papers* 8:251–266.

[21]Wilson, J. A., D. M. Mohabey, S. E. Peters, and J. J. Head. 2010. Predation upon hatchling dinosaurs by a new snake from the Late Cretaceous of India. *PLoS Biology* 8(3):e1000322.

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[23]Longrich et al. (ref. 22) list 17 such specimens. Their list does not include the *Edmontosaurus* skull with *T. rex* bite marks (ref. 25).

[24]Erickson, G. M., S. D. Van Kirk, J. Su, M. E. Levenston, W. E. Caler, and D. R. Carter. 1996. Bite-force estimation for *Tyrannosaurus rex* from tooth-marked bones. *Nature* 382:706–708.

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Matters of Fact... Similarity & Shared Mistakes

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 Is similarity evidence of evolution or creation? What about shared mistakes?

A It is not uncommon for evolutionists to claim that similarity is evidence for evolution. Creationists often counter that similarity is evidence of a common Designer. Who is correct? Generally speaking, if a scientist says something is evidence for a particular model, he would be implying it is far more easily explained within this model than a competing one. In this context, similarity is not evidence for either creation or evolution, as it is easily explained in both models.

There are a few specific arguments related to similarity that seem to be more powerful. One that superficially seems to strongly favor the evolutionary model involves the idea of shared mistakes. One example of this argument was publicized on the *Biologos* website.

This particular example is based on a study of olfactory (smell) receptor genes (*OR*s) in humans and several non-human primates (Gilad et al., 2003). Especially in humans, many *OR*s are actually pseudogenes. Pseudogenes look like genes, but they contain one or more stop codons which are predicted to destroy the function of the gene. The authors compared sequences from 50 (of the more than 1000) human *OR*s to orthologs (the same gene in a different species) in chimpanzees, gorillas, orangutans, and rhesus macaques. Among other things, the authors have a figure suggesting a history (phylogeny) of when these pseudogenes appeared. The authors, although using the evolutionary paradigm for their interpretation of the data, are quite honest about where inferences are being made.

In contrast, the article at *Biologos* (Venema and Falk, 2010) uses this phylogeny (though eliminating the rhesus macaques which didn't fit in quite as neatly) and makes some grand claims. In discussing the pattern, they claim:

> Using pseudogene evidence alone … it would assemble these species into the same pattern of relatedness as any of the others [i.e. the pattern of relatedness currently believed by most evolutionists].

Problem one: Assuming common ancestry was the source of similarity

Many pseudogenes have more than one mutation predicted to silence the gene. To construct the phylogeny, only one was considered. Gilad et al. (2003) state:

> When more than one coding region disruption was identified in the same species, we inferred which occurred first by identifying disruptions shared between species.

Essentially, the evolutionary paradigm was used to determine which inferred mutation would be considered. The one considered is the one that fit the pattern of common ancestry, and this was used to construct the phylogeny. Contrary to the claim of the *Biologos* authors, it is not clear from the paper that there were no examples that might run counter to the "predictions" suggested by Venema and Falk. So, it wasn't the "pseudogene evidence alone" that was presented, but interpretation of it based on assumptions about common ancestry.

Problem two: Ignoring other possibilities — selection or biased mutation

Generally speaking, when inferred mutations are identical in different species and the pattern fits with beliefs about common ancestry, they are considered to be from common ancestry. Sometimes they are found where they don't fit beliefs about common ancestry and these are considered to be from convergent evolution. In the latter case, the same mutation is considered to have appeared twice (or more) independently. In the view of many this should be rare, and would not normally be observable to us unless the mutation were favored by natural selection. The problem is that selection is often considered to be strong in *OR*s, which may affect the changes being considered here (McBride, 2007).

Biased mutations are a second mechanism that may account for independent identical mutations. There is already considerable evidence that biased mutations occur in other genes similar to *OR*s (e.g., the MC1R and the DRD4; Lightner, 2008a and Lightner, 2009, respectively). Biased mutation and selection are not mutually exclusive, and are important considerations in analyzing patterns. The phylogeny proposed by Gilad et al. (2003) doesn't bother to consider these factors since the data could be fit into the desired common descent model. One would have to dig up the raw data to determine what other scenarios it might have easily been fit into.

Other issues

*OR*s are fascinating and there is much we have to learn. Previous work shows that there is considerable variation within species as well as between them (Lightner, 2009; Menashe et al., 2003). Since the phylogeny proposed by Gilad et al. (2003) included information from only two of each non-human primate, it remains to be seen if the phylogeny proposed will hold up as further information becomes available. In fact, I have not seen the phylogeny developed in more recent works by these and other authors, suggesting the pattern does not really hold up that well. It is clear that there are a number of explanations used to account for the similarities and differences in *OR*s; these are applied in a way consistent with the evolutionary assumptions of the authors (Go and Niimura, 2008).

Interestingly, pseudogenes are not always non-functional as was originally assumed. Though most identified functions appear to be regulatory in nature, one hu-

Erratum

In the "Matters of Fact..." article on page 10 of Volume 15 Number 4 (July/August 2010), a typographical error occurred in the first sentence of the third paragraph of the second column. The word "not" should be inserted as shown underlined below. The change has been made in the online version.

> It can also explain why certain traits are removed from a population. Since by definition natural selection assumes variation in traits exists (or it could <u>not</u> occur), it cannot explain the origin of a trait; it certainly does *not* produce adaptations.

man *OR* pseudogene has been identified that codes for a functional protein (Lightner 2008b). This shows us that we have much to learn, and bold statements that the patterns fit neatly into one model as opposed to another are inappropriate, from either side of the debate.

Are shared mistakes evidence for creation?

No. While I do consider the design inherent in creation abundant testimony to a Creator, I don't see similarity arguments as particularly helpful to either side. The creation model doesn't make specific predictions about what we should expect to find in the way of similarity. There are various possible explanations for the patterns we see, and each side uses explanations which fit with their pre-existing ideas. In the end, it is the difference in worldview and where people choose to place their faith that determines which is considered most plausible. Certainly I think the creation model better explains significantly more of the data, but I prefer to focus on areas where both models make clearer predictions (e.g., the patterns seen in mutations and their ability, or lack thereof, to account for the proposed onward, upward history of evolution).

I think it is important for creationists not to share in the mistakes of some evolutionists. Those promoting evolution often seriously overstate their case on what the evidence supports. Science is a useful tool for investigating the world around us, but it is not an all powerful source of knowledge. This is particularly true when dealing with historical events that no scientists have observed. It is important to be realistic about our beliefs based on science, because with more discoveries our understanding often changes. Historically, this has worked to the advantage of creationists.

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Math Matters

by
Don DeYoung, Ph.D.

Mathematics and Marriage

Recent years have produced many studies on the nature of marriage. The origin of monogamy is typically called a mystery, revealing a lack of acceptance of the origin of marriage in Genesis 1:24 (Callaway, 2010). Instead, monogamous marriage is thought to be an imposed feature of "western society" which conflicts with evolutionary norms (Fortunato and Archetti, 2010; Barash and Lipton, 2001). These writers believe that evolution would seem to favor the widest possible dispersal of a male's genes.

This assumption has now been tested using a complex mathematical model of social behavior. Multiple factors regarding polygamy, both positive and negative, were

addressed. Some of the negative factors are humorous, and reveal the researchers' evolutionary worldview. For example, it was realized that monogamy provides exclusive investment of a couple's resources in their offspring, giving siblings a competitive advantage over the polygamous alternative. Also, by giving up multiple wives, men sacrifice their own selfish interests for those of the group. In addition, monogamy tends to prevent men from fighting over women, leading to greater stability in society.

These factors and several others were weighted while the computer model was run over several generations. As the title of the Callaway article shows, the results gave a solid advantage to monogamy over polygamy for the wellbeing of society. Surprise…surprise!

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personality cult became so radical that thousands of parents named their children after famous Darwinists or evolutionary ideas (Milner, 2009, p. 79; quoted from *Living Philosophies*, 1931 published in Chinese)

> …to "remind themselves of the perils of elimination in the struggle for existence, national as well as individual." A famous general called Chen Chiung-ming renamed himself "ching-tsun" or "Struggling for Existence." Author Shih himself adopted the name "Fitness" (Shih), from the phrase "survival of the fittest." He recalled that because of the great vogue of evolution in China...two of my schoolmates bore the names 'Natural Selection Yang' and 'Struggle for Existence Sun.'

Darwin's revolutionary theory was introduced by Yan Fu and "first unfurled in China during the Reform Movement of 1895–98, in response to China's defeat in the Sino-Japanese War" (Pusey, 2009, p. 162). The two major groups seeking change were the reformers, who were loyal to the Manchu Qing Dynasty, and the revolutionaries, who wanted a clean break with the past. Both used Darwinism to guide their political philosophies.

Darwin dominates politics in China

Some of the early political reformers supported democracy but, realizing that the people in their country were totally unprepared for a democratic form of government, they emphasized Darwin's step-by-step gradualism that would give both direction and stability to China. Thus, by appealing to Darwinian "natural law" they assumed they could reach their goal.

As a result, belief in Darwinism impeded working directly towards democracy because the step-by-step progress model was viewed as a fixed natural law *requiring* each stage to be achieved in order to achieve the end goal, democracy. Conversely, the revolutionaries also embraced Darwin, drawing inspiration from the idea that the "superior survive and the inferior are defeated." (Pusey, 2009, p. 163)

The reformers and the revolutionaries vigorously debated "with both sides wildly waving Darwin's banner." (Pusey, 2009, p. 163) The leaders of these movements imbibed the scientific racism ideas coming from both America and Germany at that time, and saw themselves as most "fit" to rule. Pusey (2009, p. 163) wrote that, unfortunately,

> …both camps also accepted the pervasive Western view that Darwin had proven races unequal — that one race was 'fitter' and therefore better than another. The reformers had originally done so to disassociate themselves from those who had fallen prey to the imperialists, such as the Africans and Indians. But in their exile in Japan, reformers and revolutionaries alike turned angrily on the Manchus as scapegoats, labeling them evolutionary low life, whose 'unnatural' conquest of the Han Chinese was responsible for China's peril.

Darwinism was a critical influence in the Chinese Communist Revolution. As a youth, Mao Tse-tung ... , the founder of China communism and the first Chinese Communist dictator, "devoured" many western works, especially Darwin, Huxley, Herbert Spencer and other nineteenth century Darwinists ...

The growth of Marxism in China after World War I was partly due to the fact that traditional Chinese pacifist philosophies were perceived as weak, and the Marxist worldview "seemed to them the fittest faith on Earth to help China to survive." (Pusey, 2009, p. 163) This result was not totally

> …Darwin's doing, but Darwin was involved in it all. To believe in Marxism, one had to believe in inexorable forces pushing mankind, or at least the elect, to inevitable progress, through set stages (which could, however, be skipped). One had to believe that history was a violent, hereditary class struggle (almost a 'racial' struggle); that the individual must be severely subordinated to the group; that an enlightened group must lead the people for their own good; that the people must not be humane to their enemies; that the forces of history assured victory to those who were right and who struggled.

Pusey (2009, p. 163) then asked, "Who taught Chinese these things? Marx? Mao? No. Darwin". In addition to its influence on Marx, Darwinism had an enormous influence on several of the highest level revolutionary Chinese Communist party leaders, including Mao Tse-tung.

Mao Tse-tung becomes a Darwinist

Darwinism was a critical influence in the Chinese Communist Revolution. As a youth, Mao Tse-tung (1893–1976), the founder of China communism and the first Chinese Communist dictator, "devoured" many western works, especially Darwin, Huxley, Herbert Spencer and other nineteenth century Darwinists (Short, 1999; Devillers, 1967, p. 26; Pusey, 1983). Mao Tse-tung actually viewed "Darwin, as presented by the German Darwinists, as the foundation of Chinese scientific socialism" (Stein, 1988, p. 52). Mao advocated achieving world communism by both violence and war — selection of the fittest — and the policies that Mao developed to achieve this goal resulted in the murder of as many as 80 million Chinese (Ruse, 1986 p. 460).

The extent that Darwinism was applied to life in China is illustrated by Kenneth Hsü as he described his experience as a student in China in the 1940s. He claimed (Hsü, 1986, p. 1) that after their morning exercises his class was harangued by the school's rector with Darwinism propaganda for the remainder of the hour:

> We had to … fight in the struggle for existence, he told us. The weak would perish; only the strong would survive.

Hsü added that they were taught one acquires strength, not by hard work as his mother taught, but through struggle in which the Darwinian "fittest" were more likely to prevail. He concluded (1986, p. 1–2) that

> …we were victims of a cruel social ideology that assumes that competition among individuals, classes, nations, or races is the natural condition of life, and that it is also natural for the superior to dispossess the inferior. For the last century and more this ideology has been thought to be a

> natural law of science, the mechanism of evolution which was formulated most powerfully by Charles Darwin in 1859 in his *On the Origin of Species by Means of Natural Selection, or the Preservation of Favored Races in the Struggle for Life*. Three decades have passed since I was marched into the schoolyard to hear the rector contradict my family's wisdom with his Darwinian claim to superiority.

In view of what happened in the war and after, Hsü (1986, p. 2) was forced to question what sort of fitness was

> …demonstrated by the outcome of such struggles. As a scientist, I must especially examine the scientific validity of a notion that can do such damage.

Hsü reported that the importance of Darwinism was indicated by Theo Sumner's experience on a trip to China with German Chancellor Helmit Schmit. Theo personally witnessed Mao Tse-tung's acknowledging the debt he had to Darwinism, especially as it inspired Hitler and Ernst Haeckel. Hsü concluded (1986, p. 13) Mao was convinced that "without the continual pressure of natural selection," humans would degenerate. This idea inspired Mao to, in Hsü's words (1986, p. 13), advocate "the ceaseless revolution that brought my homeland to the brink of ruin."

Darwin ethics in China

In the minds of Mao and other political leaders influenced by Darwin, *treating* people as animals was not wrong because they believed that Darwin had "proved" humans were *not* God's creation, but instead were animals descended from a "simple" one-celled organism. These men believed it was morally proper to eliminate the less fit or "herd them like cattle into boxcars bound for concentration camps and gulags" to achieve the goals they thought best (Perloff, 1999, p. 225). One of the leading reformers, Liang Qichao, said in 1898 (Pusey, 2009):

> If a country can strengthen itself and make itself one of the fittest, then, even if it annihilates the unfit and the weak, it can still not be said to be immoral. Why? Because it is a law of evolution.

Lu Xun (1881–1936), one of China's most important writers, tried to make practical sense of the Chinese Darwinism revolution (Pusey, 1998). Lu Xun relied heavily not only on Darwin but also Haeckel whom he "accepted uncritically," especially Haeckel's "know-it-all-ism" idea that the "progressive evolution of mankind" has been proven "beyond the shadow of a doubt" and that there "was nothing that could not be explained by natural law" (Pusey, 1998, p. 75). As a result he helped to "propagate a superstitious faith in science" (p. 75).

Lu Xun "would not give in to the social Darwinian contention that his race was evolutionary low life" (p. 77). This, though, did not stop the Chinese from judging other races as evolutionarily inferior. The result of these Darwinian based beliefs was a bloodbath greater than any known in history.

The Chinese death toll from Darwinian Marxism

Using primary documents, Chang and Halliday (2005, p. 3) concluded that Mao was "responsible for well over 70 million deaths in peacetime, more than any other twentieth-century leader." Schwartz (1972, 1985) claimed that Mao Tse-tung's "Great Cultural Revolution" holocaust alone was responsible for some 29 million deaths, as well as the disruption of the lives of over 600 million people. Some of the horrors committed by the Chinese communists were also documented by Yahya (2004).

Topgyal (1984, p. 7) reported that the Chinese were responsible for the deaths of 1,278,387 persons during their 33-year rule of Tibet. Specifically, 174,138 Tibetans, considered an inferior race that the Chinese government was trying to control, died in prison and labor camps, 156,758 were executed, 432,607 died fighting, 413,151 died of starvation, 92,731 of torture, and 9,002 of suicide.

The cost of human life was not only heavy among other ethnic groups. During one three-year period alone the Chinese Red Army killed, or lost through desertion, close to 150,000 of its own solders for disobeying orders, almost as many as were killed in action, captured, or discharged from the army for health reasons (Chang and Halliday, 2005. p. 296).

Conclusions

These historical developments in China were all possible because Darwinism is more than a scientific theory — it is fundamentally a philosophical stance about the nature of all reality, a comprehensive worldview. The materialism that underpins the Darwinian worldview spawned scientific racism and eugenics in the West and revolutionary fervor in the East. The new generations need to understand and recognize the significance of this fact and avoid uncritical acceptance about the philosophical roots of science (Pusey, 2009, p. 163).

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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: www.creationsafaris.com/crevnews.htm. Unless otherwise noted, emphasis is added in all quotes.

This Is Your Brain on Bytes

It's mind-boggling time. Some recent articles have tried to quantify the information capacity of the eye, the brain, and the world. Ready? Think hard.

Eye boggle: Your eyes contain about 120 million rods and 6 million cones each. If each receptor represents a pixel, that is 2 x 126 million pixels, or 252 megapixels. And remember — these are moving pictures, not stills (talk about high-def).

How can the brain transmit and process that much visual information? The answer is, apparently, it uses compression — just like computers compress raw camera photos into more manageable JPEG images. That's the title of an article on *ScienceDaily*: "**JPEG for the Mind: How the Brain Compresses Visual Information.**"[1] The article begins,

> The brain does not have the **transmission or memory capacity** to deal with **a lifetime of megapixel images.** Instead, the **brain must select out** only the **most vital information** for understanding the visual world.

Researchers at Johns Hopkins found that certain cells in the image transmission pathway apparently focus on highly curved edges that are the most informative, dropping flat edges — resulting in an 8-fold compression ratio comparable to the JPEG algorithm. Eyesight compression, though, is done in-line, in real time, during the image transmission process. Geeks will enjoy the punch line:

> "Computers can beat us at math and chess," said [Ed] Connor [Johns Hopkins], "but they can't match **our ability to distinguish, recognize, understand, remember, and manipulate the objects that make up our world.**" This **core human ability** depends in part on **condensing visual information to a tractable level.** For now, at least, **the .brain format seems to be the best compression algorithm around.**

Cerebellum boggle: Your cerebellum (a portion of the brain near the brain stem) is important for motor functions, emotions and language. *Live Science*[2] claims that wiring in the cerebellum starts with "surprisingly bad wiring," because axons seeking connections to granule cells of the cerebellum sometimes link up incorrectly to Purkinje cells. But "bad wiring" may be in the eye of the beholder, because an international team found that "a substance known as bone morphogenetic protein 4, which plays a role in bone development, **helped correct these errors.**"

One of the researchers publishing in *PLoS Biology* explained,[3] "What we demonstrate here is that you have **a negative system that repels axons** from an **inappropriate target**, thereby **steering** them to the **right target**." If it works, can it be called bad? The authors said, "In summary, we show that the **specificity** of the **synaptic connections** in the ponto-cerebellar circuit **emerges through extensive elimination of transient synapses.**" But that raises an interesting question: what regulates the regulators?

Memory boggle: Get ready for the punch line on this one. An article on *LiveScience*[4] discussed the tipping point of human information technology from analog to digital storage. In 2000, the article said, about 75% of the world's information was stored in analog form (e.g., paper, analog tape, analog sound recordings). By 2007, 93% of the information was stored digitally (computer files, digital tape, digital recordings). Digital information can be quantified in the familiar bits, bytes, megabytes, gigabytes, yotta yotta yotta....[4]

Now that information can be quantified digitally, it's possible to estimate all the human information in the world. As of 2007, that quantity was 295 trillion megabytes (295 x 10^{18} bytes, or 295 exabytes), according to Martin Hilbert of USC. Before divulging the punch line, let's quote the article's comparisons:

> Have a hard time imagining 295 trillion megabytes? Hilbert suggests thinking of it this way: "If we would use a grain of sand to represent one bit each of the 295 trillion, we would require 315 times the amount of sand that is currently available on the world's beaches."

Now the punch line: that incredibly huge amount of information represents "**still only enough for 0.33 percent of the information that can be stored in all DNA molecules of one human adult.**"

Brain boggle: If your mind is not sufficiently boggled yet, let's finish with a measurement posted on *Wired Science*.[5] Author John Timmer of Ars Technica expanded on the work by Hilbert and López to estimate the processing power of the human brain. After several more mind-numbing analogies of the combined processing power of all the world's computers, storage and memory, the article ended with another surprise. First, Hilbert and López estimated the combined processing power of all the world's computers at 6.4 x 10^{18} operations per second. Then, Timmer wrote:

> Lest we get too enamored with our technological prowess, however, the authors make some **comparisons with biology**. "To put our findings in perspective, the 6.4*10^{18} instructions per second that human kind can carry out on its general-purpose computers in 2007 are **in the same ballpark area as the maximum number of nerve impulses executed by one human brain per second**," they write.
>
> Our total storage capacity is the same as an adult human's DNA. And there are several billion humans on the planet.

You may now put an ice pack on your head and reboot.

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Evolution Running Backwards

For Darwin's doctrine of universal common ancestry to be demonstrably true, there must have been a common ancestor of insects

and humans. That base of the family tree has just been discredited, leaving a gap in this important junction of Darwin's tree of life.

For decades, evolutionists have taught that acoelomorphs, a kind of marine worm, were at the base of the tree that branched one way toward insects and another way toward man. Now, however, *LiveScience*[1] reports on an article published in *Nature*, "**two large groups of marine worms are more closely related to us than are insects and mollusks**, a new study shows." According to a co-author quoted by *LiveScience*,

> "We **can no longer consider** the acoelomorphs as an **intermediate** between simple groups such as jellyfish and the rest of the animals," said researcher Max Telford of the Department of Genetics, Evolution and Environment, University College London. **"This means that we have no living representative of this stage of evolution: the missing link has gone missing."**

To explain the confusing genomes in evolutionary terms, the researchers are having to suppose that the last common ancestor, whatever it was, was even more complex than these worms — and the living worms lost some of the genetic information contained in the ancestor:

> Being such **simple creatures** and **yet still mixing and mingling on the family tree with us complex creatures** suggests these marine worms were **once complex themselves**, Telford said.
>
> "This is an interesting evolutionary question," Telford told LiveScience. "**Why do animals lose complex features, and how do they do it?** What genes have they lost?"

Commenting on this development in the same issue of *Nature*,[2] Amy Maxmen titled her entry, "Evolution: A can of worms" and wrote:

> The rearrangement has **triggered protests from evolutionary biologists**, who are **alarmed** that they **may lose their key example of that crucial intermediate stage** of animal evolution. Some researchers **complain** that the **evidence is not strong enough to warrant such a dramatic rearrangement of the evolutionary tree**, and claim that the report leaves out key data. In any case, the **vehemence** of the **debate** shows **just how important these worms have become in evolutionary biology.**
>
> "I will say, diplomatically, this is the most politically fraught paper I've ever written," says Max Telford, a zoologist at University College London and last author on the paper.

But rather than bemoaning the loss of evidence, or teaching the controversy, some reporters are promoting this finding as a triumph for evolution. *PhysOrg*[3] wrote its headline, "**Revisited human-worm relationships shed light on brain evolution,**" even though the source paper had nothing to say about brains. *PhysOrg*[4] also buried the Telford quote about the missing link still being missing under a bold headline, "**Simple marine worms distantly related to humans.**" And *LiveScience*[1] announced, "Lowly worms **get their place in the Tree of Life**," downplaying the confusion over where these organisms fit. As if doing penance, though, a later *PhysOrg*[5] headline read, "New evolutionary research disproves living missing link theories."

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The Little Moon that Won't Die

"Geophysicists **expected** this little world to be a **lump of ice, cold, dead, and uninteresting**," said Dennis Matson of NASA's Jet Propulsion Laboratory, and former project scientist of the Cassini mission. "**Boy, were we surprised!**" He added, later, "This discovery **resets our clocks!**" in a press release on *PhysOrg*.[1] Nevertheless, the astronomers are convinced that this little moon [Enceladus] is 4.5 billion years old. Could it really have been active that long?

There are several ways to rescue this theory in crisis. One is to play with models. The Cassini scientists did find salt in the plume particles. A new model suggests the existence of a fizzy ocean under the icy crust: "The **model** he and his colleagues propose **suggests** that gasses dissolved in water deep below the surface form bubbles," the article explained, contradicting conclusions by Nimmo and Roberts in 2008.[2]

Another technique is analogy: "Since the density of the resulting **'sparkling water'** is less than that of the ice, the liquid ascends quickly up through the ice to the surface." Who wouldn't be tempted by visions of sparkling soda to be attracted to such a model?

We still, however, haven't heard how Enceladus could be serving sparkling soda for 4.5 billion years. Larry Esposito recognized this: "**Where's the heat coming from on this tiny body?**" he wondered. So the next strategy is to make contributions: "We think **tidal heating** could be **contributing.**" Unfortunately, the contribution does not appear to be anywhere near sufficient to pay the heating bill.

When all else fails, there's distraction: "It's **clear now** that, **whatever is producing the heat**, Enceladus meets many requirements for **life**," Esposito continued. "Whatever" has turned the reader's attention toward something more sexy. The brief excursion into astrobiology was followed by the admission, "**No one knows for sure what's going on** under the ice, but it seems this little moon has **quite a story to tell**: erupting jets, an underground ocean, the **possibility for life.**"

A final point of agreement: "And they thought this place was dull." True; watching a theory in crisis being rescued is anything but dull.

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...without excuse!

The Testimony of Natural Revelation

by Timothy R. Stout

One of the most intriguing verses in Scripture is Romans 1:20,

> For since the creation of the world His invisible attributes are clearly seen, being understood by the things that are made, even His eternal power and Godhead, so that they are without excuse.

This verse tells us that God designed the creation so that it reveals *Him.* That is, the creation reveals His power, His eternality, and His Godhead or nature. One may paraphrase this as saying that the things that have been made and which we see around us reveal that they were made by a living, personal God. Furthermore, this revelation is so clear that God considers anyone *without excuse* who does not understand this.

God's character

With these few words God destroys all of the arguments of the materialists and atheists. The issue is neither the amount nor the adequacy of the available evidence. Rather, it is a person's willingness to be honest about it. God expects every person to recognize not only that there is a Creator, but that the Creator is powerful, eternal, and personal.

As we study the creation, we should grow in our amazement over God's power and person. A scientist is privileged to be in the position of being able to observe and understand God's handiwork in greater detail than the average person. Therefore a scientist should be more in awe of God's power and wisdom than is the scientifically untrained person.

I frequently pass out free creationist material on university campuses and get many opportunities to speak personally to students and, occasionally, to professors (who tend to be much more reluctant to take any kind of material and even less interested in discussing it). Because of the Scripture cited above, my attitude is that I am not there to debate the issue, but rather to make known truths that should be obvious. God declares that the issue has already been decided. Everyone, then, has a responsibility before God to recognize this.

If the laws of science give an uncountable number of reasons why you and I should *not* exist, but *cannot* account for why we do (Stout, 2010), then, in effect, science shows that our origin must be from a source which operates outside of, and is not bound by, natural laws and processes. This source has the power to rearrange the structure of matter at will and is not bound by physical laws. From the perspective of the universe, this source then is unlimited in what it can do within the universe.

Information, intelligence, power

Information, as used in biological systems, is an abstract representation of meaning, such that the meaning is defined by a set of symbols arranged in accordance with a code (Stout, 2008). Working with and understanding abstract symbols and their interrelationships is in the domain of intelligent thought, not natural processes.

Therefore, the use of genetic information to build and control living cells shows that life originated by the handiwork of an Intelligent Being, one capable of thinking specific thoughts and understanding abstract relationships. Once this truth is acknowledged, an analysis of the complexity of the universe and the principles behind its operation reveals that this Being is essentially unlimited in His intelligence.

What do you call a Being who is unlimited in intelligence and also is unlimited in His power to manipulate the universe? You call Him God.

It is a small step to extrapolate from an Intelligent Being, who created the life within the universe, to a Being who created the universe itself. In such a case, the Creator as the Maker of the universe has an existence independent of the universe. He is not inherently visible within the universe because His existence is outside of it, independent of it. He is not part of it and is not limited by it, but has power over it.

If He created the universe, He existed before it and He exists independently of the complex time relationships operating within the universe. Therefore, He is eternal.

God's sovereignty & holiness

Creation was a specific act which was performed at a specific point in time. The Creator had to decide what to create and when to create it. This indicates that He has a will. Since He is unbounded in how He exercises His will over the universe, He is sovereign in the exercise of His will.

A sovereign God who creates a universe and establishes principles of operation within it has the right to govern how man should live. This is part of His godhead per Romans 1:20 above. Man instinctively knows this as well, but because of sin does not want to know it, and suppresses it. God's disapproval of man's rebellion against His standards of behavior is an aspect of what is known as His holiness. Natural man hates the holiness of God and therefore suppresses and fights against all of the things we have discussed above, in accordance with Romans 1:18.

The opposite of philosophy

Here is something subtle but extremely important. The above train of thought may sound like philosophy, but it is actually the exact opposite. Philosophy is a system of reasoned thought based on certain arbitrary assumptions. Thus, philosophy is purely speculative and its conclusions are dependent on the assumptions. By contrast, God *expects* us to understand the definite, specific conclusions discussed above, simply as a result of an honest, reasoned analysis of the evidence He has given us by means of His creation.

From these things we can see that creation naturally reveals to a man that a living Creator God exists, One who is unlimited in His intelligence and power and is sovereign in the exercise of His will. The living God has the right to set standards of behavior for us. Our natural hatred of these standards and our suppression of the self-evident truths about Him show our need for reconciliation with Him. It is with this background that the news of Jesus Christ and the salvation He offers through His death on a cross and subsequent bodily resurrection from the grave becomes *good news.* It alone provides a solution to the predicament in which we find ourselves and about which even nature teaches us.

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All by Design

Evolution's Web of Deceit

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

Evolutionists view the physical traits of living creatures as the result of random genetic changes selected over vast periods of time, with mammals being the most "highly evolved." However, let us look at what spiders may teach us about how the Lord equips all creatures with what they need to live.

Orb-weaving spiders produce webs using two types of silk. The frame and supporting radii of the webs are made of dragline silk spun from major ampullate glands on the abdomen. This silk is as strong as steel, having high tensile strength and stiffness. It is even stronger than man-made, high-performance fibers like Kevlar.

On the other hand, the sticky threads of the web's capture spiral are made of silk spun from the flagelliform glands. This silk is ten times more extensible than dragline silk, and can extend by 200–300% of its original length, allowing insects to become quickly entrapped.

Dew on a web constructed by an unidentified orb weaving spider in Missouri. Photos by Glen Wolfrom.

Analysis indicates that the molecular structures of the two types of silk are different. Lengthy tandem arrays of $GPGGX_{\eta}$ amino acid subrepeats in the proteins of sticky flagelliform silk forms β-spirals that function as highly extensible molecular springs, whereas the nucleotide sequence of the proteins in dragline silk forms stiffer, β-pleated sheets.

In this example of our Creator's mighty handiwork, we see yet another example of a uniquely designed biological system which perfectly meets the organism's needs.

Bibliography

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