

# Human Fossils

## Australopithecines

A recent issue of *Time* magazine (14 March 1994) displayed a picture of *Homo erectus* on the cover with the title, "How Man Began: Fossil bones from the dawn of humanity are rewriting the story of evolution." The question of human origins fascinates us! Many people are intrigued by the possibility of descending from an ape-like ancestor only 7 million years ago. The field of paleoanthropology, the study of human fossils, embraces colorful personalities that compete for our allegiance to their particular evolutionary scheme. Mary and Louis Leakey, their son, Richard Leakey, and Donald Johanson are all recognizable names in this fascinating field of study.

Reading *Time*, *Newsweek*, and *National Geographic* convinces most people that humans evolved from ape-like ancestors. However, a now well-known poll indicates that 47% of adults in the United States, almost half, believe humans were created only 10,000 years ago and that only 9%, less than 1 in 10, believe humans are the result of an evolutionary process in which God played no part. So who's fooling whom? I want to take a brief look at the evidence for human evolution. This is an engrossing topic with some surprising answers.

The story begins about 3.5 million years ago with the appearance of a group of animals collectively known as australopithecines. *Australo* means "southern" and *pithecines* meaning "apes." These "southern apes," initially discovered in South Africa, were small, apparently upright walking apes. Then around 2 million years ago, a new creature appears that is now put into the genus *Homo*, *Homo habilis*. *Homo habilis* possesses the same stature of the australopithecines but with a slightly larger brain. It is also suggested that he used a few primitive tools. Next appears the real star of human

evolution, *Homo erectus*. *Homo erectus* possesses the skeletal frame of modern humans though he's a little more robust, and his brain capacity is closer still to humans. *Homo erectus* uses more advanced tools. This "almost" human hangs around we're told for over 1.5 million years when nearly modern humans (*Homo sapiens*) begin to appear. Soon the offshoot Neanderthals arise and about the same time thoroughly modern humans appear in the last 100,000 years.

While this is the standard story, and the one you will find in the recent issue of *Time* magazine, it is far from convincing when all the data are considered. Take the australopithecines, for example. While there is still some debate about whether these creatures walked upright at all, most anthropologists accept that they walked on two legs. But it is misleading if you don't know the rest of the story. The fact is, that Lucy, the most well known australopithecine (*Australopithecus afarensis*), was also mildly adapted to life in the trees. The evolutionist William Howells said "there is general agreement that Lucy's gait is **not** properly understood, and that it was **not** something simply transitional to ours" (*Getting Here: The Story of Human Evolution*, 1993, emphasis mine). If Lucy walked upright, it was distinct from apes and humans. Not exactly what you would expect from a transitional form. Lucy is simply an extinct ape with no clear connection to humans.

## **The Uncertainties of *Homo Erectus***

We have all seen the series of extinct creatures that lead from ape to man. Evolutionists confidently declare that while there may be a lot of details missing from the story, the basic outline is fairly complete. This all seems rather impressive. In his recent book, *Bones of Contention* (Baker, 1992, p. 21), creationist Marvin Lubenow, offers an important observation:

*What is not generally known is that this sequence, impressive as it seems, is a very artificial and arbitrary arrangement*

*because 1) some fossils are selectively excluded if they do not fit well into the evolutionary scheme; 2) some human fossils are arbitrarily downgraded to make them appear to be evolutionary ancestors when they are in fact true humans; and 3) some non-human fossils are upgraded to make them appear to be human ancestors.*

The australopithecines are a good example of Lubenow's third point. These extinct apes are trumpeted as human ancestors because of their crude bipedal walking ability. But nearly everything else about them is ape-like. The origin of their bipedality would be no small evolutionary task. Even Richard Leakey admits as much in his book with Roger Lewin, *Origins Reconsidered* (pp. 83-84), when he says that the change from walking on four legs to walking on two legs

*...would have required an extensive remodeling of the ape's bone and muscle architecture and of the overall proportion in the lower half of the body. Mechanisms of gait are different, mechanics of balance are different, functions of major muscles are different—an entire functional complex had to be transformed for efficient bipedalism to be possible.*

Yet these immense changes are not documented from the fossil record.

A good example of Lubenow's second point, the arbitrary downgrading of human fossils to make them appear to be our ancestors, is *Homo erectus*. *Homo erectus* is said to span the time from around 1.7 million years ago to nearly 400,000 years ago. From its first appearance, *erectus* is admitted to have a fully human post-cranial skeleton (that means everything but the head). But the brain size is given an evolutionary twist by saying that it only approaches the average for modern humans. In reality, *Homo erectus* brain size is within the range of modern humans.

Throughout the course of their book, *Origins Reconsidered*, Leakey and Lewin document an impressive array of characteristics that distinguish the ape-like qualities of australopithecines from the human qualities of *Homo erectus*. Australopithecines are small in stature, only 3-4 feet tall, and the males are twice the size of females. In humans and *Homo erectus*, the males are only 15-20% larger than females, and a juvenile *erectus* fossil is estimated to have grown to a height of six feet if he had lived.

In *Homo erectus*, all of the following characteristics display the human pattern, while in australopithecines, the ape pattern is evident: growth pattern, dental structure and development, facial structure and development, brain morphology, height to weight ratio, probable position of larynx based on the contours of the base of the skull making speech possible, and the size of the birth canal relative to the size of the adult brain.

Where some *Homo erectus* fossils differ from humans can be explained by the effects of inbreeding, dietary restrictions, and a harsh environment. But evolutionists need an intermediate, and *Homo erectus* is the only option available.

## **Neanderthals and the Paleontologists**

In the field of paleoanthropology, the study of human fossils, one must approach the data and interpretations of the scientists involved with a careful and skeptical eye. There are a number of obvious reasons for this healthy skepticism. The most important reason being that they are looking for man's evolutionary ancestors. If that is what you are looking for, then that is likely what you will report to have found. That is just human nature.

A second reason, is that there is a great deal of competitiveness among anthropologists. They are involved in a race to be the one to discover **the** missing link which will

mean immense notoriety and financial gain. The temptation to exaggerate the importance of their findings at the expense of others is very great.

Another reason for skepticism is that all anthropologists compare only plaster casts of the fossils or measurements available in the literature and not the fossils themselves. The actual fossils are understandably considered too delicate, fragile, and valuable to be handled directly all the time. However, plaster casts are sadly unable to accurately reproduce many of the details needed for proper study. In 1984, the largest collection of actual fossils was gathered from around the world at the American Museum of Natural History for the opening of the "Ancestors" exhibit. It was a unique opportunity for side by side comparisons that took much persuasion to pull off. The mounts for each skull or fragment were individually prepared using a cast of the original fossil. Unfortunately, when the real fossils showed up, most of them did not fit! It is a myth to think that those who teach and write on human origins have actually held in their hands even a fraction of the original material.

Evolutionists have been embarrassed on more than one occasion when their evolutionary bias, competitiveness, and lack of familiarity with the original fossils were not considered. A good example is the misinterpretation of neanderthals. Though there is still much dispute whether neanderthals are a subspecies of humans or a completely different species, in the early part of this century, there was unanimity in the belief that neanderthals were brutish, stooped creatures who were more closely related to apes than to humans. This impression stood for over forty years. One of the first complete neanderthal skeletons was found in a cave in France in 1908. It was given to the French paleontologist, Marcellin Boule to reconstruct.

From other fragmentary fossils, Boule had already formed an evolutionary bias that neanderthals were not related to

humans. Boule saw only the “primitive” traits of neanderthals and ignored clear evidence of arthritis and rickets in the skeleton. Boule reconstructed the skeleton without the curves in the spine that allow humans to walk upright. He also placed the skull far forward so that it would have been difficult to even look up as we do. Other miscues produced an individual who was little more than a shuffling hunchback. Because of his reputation, this reconstruction stood until 1957, when two scientists re-examined the reconstruction and found Boule’s prejudicial mistakes. Their study concluded that neanderthals, when healthy, stood erect, and walked normally. Neanderthals were simply stronger, stockier members of the human family.

## **Allowing the Facts to Speak**

It is interesting to observe certain pieces of the fossil evidence for human evolution either ignored or stretched in order to not upset the accepted picture of human evolution. Creationist Marvin Lubenow, in his recent book, *Bones of Contention*, gives numerous examples of this kind of manipulation, and I’d like to discuss three of the most glaring incidents.

First is a bone fragment of the lower end of the upper arm, near the elbow, that was found near Kanapoi, Kenya, in 1965 and is given the designation, KP 271. What is unusual about this discovery is the date of around 4.5 million years—unusual because it appears for all intents and purposes to be human. Humans are not supposed to have been around 4.5 million years ago. Consequently, this small piece of humerus is usually designated as *Australopithecus* because that is the only hominid species known to be available at that time. Lubenow quotes Harvard anthropologist William Howells in a stunning admission,

*The humeral fragment from Kanapoi, with a date of about 4.4 million, could not be distinguished from Homo sapiens morphologically or by multivariate analysis by Patterson and*

*myself in 1967. . . . We suggested that it might represent Australopithecus because at that time allocation to Homo seemed preposterous, although it would be the correct one without the time element. (pp. 56-57).*

The only reason KP 271 is not listed as human is because it can't be, according to evolution.

Second, many have heard of a series of footprints found by Mary Leakey near Laetoli, Tanzania. Richard Leakey and Roger Lewin, however, just gloss over them by calling them hominid footprints (*Origins Reconsidered*, p. 103). But Lubenow documents that these footprints are identical to those made today by humans that always walk barefoot. Yet these footprints are routinely classified as Australopithecine. William Howells refers to the conclusions of Russell Tuttle from the University of Chicago and a leading expert on hominoid gait and limbs as saying that the footprints are nearly identical to modern humans and that australopithecine feet are significantly different. Tuttle suggests an undiscovered species made these prints. But he can't say that a human made them because humans aren't supposed to exist yet. In the words of evolutionist William Howells, "Here is something of an enigma" (*Getting Here: The Story of Human Evolution*, p. 79). Indeed!

Finally, Lubenow documents the incredible saga of determining the date for Skull 1470. Skull 1470 was very modern in its appearance but was found in rock previously dated at 2.9 million years—much too old for a modern skull. So some scientists set out to determine a much younger date. Lubenow recounts the back and forth wrangling over the issue. Several radioactive methods and paleomagnetism mainly pointed to 2.9 million years, but a few were found contradictory. Ultimately the radioactive dates were tossed aside in favor of a date of 1.9 million years, a date that fit the human evolution better, based on the certainty of the dates of pig evolution. Yes, pig

evolution. To quote Lubenow, "The pigs won. . . . The pigs took it all. But in reality, it wasn't the pigs that won. It was evolution that won. In the dating game, evolution always wins" (p. 266).

## **A Creationist Perspective on Ancient Humans**

Thus far we have been discussing some of the significant problems with evolutionary explanations of ancient human remains. But questions still remain. Many of these individuals do look very different from modern humans. Who are they? Where did they come from? Does any of this make sense from a creationist perspective? While we need to be careful not to over interpret the data as we have accused evolutionists of doing, there are a few suggestions that make some sense.

The most obvious first step is to recognize that *Homo erectus*, archaic *Homo sapiens*, neanderthals, and *Homo sapiens* form a continuum of the human family. The different forms represent genetic variation within a species and not distinct species. Many evolutionists themselves have difficulty drawing the line between these four different labels.

A group of human fossils from Kow Swamp, Australia, are no more than 13,000 years old yet contain many of the skull characteristics of *Homo erectus*. Some of the explanations for this involve cultural modifications and not genetic differences. In other words, many of the characteristics of *Homo erectus* can be achieved in modern humans by lifestyle changes. These could include deliberate forehead compression, deformation due to inbreeding, modifications due to dietary deficiencies and peculiarities. The late Arthur Custance documents differences in the modern skulls of Eskimos due to the massive jaw muscles that are developed because of their diet (*Genesis and Early Man*, 1975). Many of these changes would be labeled as primitive if dug up in some ancient river



bed, yet they exist in fully modern humans today.

Marvin Lubenow offers the interesting suggestion that many of these ancient humans are the remains of individuals within the first millennia after the flood of Noah (*Bones of Contention*, pp. 144-156). Effects of the ice age, constant cloud cover (preventing Vitamin D formation leading to rickets), largely vegetarian and uncooked diet, and expression of local genetic variation could readily account for the many different, yet anatomically related human forms. Are these ancient humans former ape-like creatures that are evolving towards humans, or are they humans caught in a unique and harsh world that brought about numerous interspecies variants? Evolutionists never bother to ask the latter question. A creationist perspective, in this case, may lead to questions that evolutionists may never ask. That is the value, in science, of a different perspective.

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## **The Grand Canyon and the Age of the Earth – A Christian Scientist's View**

*As a Christian scientist, Dr. Bohlin is open to examining the theories of both young-earth and old-earth scientists to explain what we can observe today. The Grand Canyon provides an excellent venue to consider the theories of both groups on how the geological layers were formed and when this occurred.*

# The Age of the Earth and Genesis 1

How old is the earth? How long has this planet been here? Ask most Christians this question and you will likely receive a quick, self-assured answer. All would be well if you could count on receiving the same answer! However, some will very quickly tell you that the earth was created during creation week and can be no more than six to ten thousand years old. Other Christians will tell you, with just as much confidence, that the earth is 4.5 billion years old. This is no minor discrepancy! What adds even more to the confusion is the fact that you can find both opinions within conservative evangelical circles. You can even find both opinions within the ranks of the few Christian geologists with Ph.D.s! Let me assure you that this is just as confusing for me as it is for you.

The age of the earth is a question both of biblical interpretation and scientific investigation. Unfortunately, neither Christian conservative Old Testament scholars nor Christian scientists are in universal agreement. This topic covers a broad spectrum of issues so I am going to try and narrow the focus of the discussion. I will first briefly discuss the biblical aspects of the question, then move on to geology, the flood, and the Grand Canyon.

First, how do the “young-earth” and “old-earth” positions view the Scriptures? Let me emphasize right at the start that both young- earth and old-earth creationists bring a reverent and submissive attitude to Genesis. The difference is a matter of interpretation. Well-known young-earth creationists Henry Morris, Duane Gish, and Steve Austin, from the Institute for Creation Research, interpret the days of Genesis 1 as literal 24-hours days, the genealogies of Genesis 5 and 11 as consecutive or nearly consecutive generations, and the flood as a universal, catastrophic event. This leaves little room for much more than ten to thirty thousand years as the true

age of the earth.

Old earth creationists such as astronomer Hugh Ross of Reasons to Believe see the days of Genesis as long periods of time, perhaps even millions of years. Genesis 1, then, describes the unfolding of God's creation through vast periods of time. God still does the work, it is still a miracle, but it takes a lot longer than seven days. The flood of Noah necessarily becomes a local event with little impact on world-wide geology. Other old-earth creationists simply suggest that what is communicated in Genesis 1 is a literary form of the ancient Near East describing a perfect creation. Genesis 1 was never intended to communicate history, at least in their view. Personally, my sympathies lie with a Genesis interpretation that is historical, literal, and with 24-hour days in the recent past. But the testimony of science, God's natural revelation, is often difficult to correlate with this view. The earth has many layers of sediments thousands of feet thick. How could one year-long catastrophe account for all this sediment? The answers may surprise you!

## **The Grand Canyon**

The Grand Canyon is almost three hundred miles long, a mile deep, and four to twelve miles across. One's first view of the Grand Canyon is a humbling experience. You truly have to see it to believe it. I was mesmerized and could hardly contain my excitement when I caught my first glimpse of the canyon. I was there to partake in a six-day geology hike into the canyon with the Institute for Creation Research, a young-earth creationist organization. ICR believes that the strata, the layers of rock in the Grand Canyon, were primarily formed during Noah's flood perhaps only five thousand years ago. Most geologists, including Christian old-earth creationists, believe that the strata were laid down over hundreds of millions of years. What better way, then, to equip myself for the study of the earth's age, than to spend nine days around

the Grand Canyon (six of them in it) with ICR geologists, physicists, and biologists. ICR has been conducting these tours for over ten years, so everything runs extremely well. Though I was a member of a hiking group, they also sponsored a group going down the Colorado River in rafts and a group touring the whole area by bus. All were accompanied by ICR scientists. Each day we received mini-lectures from the leaders as we broke for lunch or at points of interest along the trail. Topics included the sudden appearance of fossils, the complexity of the earliest canyon fossils such as the trilobites, the age of the earth's magnetic fields, the role of continental drift in the onset of the flood, where does the ice age fit into a young-earth model, water- canopy theories, carbon-14 dating, and the dating of the Grand Canyon basalts (rock layers derived from ancient lava flows).

We examined many evidences for rapid formation of rock layers, which is essential to the young-earth model. We spent nearly two hours at the Great Unconformity between the Tapeats Sandstone, which is dated at about 500 million years old, and the Hakatai Shale, which is dated at about 1.5 billion years old. These two formations were formed nearly one billion years apart in time, yet one lies right on top of the other. Nearly a billion years is missing between them! The night before entering the canyon for the hike, I wrote these words in my journal:

*If these strata are the result of Noah's flood and the canyon carved soon afterward, the canyon stands as a mighty testament to God's power, judgment, and grace. Even if not, what a wonderful world our Lord has sculpted for us to inhabit. His love is bigger than I can grasp, bigger-infininitely bigger-than even the Grand Canyon!*

**Evidence of Noah's Flood in the Grand**

# Canyon

One of the more obvious formations in the Grand Canyon is the Coconino Sandstone. This prominent formation is found only a few hundred feet below the rim of the canyon and forms one of the many cliffs in the canyon. Its distinctive yellow cream color makes it look like a thick layer of icing between two cake layers.

Evolutionary geologists have described this sandstone as originating from an ancient desert. Remnants of sand dunes can be seen in many outcrops of the formation in a phenomenon called cross-bedding. There are many footprints found in this sandstone that have been interpreted as lizards scurrying across the desert.

These footprints would seem to pose a major challenge to young-earth geologists who need to explain this formation in the context of Noah's flood. Since there are many flood-associated layers both above and below this sandstone, there is no time for a desert to form in the middle of Noah's flood. Recent investigations, however, have revealed that the cross-bedding can be due to underwater sand dunes and that some footprints are actually better explained by amphibians moving across sandy-bottomed shallow water. Perhaps this formation can be explained by sand deposited under water.

This explanation does not entirely solve the young-earth geologists' problem, because it is still difficult to determine where the amphibians came from and how they could be crawling around in shallow waters on top of sediments that would have to be deposited halfway through a world-wide catastrophic flood. But let's go on to another flood evidence. Earlier, I mentioned the Great Unconformity. This can be observed throughout the Grand Canyon where the Tapeats Sandstone, a Cambrian formation estimated to be 570 million years old, rests on top of any one of a number of Precambrian strata ranging from one to two billion years old.

Our group observed a location in the Unconformity where the time gap between the two layers is estimated to be one billion years. It is very unusual, even for evolutionary geology, for two layers from periods so far apart, in this case one billion years, to be right on top of one another. It is hard to imagine that no sediments were deposited in this region for over a billion years! Evolutionary geologists believe that the upper sandstone was deposited over hundreds of thousands of years in a marine environment. However, we observed large rocks and boulders from a neighboring formation mixed into the bottom few feet of the Tapeats Sandstone. This indicates tremendous wave violence capable of tearing off these large rocks and transporting them over a mile before being buried. This surely fits the description of a flood rather than slow deposition. We spent nearly two hours at this location and we were all quite impressed with the clear evidence of catastrophic origin of the Tapeats Sandstone.

That the Coconino Sandstone likely had a water-deposited origin and that the Tapeats Sandstone was laid down in a great cataclysm are necessary elements for a young-earth flood geology scenario for the Grand Canyon.

## **The Erosion and Formation of the Grand Canyon**

Perhaps one of the most interesting questions about the Grand Canyon is how it was cut out of rock in the first place. The answer to this question has a lot to do with how old the canyon is supposed to be. The puzzling factor about the Grand Canyon is that the Colorado River cuts directly through an uplifted region called the Kaibab Upwarp. Normally a river would be expected to flow towards lower elevation, but the Colorado has cut right through an elevated region rather than going around it.

The explanation you will still find in the National Park

literature is that the Colorado began to cut the Grand Canyon as much as 70 million years ago, before the region was lifted up. As the uplift occurred, the Colorado maintained its level by cutting through the rock layers as they were lifted up. Thus the Grand Canyon was cut slowly over 70 million years! In recent years, however, evolutionary geologists as well as old-earth creationists have abandoned this scenario because it just isn't supported by the evidence. A major reason is that even at the present rate of erosion in the Grand Canyon, it would take as little as 71,000 years to erode the amount of rock currently missing from the Grand Canyon. Also, all of the sediment that would have to be eroded away during 70 million years has not been located. And lastly, evolutionists' own radiometric dates of some of the surrounding formations indicate that the Colorado River has been in its present location for less than five million years.

Some old-earth geologists have tentatively adopted a new theory that requires a few rather strange twists. This theory suggests that the Colorado River flowed through the area of the Grand Canyon only recently. The Colorado originally was forced in the opposite direction of its current flow by the Kaibab Upwarp and actually flowed southeast toward the Gulf of Mexico. This ancestral Colorado River may have occupied the course of what is now the Little Colorado River, only in the opposite direction of its current course.

This theory further suggests that about five million years ago a westward-flowing stream began to erode, upstream or towards the east, over what is today the Grand Canyon, through the Upwarp and capturing the ancestral Colorado River! If this sounds a little fantastic to you, you're probably right. In a recent volume on the Grand Canyon, a geologist, while maintaining this theory to be solid, admits a lack of hard data and that what evidence there is, is circumstantial. Into this controversy step the young-earth creationists, who need to explain how the Grand Canyon was formed, strata and all, in

less than 5,000 years. They suggest, quite reasonably I think, that the canyon was formed when the Kaibab Upwarp acted as a dam for three lakes occupying much of Utah, Colorado, and northern Arizona. These lakes catastrophically broke through the Upwarp, and the Grand Canyon was cut out of solid rock by the drainage of these lakes through this breach in the dam. A small canyon was formed this way recently as a result of the eruption of Mount St. Helens. Grand Coulee in Washington state was formed when an ice dam broke at the end of the Ice Age. This breached-dam theory answers a lot of questions the old-earth theories do not, and it needs to be considered.

## **Uncertainties of Dating the Grand Canyon**

I have noted that old-earth creationists believe that the Grand Canyon strata were formed over hundreds of millions of years and that the canyon itself was carved out in less than five million years. Young-earth creationists, on the other hand, believe that the strata of the canyon were formed as a result of Noah's flood and that the canyon was carved out catastrophically less than five thousand years ago. A critical question to ask is, how can we know how old the rocks in the Grand Canyon really are? The usual solution is to date the rocks by radiometric dating methods, which are supposed to be capable of dating rocks billions of years old. Rocks of volcanic origin are the best ones to use in dating rocks this way, since radiometric elements are plentiful in them. The Grand Canyon has volcanic rocks near the bottom and at the top. ICR has been involved in a project over the last several years to date these volcanic rocks. Their results not only call into question the age of the Grand Canyon but also the reliability of radiometric dating.

The youngest rocks in the Grand Canyon are recognized by all to be volcanic rocks in western Grand Canyon that flowed from the top of and into the canyon. The oldest rocks that have been dated are volcanic rocks called the Cardenas Basalt, a



Precambrian formation near the bottom of the canyon. The rubidium- strontium method, however, has dated the Cardenas basalt at one billion years and the lava flow on top of the canyon at 1.3 billion years. This is clearly impossible! Rocks on the bottom of the canyon are 300 million years younger than very recent rocks on the very top of the canyon! These dates were obtained by ICR from samples they sent to several independent dating labs. Something is amiss, either in the interpretation of the rocks, the dating methods, or both.

As we have seen, ICR scientists have come a long way in showing that many of the Grand Canyon strata could have formed rapidly, that erosion of the canyon by the Colorado River has not been going on for tens of millions of years, and that there are significant problems with the dating of the canyon.

However, there are still significant questions that remain to be answered if the young-earth model is to be taken seriously by old- earth geologists. For example, why are there no vertebrates among the fossils of the ocean floor communities of the Grand Canyon strata when vertebrates inhabit today's ocean floors? How did the many different kinds of sediments in the Grand Canyon (limestones, sandstones, shales, mudstones, siltstones, etc.) find their way to Northern Arizona as a result of one catastrophe and become so neatly stratified with little mixing? I raise these questions only to indicate that there is much work to be done. I also want you to realize that when someone asks me whether the flood of Noah created the Grand Canyon, I have to say that I don't know. And that's okay! The creation was a real historical event, Adam and Eve were real people, and the flood of Noah was real history as well. But finding the physical signs of these events can be tricky business. We need to encourage scientific investigation from both a young-and old-earth perspective because the testimony of God's word and His revelation from nature will ultimately be in harmony. It may just be hard to discern what that harmony is right now.

# The Five Crises in Evolutionary Theory

## The Case of the Missing Mechanism

The growing crisis in Darwinian theory is becoming more apparent all the time. The work of creationists and other non-Darwinians is growing and finding a more receptive ear than ever before. In this discussion I want to elaborate on what I believe are the five critical areas where Darwinism and evolutionary theory in general are failing. They are:

- 1. The unsubstantiation of a Darwinian mechanism of evolution*
- 2. The total failure of origin of life studies to produce a workable model*
- 3. The inability of evolutionary mechanism to explain the origin of complex adaptations*
- 4. The bankruptcy of the blind watchmaker hypothesis*
- 5. The biological evidence that the rule in nature is morphological stability over time and not constant change.*

Much of the reason for evolution's privileged status has been due to confusion over just what people mean when they use the word evolution. Evolution is a slippery term. If evolution simply means "change over time," this is non-controversial. Peppered moths, Hawaiian drosophila fruit flies, and even Galapagos finches are clear examples of change over time. If you say that this form of evolution is a fact, well, so be it. But many scientists extrapolate beyond this meaning. Because

“change over time” is a fact, the argument goes, it is also a fact that moths, fruit flies, and finches all evolved from a remote common ancestor. But this begs the question.

The real question, however, is where do moths, flies, and finches come from in the first place? Common examples of natural selection acting on present genetic variation do not tell us how we have come to have horses, wasps, and woodpeckers, and the enormous varieties of living animals. Evolutionists will tell you that this is where mutations enter the picture. But mutations do not improve the scenario either. In speaking of all the mutation work done with bacteria over several decades, the great French zoologist and evolutionist Pierre-Paul Grasse' said:

*What is the use of their unceasing mutations if they do not change? In sum, the mutations of bacteria and viruses are merely hereditary fluctuations around a median position; a swing to the right, a swing to the left, but no final evolutionary effect.*

When I speak of evolution or Darwinism, it is the origin of new biological forms, new adaptive structures, morphological and biochemical novelties that I am referring to. This is precisely what has not yet been explained. When people question the popular explanations of the origin of complex adaptations such as the vertebrate limb, or sexual reproduction, or the tongue of the woodpecker, or the reptilian hard-shelled egg, they are usually given a litany of reasons why these structures are beneficial to the organisms. More precisely, the selective advantage of these structures is offered as the reason they evolved. But this begs the question again. It is not sufficient for an evolutionist to explain the function of a particular structure. What is necessary is to explain the mechanistic origin of these structures!

Natural selection does explain how organisms adapt to minor

changes in their environment. Natural selection allows organisms to do what God commanded them to do. That is to be fruitful and multiply. Natural selection does not, however, explain the crucial question of how complex adaptations arose in the first place.

## **The Origin of Life**

We have been led to believe that it is not too difficult to conceive of a mechanism whereby organic molecules can be manufactured in a primitive earth and organize themselves into a living, replicating cell. In fact, the ease by which this can (allegedly) happen is the foundation for the popular belief that there are numerous planets in the universe which contain life. Nothing could be further from the truth.

Early experiments suggested that it was relatively simple to produce some of the building blocks of life such as amino acids, the components of proteins. However, the euphoria of the Miller-Urey experiment of 1953 has given way to a paradigm crisis of 1993 in origin of life research. The wishful, yet workable atmosphere of ammonia, hydrogen, methane, and water vapor has been replaced by the more realistic, but stingy atmosphere of nitrogen, carbon dioxide, carbon monoxide, hydrogen sulfide, and hydrogen cyanide. This is the stuff that volcanoes belch out. This atmosphere poses a much more difficult challenge. Molecules relevant for life would be much rarer. Even more damaging is the possibility of the presence of molecular oxygen in the atmosphere from the break-up of water vapor. Molecular oxygen would poison any reaction leading to biologically significant molecules.

Coacervates, microspheres, the "RNA world," and other scenarios all have serious flaws obvious to everyone in the field except those who continue work with that particular scenario. Some have privately called this predicament a paradigm crisis. There is no central competing model, just numerous ego-driven scenarios. Even the experiments in which

researchers try to simulate the early earth have been severely criticized. These experiments generally hedge their bets by using purified reactants, isolated energy sources, exaggerated energy levels, procedures which unrealistically drive the reaction toward the desired product and protect the products from the destructive effects of the energy sources which produced them in the first place.

The real situation was summed up rather well by Klaus Dose:

*More than 30 years of experimentation on the origin of life in the fields of chemical and molecular evolution have led to a better perception of the immensity of the problem of the origin of life on earth rather than to its solution. At present all discussions on principal theories and experiments in the field either end in stalemate or in a confession of ignorance." [From Interdisciplinary Science Review 13(1988):348-56.]*

But all of these difficulties together, as staggering as they are, are not the real problem. The major difficulty in chemical evolution scenarios is how to account for the informational code of DNA without intelligence being a part of the equation. DNA carries the genetic code: the genetic blueprint for constructing and maintaining a biological organism. We often use the terms of language to describe DNA's activity: DNA is "transcribed" into RNA; RNA is "translated" into protein; geneticists speak of the "genetic code." All these words imply intelligence, and the DNA informational code requires intelligent preprogramming, yet a purely naturalistic beginning does not provide such input. Chemical experiments may be able to construct small sequences of nucleotides to form small molecules of DNA, but this doesn't make them mean anything. There is no source for the informational code in a strictly naturalistic origin of life.

# The Inability to Account for Complex Adaptations

Perhaps the single greatest problem for evolutionary biologists is the unsolved problem of morphological and biochemical novelty. In other words, some aspects of evolutionary theory describe accurately how existing organisms are well adapted to their environments, but do a very poor job of explaining just how the necessary adaptive structures came about in the first place.

Darwinian explanations of complex structures such as the eye and the incredible tongue of the woodpecker fall far short of realistically attempting to explain how these structures arose by mutation and natural selection. The origin of the eye in particular, caused Darwin no small problem. His only suggestion was to look at the variety of eyes in nature, some more complex and versatile than others, and imagine a gradual sequence leading from simple eyes to more complex eyes. However, even the great Harvard evolutionist, Ernst Mayr, admits that the different eyes in nature are not really related to each other in some simple-to-complex sequence. Rather, he suggests that eyes probably had to evolve over forty different times in nature. Darwin's nightmare has never been solved. It has only been made 40 times more frightening for the evolutionist.

In his 1987 book, *Theories of Life*, Wallace Arthur said:

*One can argue that there is no direct evidence for a Darwinian origin of a body plan—black Biston Betularia certainly do not constitute one! Thus in the end we have to admit that we do not really know how body plans originate.*

In 1992, Keith Stewart Thomson wrote in the *American Zoologist* that:

*While the origins of major morphological novelties remain unsolved, one can also view the stubborn persistence of macroevolutionary questioning...as a challenge to orthodoxy: resistance to the view that the synthetic theory tells us everything we need to know about evolutionary processes.*

The ability to explain major morphological novelties is not the only failing of evolutionary theory. Some argue that molecular structures are even more difficult to explain. The molecular architecture of the cell has recently been described by molecular biologist Michael Behe as being irreducibly complex systems which must have all the components present in order to be functional. The molecular workings of cilia, electron transport, protein synthesis, and cellular targeting readily come to mind. If the systems are irreducibly complex, how do they build slowly over long periods of time out of systems that are originally doing something else?

While publishing hundreds of articles pertaining to molecular homology and phylogeny of various proteins and nucleic acids over the last ten years, the *Journal of Molecular Evolution* did not publish one article attempting to explain the origin of a single biomolecular system. Those who make molecular evolution their life's work are too busy studying the relationship of the cytochrome c molecule in man to the cytochrome c molecule in bacteria, rather than the more fundamental question of where cytochrome c came from in the first place!

Clearly then, whether we are talking about major morphological novelties such as the wings of bats and birds, the swimming adaptations of fish and whales, the human eye or the molecular sub-microscopic workings of mitochondria, ribosomes, or cilia, evolutionary theory has failed to explain how these structures could arise by natural processes alone.

# The Bankruptcy of the Blind Watchmaker Hypothesis

In his 1986 book, *The Blind Watchmaker*, Richard Dawkins states, "Biology is the study of complicated things that give the appearance of having been designed for a purpose." He explains that

*Natural selection is the blind watchmaker, blind because it does not see ahead, does not plan consequences, has no purposes in view. Yet the living results of natural selection overwhelmingly impress us with the appearance of design as if by a master watchmaker, impress us with the illusion of design and planning.*

Darwinism critic, Philip Johnson, has quipped that the watchmaker is not only blind but unconscious!

Dawkins later suggests just how this process may have brought about the development of wings in mammals. He says:

*How did wings get their start? Many animals leap from bough to bough, and sometimes fall to the ground. Especially in a small animal, the whole body surface catches the air and assists the leap, or breaks the fall, by acting as a crude aerofoil. Any tendency to increase the ratio of surface area to weight would help, for example flaps of skin growing out in the angles of joints...(It) doesn't matter how small and unwinglike the first wingflaps were. There must be some height, call it  $h$ , such that an animal would just break its neck if it fell from that height. In this critical zone, any improvement in the body surface's ability to catch the air and break the fall, however slight the improvement, can make the difference between life and death. Natural selection will then favor slight, prototype wingflaps. When these flaps have become the norm, the critical height  $h$  will become slightly greater. Now a slight further increase in the wingflaps will*



*make the difference between life and death. And so on, until we have proper wings.*

This can sound rather seductively convincing at first. However there are three faulty assumptions being used.

The first doubtful assumption is that nature can provide a whole chain of favorable mutations of the precise kind needed to change forelimbs into wings in a continuous line of development. What is the larger miracle, an instantaneous change or a whole series of thousands of tiny changes in the proper sequence?

The other assumption is "all things being equal." These mutations must not have secondary harmful effects. How is the creature's grasping ability compromised while these wingflaps grow? These little shrew-like animals may slowly be caught between losing their adaptiveness in the trees before they can fully utilize their "developing" wings. Or there might be some seemingly unrelated and unforeseen effect that compromises survivability.

A third faulty assumption is the often used analogy to artificial selection. "If artificial selection can do so much in only a few years," so the refrain goes, "just think what natural selection can do in millions of years." But artificial selection works because it incorporates foresight and conscious purpose, the absence of which are the defining qualities of the blind watchmaker. In addition, artificial selection actually demonstrates the limits to change since an endpoint in the selection process is usually reached very quickly.

The blind watchmaker hypothesis, when analyzed carefully, falls into the category of fanciful stories that are entertaining—but which hold no resemblance to reality.

# The Prevalence of Stasis over Mutability

Rather than observing organisms gradually evolving into other forms, the fossil record speaks of “sudden appearance” and “stasis.” New types appear suddenly and change very little after their appearance. The rarity of gradual change examples in the fossil record were revealed as the trade secret of paleontology by Steven J. Gould of Harvard. Gould also refers to stasis as “data” in the paleontological sense. These are significant observations.

Darwin predicted that there should be innumerable transitional forms between species. But the reality of paleontology (the study of fossils) is that new forms appear suddenly with no hint of the “gradual” change predicted by evolution. Not only that, but once these new forms have appeared, they remain relatively unchanged until the present day or until they become extinct.

Some animals and plants have remained unchanged for literally hundreds of millions of years. These “living fossils” can be more embarrassing for the evolutionist than they often care to admit. One creature in particular, the coelacanth, is very instructive. The first live coelacanth was found off the coast of Madagascar in 1938. Coelacanths were thought to be extinct for 100 million years. But most evolutionists saw this discovery as a great opportunity to glimpse the workings of a tetrapod ancestor. Coelacanths resemble the proposed ancestors of amphibians. It was hoped that some clues could be derived from the modern coelacanth of just how a fish became preadapted for life on land, because not only was there a complete skeleton, but a full set of internal organs to boot. The results of the study were very disappointing. The modern coelacanth showed no evidence of internal organs preadapted for use in a terrestrial environment. The coelacanth is a fish—nothing more, nothing less. Its bony fins are used as exceptionally well-designed paddles for changing direction in

deep-sea environment, not the proto-limbs of future amphibians.

Nowhere is the problem of sudden appearance better demonstrated than in the Burgess Shale found in the Canadian Rockies. The Burgess Shale illustrates that in the Cambrian period (which evolutionists estimate as being over 500 million years ago) nearly all of the basic body plans (phyla) of animals existing on earth came into existence in a geological instant (defined as only 20-30 million years), and nothing that new has appeared since that time. The Cambrian explosion as it is called is nothing less than astounding. Sponges, jellyfish, worms, arthropods, mollusks, echinoderms, and many other stranger-than-fiction creatures are all found to suddenly appear in the Cambrian without a hint of what they descended from nor even how they could all be related to each other. This is the opposite expectation of Darwinism which would have predicted each new body plan emerging from pre-existing phyla over long periods of time. The Cambrian explosion is a direct contradiction of Darwinian evolution.

If Darwin were alive today, I believe he would be terribly disappointed. There is less evidence for his theory now than in his own day. The possibility of the human eye evolving may have caused him to shudder, but the organization of the simplest cell is infinitely more complex. Perhaps a nervous breakdown would be more appropriate!

# Sociobiology: Evolution, Genes and Morality – A Christian Perspective

*Dr. Bohlin looks at the basic tenets of sociobiology from a biblical worldview perspective. Looking at them as a scientist and a Christian, he finds a lack of consistency and obvious paradoxes in this way of looking at our world.*

In 1981 I wrote an article for *Christianity Today*, which they titled “Sociobiology: Cloned from the Gene Cult.”(1) At the time I was fresh from a graduate program in population genetics and had participated in two graduate seminars on the subject of sociobiology. You might be thinking, “What in the world is sociobiology, and why should I care?”

That’s a good question. Sociobiology explores the biological basis of all social behavior, including morality. You should care because sociobiologists are claiming that all moral and religious systems, including Christianity, exist simply because they help promote the survival and reproduction of the group. These sociobiologists, otherwise known as *evolutionary ethicists*, claim to be able to explain the existence of every major world religion or belief system, including Christianity, Judaism, Islam, and even Marxism and secular humanism, in terms of natural selection and evolution. E. O. Wilson, a Harvard biologist and major advocate of sociobiology, claims that scientific materialism (a fully evolutionary worldview) will eventually overcome both traditional religion and any other secular ideology. While Wilson does admit that religion in some form will always exist, he suggests that theology as an explanatory discipline will cease to exist.

# The First Paradox

While the arrogance of sociobiology is readily apparent, it contains a number of paradoxes. The first paradox is simply that the worldview of sociobiology offers nothing but despair when taken to its logical conclusion, yet it continues to gain acceptance in the academic community.

## Four Foundational Principles of Sociobiology

The despair of the sociobiological worldview and the ultimate lack of meaning it presents are derived from what I consider the four foundational principles of sociobiology. The first principle is the assertion that human social systems have been shaped by evolutionary processes. Human societies exist in their present form because they work, or at least have worked in the past, not because they are based on any kind of revelation.

Second, there is what sociobiologist Robert Wallace called the **reproductive imperative**.<sup>(2)</sup> The ultimate goal of any organism is to survive and reproduce. Species survival is the ultimate goal. Moral systems exist because they ultimately promote human survival and reproduction.

Third, the individual—at least in respect to evolutionary time—is meaningless. Species, not individuals, evolve and persist through time. E.O. Wilson stated that the organism, your body, is simply DNA's way of making more DNA.<sup>(3)</sup>

Fourth, all behavior is therefore selfish, or at least pragmatic, at its most basic level. We love our children because love is an effective means of raising effective reproducers. Wilson spells out the combined result of these principles quite clearly in his book *On Human Nature* when he says that

*...no species, ours included, possesses a purpose beyond the imperatives created by its own genetic history (i.e.,*

*evolution)...we have no particular place to go. The species lacks any goal external to its own biological nature.(4)*

Wilson is saying that since humans have been shaped by evolution alone, they have no purpose beyond survival and reproduction. Even Wilson admits that this is an unappealing proposition.

## **Hope and Meaning**

Since sociobiologists claim that all behavior is ultimately selfish, that an organism's only goal or purpose is to survive and reproduce, and that it is species survival, not individual survival, that is ultimately required, personal worth and dignity quickly disappear. The responses of sociobiologists when they are confronted with this conclusion have always been curious to me. I distinctly remember posing a question about hope and purpose to a graduate seminar composed of biology students and faculty. I asked, "Let's suppose that I am dead and in the ground, and the decomposers are doing their thing. What difference does it make to me now whether I have reproduced or not?" My point was that if death is the end with a capital "E", who cares whether or not I have reproduced? After an awkward silence, one of the faculty answered, "Well, I guess that it doesn't matter at all." In response, I asked, "Don't you see, we were just discussing how the only purpose in life is to survive and reproduce, but now you admit that this purpose is really an illusion. How do you go on with your life when you realize that it really doesn't matter what you do? That there is no point to any of it?" After an even longer silence, the same faculty member said, "Well, I suppose that those who will be selected for in the future will be those who know there is no purpose in life, but will live as if there is."

To say the least, I was stunned by the frankness of his response. He was basically saying that the human race will be

forced to live with a lie—the illusion of hope and meaning. What was even more unsettling, however, was the fact that no one disagreed or offered even the most remote protest. Apart from myself, everyone there accepted evolution as a fact, so they were forced to accept this conclusion. (I would find out later that at least a couple of them didn't like it.)

A professor of philosophy at a university in Minnesota recently answered my challenge by saying that maybe there are two different kinds of hope and meaning: hope and meaning in small letters (meaning survival and reproduction) and Hope and Meaning in capital letters (meaning ultimate worth and significance). We all have hope and meaning in small letters, and maybe there just isn't any in capital letters. So what? But that was precisely my point. Hope and meaning in small letters is without significance unless Hope and Meaning in capital letters really exists.

### **Three Responses**

Over the years I have noted three responses of evolutionists to the stark realization that their worldview offers no hope or meaning in their lives. The first is strong disagreement with the conclusions of sociobiology without strong reasons for disagreeing. They don't like the result, but they find it difficult to argue with the basic principles. As evolutionists, they agree with evolution, but they don't want to believe that a meaningless existence is the end result.

The second response is simple acceptance. These evolutionists agree that there is no purpose or meaning in life. They just have to accept it, as the professor in the story did. Their commitment to an evolutionary worldview is total. I find this attitude most prevalent among faculty and graduate students at secular institutions. There is an almost eerie fatalism that stoutly embraces the notion that one's dislike of a theory is not sufficient cause to raise questions about it, especially when it is based on "sound" evolutionary principles.

The third response is an existential leap for meaning and significance when both have been stripped away. This leap is aptly illustrated by evolutionist Robert Wallace at the end of his book, *The Genesis Factor*. He writes:

*I do not believe that man is simply a clever egotist, genetically driven to look after his own reproduction. He is that. But he is at least that. He is obviously much more. The evidence for this is simple and abundant. One need only hear the Canon in D Major by Johann Pachelbel to know that there are immeasurable depths to the human spirit...I am sorry for the person who has never broken into a silly dance of sheer exuberance under a starry sky: perhaps such a person will be more likely to interpret the message of this book more narrowly. The ones who will find it difficult to accept the narrow view are those who know more about the joy of being us. My biological training is at odds with something that I know and something that science will not be able to probe, perhaps because the time is now too short, perhaps because it is not measurable. I think our demise, if it occurs, will be a loss, a great loss, a great shame in some unknown equation.(5)*

What Wallace is saying in this passage is that something is missing, and it can't be found within the confines of the evolutionary worldview. So look wherever you can!

Some may argue that those who have trouble with the loss of hope and meaning are taking all this too seriously. I don't agree. On the contrary, I believe that they are being very consistent within their worldview. If everything has evolved, and there is nothing outside of mere biology to give meaning and significance to life, then we must live in despair, denial, or irrational hope.

Sociobiology is gaining in popularity because of the scientific community's strong commitment to evolution. If



something follows logically from evolutionary theory, which I believe sociobiology does, then eventually all who consider themselves evolutionists will embrace it, whether it makes them comfortable or not. They will have no other rational choice.

## **The Second Paradox**

In reflecting on the notion that all human societies and moral systems should have characteristics that seem to have evolved, I am led to a second paradox for sociobiology. The first paradox was that, despite the loss of hope and meaning in the context of a completely naturalistic worldview, sociobiology has continued to grow in influence. The second paradox involves Christianity. Since Christianity is based on revelation, it should be antithetical to or unexplainable by sociobiology, at least in some crucial areas.

It is not unreasonable to expect that some aspects of Christian morality would be consistent with a sociobiological perspective, since Christians in small and large groups do work for the betterment of the group as a whole, and the argument could be made that the survival of individuals is thus increased. However, if Christianity's claim to be based on revelation from a transcendent God is true, I would be surprised, indeed extremely disappointed and confused, if everything in Christianity's moral standards also made sense from a sociobiological perspective. What little I have seen in the way of an evaluation of Christianity from E.O. Wilson and other sociobiologists is a poor caricature of true Christianity.

I would like to offer a few suggestions for consideration. William Irons, in a discussion of theories of the evolution of moral systems, comments that nepotism is a very basic prediction of evolutionary theory.(6) Humans should be expected to be less competitive and more helpful towards relatives than towards non- relatives. He cites numerous

studies to back up his claim that this prediction, more than any other sociobiological prediction, has been extensively confirmed.

To be sure, the New Testament holds to very high standards concerning the importance of the family. Church leaders are to be judged first by how they conduct and relate themselves to their families (1 Tim. 3:12; Tit 1:6). Yet Jesus makes it quite clear that if there is any conflict between devotion to Him and devotion to our family, the family comes second. He said,

*Do not think that I came to bring peace on the earth; I did not come to bring peace, but a sword. For I came to set a man against his father, and a daughter against her mother, and a daughter-in-law against her mother-in-law; and a man's enemies will be the members of his household. He who loves his father or mother more than Me is not worthy of Me. And he who does not take his cross and follow after Me is not worthy of Me. He who has found his life shall lose it, and he who has lost his life for My sake shall find it. (Matt. 10:34-39).*

In other passages Jesus gives promises that if we give up our families and possessions for His sake, then we will receive abundantly more in this life and the next, along with persecutions (Mark 10:29,30). Jesus Himself preferred the company of those who do the will of God to His own mother and brothers (Matt. 12:46-50). The clear message is that, while our families are important, our relationship with the living God comes first, even if members of our family force us to choose between God and them. Sociobiology may respond by saying that perhaps the benefit to be gained by inclusion in the group will compensate for the family loss, but how can the loss of an individual's entire genetic contribution to the next generation be explained away by any evolutionary mechanism?

## Common Ground

So far I have concentrated my remarks in areas where a Christian worldview is in sharp contrast with the evolutionary worldview of the sociobiologists. Now I would like to explore an area of curious similarity.

While Christianity should not be completely explainable by sociobiology, there are certain aspects of Christian truth that are quite compatible with it. I have always been amazed by the curious similarity between the biblical description of the natural man or the desires of the flesh, and the nature of man according to evolutionary principles. Both perceive man as a selfish creature at heart, looking out for his own interests. It is not "natural" for a man to be concerned for the welfare of others unless there is something in it for him.

Sociobiology seems to be quite capable of predicting many of the characteristics of human behavior. Scripture, on the other hand, informs us that the natural man does not accept the things of the Spirit, that they are foolishness to him (1 Cor. 2:14). I have wondered if our sin nature is somehow enveloped by biology, or, to be more specific, genetics. Could it be that some genetic connection to our sin nature at least partially explains why "there is none righteous, there is none who understands, there is none who seeks for God" (Rom. 3:10,11)? Does a genetic transmission of a sin nature help explain why "all have sinned and fall short of the glory of God" (Rom. 3:23)? Is this why salvation can only be through faith, that it is not of ourselves but is a gift of God, not a result of works (Eph. 2:8, 9)? Is this why the flesh continues to war in our bodies so that we do the thing which we do not want to do, why nothing good dwells in me, and why the members of my body wage war against the law of my mind (Rom. 7:14-25)?

If there is a genetic component to our sin nature, it seems reasonable to assume that only the Spirit of God can overcome the desires of the flesh and that this struggle will continue

in the believer until he or she is changed, until we see God face to face (1 Cor. 13:12; 15:50-58).

I ask these questions not thinking that I have come upon some great truth or the answer to a long-standing mystery, but simply looking for some common ground between the truth of Scripture and the truth about human nature we may be discovering from the perspective of sociobiology. All truth is ultimately God's truth. While I certainly do not embrace the worldview of the sociobiologist, I realize that there may be some truth that can be discovered by sociobiologists that can be truly captured to the obedience of Christ (2 Cor. 10:5).

When I wrote that article for *Christianity Today* in 1981, I closed with this paragraph:

*To know what to support and what to oppose, Christians involved in the social and biological sciences must be effective students of sociobiology. The popularity of sociobiology has gone unnoticed for too long already. We need precise and careful study as well as a watchful eye if we are to take every thought captive to the obedience of Christ.”(7)*

## **Notes**

1. Raymond G. Bohlin, “Sociobiology: Cloned from the Gene Cult,” *Christianity Today*, 23 January (1981): 16-19.
2. Robert Wallace, *The Genesis Factor* (New York: Morrow and Co., 1979).
3. E. O. Wilson, *Sociobiology: The New Synthesis* (Cambridge, Mass.: Harvard University Press, 1975), 3.
4. E.O. Wilson, *On Human Nature* (Cambridge, Mass.: Harvard University Press, 1978) 2-3.
5. *Ibid.*, 217-218. Emphasis mine.

6. William Irons, "How Did Morality Evolve?" *Zygon* 26 (1991): 49-89.

7. Bohlin, "Sociobiology," 19.

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# Darwin on Trial: A Lawyer Finds Evolution Lacking Evidence

*Darwin on Trial* is the title of a book on evolution that has ruffled the feathers of the secular scientific community. Though a Christian, author Philip Johnson critiques evolutionary theory from a secular standpoint as he examines the philosophical games many scientists play to protect their evolutionary ideology.

## Evolution as Fact and Theory

Johnson, a law professor at the University of California at Berkeley, attacks head-on the often-heard statement that evolution is both a fact and a theory, an evolutionary dogma that has been a major source of confusion for a long time. Evolution is a fact, Darwinists say, in that they know that evolution has occurred. It is a theory in that they are far from understanding the mechanisms by which evolution has occurred. In the eloquent words of evolutionist Stephen J. Gould,

*Evolution **is** a theory. It is also a fact. And facts and theories are different things, not rungs in a hierarchy of*

*increasing certainty. Facts are the world's data. Theories are structures of ideas which explain and interpret facts. Facts do not go away while scientists debate rival theories for explaining them. Einstein's theory of gravitation replaced Newton's, but apples did not suspend themselves in mid-air pending the outcome. And human beings evolved from apelike ancestors whether they did so by Darwin's proposed mechanism or by some other, yet to be discovered. (Evolution as Fact and Theory)*

There are numerous problems with this explanation. First, if evolution is a fact, then evolution is equivalent to data. This hardly seems appropriate. Second, the comparison of evolution to gravity is misleading. We can go into any apple orchard and observe apples falling from trees. But where do we go to observe humans evolving from apelike ancestors? Apples falling from trees fits into the category of science we can term **operations science** which utilizes data that are repeatable and observable at any time. Humans evolving from apelike ancestors, however, would fall under the category of **origins science**. Origins science involves the study of historical events that occur just once and are not repeatable. We can only assemble what evidence we have and construct a plausible scenario, much like the forensic scientist Quincy did in the old television show. The so-called facts of human evolution, by Gould's own definition, are the fossils and the rock layers they are found in. That humans evolved from apelike ancestors is a theory that attempts to explain and interpret these facts.

Later in the same article Gould states the real definition of fact under which evolution fits. He begins by saying that fact does not necessarily mean absolute certainty. Then he says, "In science, fact' can only mean confirmed to such a degree that it would be perverse to withhold provisional assent.'" In other words, evolution is a fact because a majority of scientists say so, and you are "perverse" if you do not agree.

We quickly begin to see that evolution holds a privileged place in the scientific community, which will go to extraordinary lengths to preserve that status.

## **A Theory in Crisis**

Johnson's book, although the most recent, is not the first to question evolution's status as fact. Michael Denton, an agnostic medical researcher from Australia, caused quite a storm with his 1985 book, *Evolution: A Theory in Crisis*. Denton's point is that orthodox Darwinism has such a stranglehold on the biological sciences that contradictory evidences from fields such as paleontology, developmental biology, molecular biology, and taxonomy are passed off as intramural squabbles about the process of evolution. The "fact" of evolution is never really in question. Like Johnson, Denton points out that Darwinism is not a fact. It is a mechanistic theory that is still without a mechanism. While moths and fruit flies do respond to environmental stimuli, our observations of this process have been unable to shed any light on the means by which we have come to have horses and woodpeckers and wasps. The origin of complex adaptations has remained a mystery. The fossil record is pockmarked with gaps in the most embarrassing places. Darwin predicted innumerable transitional forms between major groups of organisms, yet the few transitions that are suggested are surrounded in controversy. Another "fact" that fails to withstand Denton's scrutiny is the assumption that similar biological structures owe their similarity to a common ancestry. Homology, which studies these similarities, assumes for example that the forelimbs of amphibians, reptiles, birds, and mammals are similar in structure because they evolved from the same source. Denton reveals, however, that these same classes of vertebrates go through remarkably different stages of early embryological development. This was certainly not a prediction of Darwinian evolution. Even more importantly, Denton reports that comparison of the sequences of proteins from different

organisms actually supports the pre-Darwin system of classification, which was based on creationist principles.

Also, the many chemical evolution scenarios are caught in numerous intractable dilemmas that offer little hope of resolution (see *Scientific American*, Feb. 1991).

## Rules of Science and Evolution

Another issue that Philip Johnson treats in his book is the fact that the rules of science tend to be stated and followed differently depending on whether you are talking about evolution or creation. Professor Johnson refers specifically to Judge William Overton's decision striking down the Arkansas Creation/Evolution Balanced Treatment law. In his written decision, which was reprinted in its entirety in the prestigious journal *Science*, Judge Overton reiterated five essential characteristics of science that were given by opponents of the bill during the trial. Science, in the judge's opinion, must be:

- *Guided by natural law*
- *Explanatory by reference to natural law*
- *Testable against the empirical world*
- *Tentative in its conclusions—that is, not necessarily the final word*
- *Falsifiable*

Judge Overton decided that creation-science does not meet these criteria since it appeals to the supernatural and is therefore not testable, falsifiable, or explanatory by reference to natural law. Johnson points out that philosophers of science have been very critical of the definitions of science given in the decision and have suggested that the expert witnesses provided by the ACLU attorneys got away with a philosophical snow job. Critics have pointed out that scientists are not the least bit tentative about their basic



commitments, especially about their commitment to evolution. From my own experience, all one has to do is attend any scientific meeting to see that some scientists are anything but tentative about their ideas. Also, scientists study the effects of phenomena (such as gravity) that they cannot explain by natural law. Finally, critics have noted that creation-science, as proposed by the Arkansas law, does make empirical claims (such as a young earth, worldwide flood, special creation). Mainstream science has said these claims are demonstrably false, which raises the interesting question, How can creation-science be both unfalsifiable **and** demonstrably false at the same time? Johnson clearly reveals that what is really being protected by these rules of science is not necessarily evolution, but the philosophical doctrine known as *naturalism*. According to Johnson, "Naturalism assumes the entire realm of nature to be a closed system of material causes and effects, which cannot be influenced by anything from the outside." While this doctrine does not deny the existence of God, it certainly makes Him irrelevant. Science, therefore, becomes our only reliable path to knowledge. The issue as Johnson states it, is

*...Whether this philosophical viewpoint is merely an understandable professional prejudice or whether it is the objectively valid way of understanding the world. That is the real issue behind the push to make naturalistic evolution a fundamental tenet of society, to which everyone must be converted.*

The consequence of this kind of thinking is that evolution is made the basis of ethical and religious statements, which is precisely what most evolutionists find repulsive about creation.

## **Darwinist Religion**

A frequent refrain from evolutionists is that the

evolution/creation debate is actually a collision between science and religion. If creationists would just realize their view is inherently religious and that evolution is the scientific view, then there would be little to disagree about. Evolution belongs in the science classrooms and creation belongs only in the philosophy and religion classrooms. What gets left behind in this discussion, either intentionally or unintentionally, are the very firm religious implications of atheistic naturalism with evolution as its foundation. We only need to look at a few sources to see the religious nature of evolution. The first source is the blatantly religious statements of certain evolutionists themselves. Philip Johnson quotes the evolutionist William Provine as stating quite categorically that:

- *Modern science, i.e., evolution, implies that there is no purpose, gods, or design in nature.*
- *There are no absolute moral or ethical laws.*
- *Heredity and environment determine all that man is.*
- *When we die, we die, and that is all there is.*
- *Evolution cannot produce a being that is truly free to make choices.*

Statements such as these make it quite clear: the belief that science and religion are different spheres of knowledge is complete nonsense.

A second source that establishes the religious nature of evolution is the attacks of evolutionists on the God of the Bible using evolutionary principles. In his chapter on natural selection, professor Johnson provides an example from evolutionist Douglas Futuyma. Futuyma states that a Creator would never create a bird such as the peacock, whose six feet of bulky feathers make it easy prey for leopards. (Johnson turns the tables, however, by asking why natural selection would favor a peahen that lusts after males with life-threatening decorations.) It has always amazed me that people

who claim that there is no God sure seem to have an intimate knowledge of what He would be like if He did exist. At any rate, if evolution can be used to discredit certain notions about the character of God, then evolution is indeed making religious statements. A third indication of the religious nature of evolution is the knee-jerk reaction of the evolutionary establishment against any statement that even hints that evolution is a tentative theory. In 1984, a group of scientists who are Christians but who do not identify themselves with creation scientists published a booklet entitled *Teaching Science in a Climate of Controversy* and mailed it to thousands of school teachers. The general idea of the booklet was to encourage open-mindedness on certain issues and controversies regarding evolution. Evolutionists quickly chided the publication as a clever disguise of creationism. To quote Johnson, "The pervasive message was that the ASA [American Scientific Affiliation] is a deceitful creationist front which disguises its Biblical literalist agenda under a pretense of scientific objectivity." In other words, anything that smells of God must be creationist and must be stamped out.

## **Darwinist Education**

In the later chapters of Johnson's book, he analyzes the reaction of evolutionists to the challenges that have been leveled against them. It is here that he perhaps makes his greatest contribution. One of these reactions has been to wage what is essentially an evolutionary filibuster in educating the public about evolution. Johnson cites the experience of the British Museum of Natural History when it opened an exhibit on evolution in 1981. The exhibit presented Darwinian evolution as **one** idea and **one** possible explanation. Creation was cited as another view. This tentativeness was too much for some scientists to bear. A firestorm of criticism appeared in the British science journal *Nature*. Many were furious that the museum would actually go public with doubts about evolution,

doubts that had previously been reserved for discussion among evolutionary scientists alone. The criticism was so severe that the museum eventually removed the exhibit and replaced it with a more "traditional" evolution exhibit. One of the Museum's top scientists, Colin Patterson, made a similar reversal concerning his view that he required faith in order to accept evolution. The criticism eventually convinced him to discontinue making these statements public.

In the United States, the Science Framework adopted by the state of California in 1989, which has a significant effect on the content of science textbooks, contained this statement concerning evolution: "[Evolution] is an accepted scientific explanation and therefore no more controversial in scientific circles than the theories of gravitation and electron flow." This assertion is nothing more than an appeal to authority and has nothing to do with legitimate scientific evidence. As a result of this statement, evolution is being included in science textbooks at increasingly lower grade levels. The purpose is clear: if students can be indoctrinated in evolution early enough and often enough, perhaps all this controversy can be avoided.

## **Conclusion**

In summary, I have pointed out that many critical predictions of Darwinian evolution have not been fulfilled. As a result, naturalistic atheism, the underlying philosophy of much of the evolutionary establishment, has been threatened. The response of many evolutionists has been to issue increasingly dogmatic statements that appeal to authority, not to evidence, play semantic word games where evolution is called both a fact and a theory, and wage an educational filibuster aimed at squelching all dissent. The evolutionists are not likely to abandon these tactics anytime soon, but until they do, they can expect even more criticism from scholars such as Professor Philip Johnson.

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