

SCIENCE AND THE BIBLE

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CLASSIC STRUGGLE is being waged today between those who believe in an eternal God who is the creator of the universe, and those who believe in eternal matter which has the inherent ability to form worlds having life in all its myriad forms. Many Christians who believe the Bible is the revealed word of the eternal God, have chosen to study and work in science, a discipline which explicitly concentrates on the material nature of the universe. Our struggle often centers on the conflict between evolution as the materialistic explanation for matter's behavior, and creation as the explanation of God's formation and control of matter. To help explain the nature of this struggle, a description of the two contrasting positions is given. Some characteristics and limitations of the scientific approach to finding truth will then be discussed, with an emphasis on the problems scientists face in arriving at valid conclusions. Finally, a biblical perspective on the creation question will be offered.

Evolution: Limited or Unlimited?

It is critical to note the difference between microevolution and macroevolution. The fact is that living organisms are capable of considerable variation that shows up as changes in a population over time. These populations evolve (change) over time to become somewhat different from previous generations. This change has been measured in bacteria, plants and animals. Bacteria become drug resistant; plants produce greater yields of grain; and animals become more or less appealing by both mutation and breeding. These small-scale changes are known as microevolution; and they cannot be denied. Microevolution has been observed casually and measured precisely. An example of this type of change can be seen in new breeds of dogs or cats, special varieties of plants, and in increasing body sizes in humans.

To recognize the reality of selective or natural breeding on a limited scale, however, is not at all the same as conceding that such small changes, extended out over millions of years, are ca-

pable of producing whole new kinds of organisms. Macroevolution makes this assertion, and the fact of microevolution has been used as evidence of the unlimited changes needed to form redwood trees from prehistoric algae and man from some ape-like ancestor. Macroevolution demands wholesale changes so that new species, and higher classification categories can be produced.

There is no evidence that microevolution is the fodder for macroevolution. Quite the contrary, all evidence from microevolution appears to show a limit to the change that can be made. Thousands and thousands of generations of fruit flies have been bred resulting in a large number of varieties; but the efforts of intelligent control of change have only produced odd fruit flies of the same species. Intelligent selective breeding of dogs has only produced more dogs. Imposing intelligence into the breeding equation has not produced new species; how do evolutionists think a blind, random process can do better?

12 October 1999

Evolution Versus Creation

Darwinian evolution is the theory that all living things, including humans, originated from non-living matter following a cataclysmic explosion of matter billions of years ago. Once life was spontaneously formed, it underwent a series of random genetic changes which were sorted by natural selection so that the most successful primitive forms of life survived to perpetuate themselves. The natural selection process continued to direct these changes until it has produced the complex, varied world of life in which we live.

Evolution is a general term which includes a wide variety of specific concepts. Two such concepts are microevolution and macroevolution. Microevolution is used to describe the measurable and observable changes which take place over short periods of time within a population. It is easily observable that offspring are different from their parents. Puppies are different from each other and their parents. Such changes are included in the term microevolution. On the other hand, macroevolution purports that such changes seen on a small, limited scale are evidence that, over large spans of time, such changes result in the formation of new species and entirely new forms of life. The macroevolutionist (referred to hereafter as evolutionist) arrives at this conclusion through materialistic science. (See the box on page 12 for a further explanation of these terms.)

Two other terms are used to describe those who hold various forms of macroevolution. The atheistic view of evolution posits that there is no supernatural being, therefore He has no place in the process. In contrast, the theistic evolutionist accepts the existence of a supernatural being and the intervention of this being at some point in the history of the evolutionary process. (See the box on this page for more details on these terms).

Creationists, in contrast to both of these views, believe that a supernatural being (God) brought matter into being from nothing, created living organisms on the earth, and rules over His creation. This understanding is based on evidence of things seen and on revelation by this deity. In our case, this supernatural being is the God of the Bible. His revelation in nature and in His word are our basis for knowing significant issues of truth.

To engage in this battle with evolutionists using the word of God as our only weapon, however, is to argue with a blind man that red would be a better color for a sign than yellow. To the blind man, there is no such thing as "red," and to the evolutionist, there is no such thing as "God" or the "word of God." We must begin teaching truth that our pupils can comprehend. Jesus

did not teach everything He knew during His ministry (Jno. 16: 12-13); His pupils needed to learn the fundamental principles of justice, mercy and righteousness before they were ready for other details of truth.

Science Is Limited in Its Scope; But Useful

Science is an endeavor of man's scholarship designed to explain the natural world. With the natural world as its focus and concern, the methods of science depend on phenomena that can be observed and measured. Consequently, science limits itself to that realm. In the words of Eugenie C. Scott, in a review of Robert Pennock's book Tower of Babel: The Evidence Against the New Creationism, "Intelligent-design creationists confuse materialistic philosophy with the methodological materialism of science, which says that science cannot use supernatural cause to explain the natural world (Scott, p. 92). To explain by natural cause does not make a field antireligious; as Pennock wryly notes, science is no more atheistic than

ATHEISTIC AND THEISTIC EVOLUTION

The atheistic view of the origin and progressive changes in the biological world holds that God does not exist, and thus could not have intervened in the process. Every event in the universe is wholly and completely governed by the natural laws of physics and chemistry. These laws are artifacts of the nature of the physical materials in the cosmos; nothing more or less.

The theistic evolutionist's view of these same events essentially holds that an intelligent being acted at some point in the formation of the universe. Some forms of theistic evolution allow this being to establish the laws of nature, while most hold the conviction that, at some point, this being (perhaps God) stepped back and did not interfere in the affairs of the natural universe after its initial start. Various forms of theistic evolution allow intervention by God at differing points in the history of the universe. The theistic evolutionist, however, still believes in macroevolution.

Typically, both creationists and naturalistic evolutionists disavow the theistic evolution position, for the hybrid is not satisfactory to either.

plumbing." As noted by Scott, science is based on a deliberate self-limitation to the empirical, tangible materials of the universe. Pennock's note that science is not antireligious is correct in one sense because science cannot prove or disprove the existence of God. Spiritual beings are outside the limits of science. Consequently, science is neutral with respect to the reality of God. As a Christian who is also a scientist, I have no difficulty confining scientific investigation to empirical evidence; except where it conflicts with the revelation by God. There is no conflict in my mind in exploring the natural world to find out how it operates. I do so with the intention of understanding God's laws and principles as they are expressed in His physical creation.

As will be discussed later, however, it is naive to think that the deliberate schemes of science do not derive from and promote a materialistic philosophy. It is no accident that over 90 percent of the members of the National Academy of Sciences are atheists (Larson and Witham, p. 90). A discipline which takes as a major premise that it cannot consider or allow God into its consideration is inherently predisposed to dismiss Him as real. In issues where science conflicts with the revelation of God, the materialistic scientist will dismiss such revelation in favor of his interpretation of the physical evidence.

Such a realm of study, once it becomes wholly materialistic in its outlook, takes on a world view that must deny intervention by a supernatural being. The world view of the evolutionist comprehends only the empirical, physical world, and this world view leaves him as clueless concerning the beauty and value of spiritual understanding as a totally blind person is of color, hue, and intensity of light. The intervention of God or any such supernatural influence is not allowed. Paul highlights the contrast between a spiritual perspective and a carnal one in 1 Corinthians 2. The carnal does not comprehend the spiritual because it is wrapped up in itself.

While science cannot prove or disprove God, it can legitimately explore the presence and influence of intelligence acting in nature. The search for the reality and existence of intelligence on both large and small scales is a legitimate scientific pursuit. Science can determine if a field of trees was planted by an intelligent designer (orchard) or exists as a random assortment (wild forest). Large sums of public and private monies are expended searching for intelligent life elsewhere in the universe. No one appears to question that science can distinguish unintelligent effects from intelligent ones in nature. Science, if honestly pursued, can identify the effects of an intelligent God who has created the natural world.

Science, although it has been tremendously successful, is not a perfect endeavor. The pronouncements of science are not monoliths of truth. Inherent in science are problems which should alert Christians not to swallow every word and assertion of science with the same degree of acceptance that we give the word of God. The problem with naturalistic science, particularly in the debate over creation and evolution, is its neglect of the eyewitness account of the Creator. Consider some problems with science that mitigate against it as a source of absolute truth.

One of the problems in origins and evolutionary "science" is the tendency to "fill the gaps" where there is no data. If you read very much in the literature about the evolution of organisms, particularly man, you will soon be impressed with the lack of great expanses of data. Since empirical data is the stuff of science, when there is little or no data, conclusions become highly speculative. Evolutionists accuse those of us who believe in the creation account in Genesis of filling in gaps in our knowledge with God. They say we base our "science" on a "God of the gaps." Materialistic scientists, including evolutionists, have a "god of the gaps," as well. Their god, however, is materialism. Whenever there is a gap in their evidence or data, they fill it with preconceived philosophies of what matter has done-separate and apart from any designer. Their gaps are no more filled with truth (facts) than they claim ours are. Paleontologists work with fossils dated over long periods of time (using their own dating methods) and located in distinctly different geographical areas. It is common practice for them to fill gaps of millions of years with conclusions based on little more than speculation. In a chart in Time magazine, fossils of organisms which were ape-like (Austra-lopithecus afarensis, also known as "Lucy") were found in the Afar region of Africa and dated at 2.3 million years ago (Dorfman, p. 77). Another single jaw has been found in the Hadar region of Africa and dated one millions years later. Identified as human (Homo), the Hadar jaw was declared as a link between the ape-like fossil and modern man. The only possible way to fill such a huge gap is with a philosophic world view, since there are no intermediate forms in that millionyear span. Alan Walker of Pennsylvania State University is quoted in that same article as saying, "'What we have now is a hypothetical human lineage with very little evidence on it." Nevertheless, the chart has "filled in the gaps" with authoritative, impressive lines anyway. Filling gaps where there are no data is dangerous business.

A second problem with modern science

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as a sole means of finding truth is the tendency to form dogmatic conclusions when the data are not sufficient to support them. Questioning and disagreement are what science is all about; however, when the facts are not conclusive, a determination on which way one leans in drawing conclusions is strongly influenced by one's world view. Make no mistake, science has not discovered all truth, and it is always in a state of transition. While materialists zealously claim that "evolution is a fact" and it is based on mountains of evidence, we must remember that our understanding of nature is still primitive and limited. An example of this "rush to judgment"

MAYBE THE GAPS ARE THE DATA

I have students run an experiment in my biology class where they raise radish seeds in various concentrations of sugar. One of the solutions is a 30% syrup of sugar and water. Typically, those dishes show no growth at all. Now, some might want to speculate about how many seeds should have grown in these dishes, but none grew. My students often hypothesize (predict) that this group will grow the longest roots because they know that sugar is a food used by both plants and animals. Based on their prior knowledge, should I encourage them to go ahead and fill in the root lengths they thought would be grown? Well, in this instance, zero growth is accurate data and must be plotted as such on the graphs they produce.

It is reasonable to conclude from the fossil record that there are no intermediate forms between these "ancient" forms and modern man. Perhaps it is dishonest to "fill the gaps" since they may, in truth, be empty; the data may be screaming at us that there's nothing there! is evidenced in the number of organs in human beings thought to be useless a few years ago. Textbooks argued that these vestigial organs showed lack of design and demonstrated a mindless process which produced organs gaining and losing function. While evolutionary scientists still cling to a few of these "vestigial" organs, most of the ones named 30 years ago now have clearly identifiable functions. Can we be confident that the few remaining ones are really useless? Or, are we honest enough to admit that we may just not know what they do? While science is successful in illuminating much about the natural world, new evidence often requires major revisions in doctrines once held tenaciously as "law," or once used as evidences against God's creation.

A third problem with science is that scientists are human. All humans filter their world through their past experiences, their own interests and desires, and their sense of self-preservation and self-image. This is particularly true with deeply held convictions or faith. Scientists are not an exception to this principle. A naturalistic, materialistic world view forces all facts to be filtered through the lens of evolution. When religious faith contradicts this world view, it is easy and natural to reject religion because it is filtered out by the lens. In this world view, there is no revelation from God, because there is no God. While those who hold this view may embrace some form of religion, or tolerate those of us who believe in God, make no mistake, they will not allow Him to have any influence on the natural world. For an interesting discussion on these issues, see "Scientists and Religion in America" (Larson and Witham, p. 88–93).

There is strong sentiment in our age to exalt science above the Bible, or, at the very least, to treat science and the Bible as equals. After all, experimental science has a tremendous track record. Many of today's technological marvels are the result of science. Science, however, is a very limited realm of endeavor, no matter how successful it has been. Science cannot evaluate many areas of human existence where truth is significant and vital to our condition. Science cannot determine whether one should or should not marry someone; and it cannot fully comprehend our appreciation of music, art or a baby's laugh. In addition, the reality of God, angels, demons, and the spiritual nature of man are entirely outside the view of science. Finally, issues of morality (right and wrong, ought or ought not) are entirely out of the purview of science. All of these matters are entirely outside the realm of science, and many of them are areas of human concern which can only be appreciated and elucidated by God's divine will.

14 October 1999

The foregoing discussion should give Christians a sense of caution when we begin to elevate science or any other human scheme for knowing truth above the word of God. Science is not omniscient nor infallible. When we allow any man-made system of study and source of faith to compromise our faith and confidence in God, we have given away too much to man. God alone is all-knowing and wise.

The Bible Is God's Testimony

In contrast to materialistic scientists, the Bible believer also recognizes and appeals to the eyewitness account of the Creator. God, Himself, has left His own testimony of His role in the origin of the universe and its inhabitants (Rom. 1:18-20; Gen. 1; John 1; Heb. 1, etc.). He has declared, in concise and clear terms, that He was the Cause for all the effects of our universe: "In the beginning, God created . . ." (Gen. 1:1a). Since His word is sure, understandable, unchanging, and accurate, we must give heed to this most reliable of witnesses. Paul makes a statement that the Bible believer must never forget, "Indeed, let God be true but every man a liar" (Rom 3:4).

Suggested Rules for Our Study

Bible believers are also subject to some of the same problems of interpretation as materialistic scientists. We also, too often, draw dogmatic conclusions based on scriptures that are not as ironclad as we would like for them to be (or as we conjure them to be). We "fill in the gaps" in scripture with our own preconceived doctrines. We, too, are humans who live with a world view that inclines us to bias and self-interest. Too often we become calcified on an issue, not so much because the scriptures are so clear and compelling, but because our conclusion is what we have always believed and defended. Perhaps what we need is a large dose of humility and a willingness to say, with all honesty, "I don't know." What we may also need is a little compassion for those whom we deem unenlightened on the issues before us. We are in this endeavor to find truth from God's word as partners; not enemies. We must study together carefully and graciously.

In an attempt to deal with the issue of creation versus evolution, please consider several cautions which need to be observed. The human endeavor to mine the treasury of God's revelation is a serious and challenging task. Some principles of study and consideration of this revelation are in order.

First and foremost, the Bible is God's word. It alone can be a reliable source of truth related to origins and the development of the living realm. In it has been given the only eyewitness account by the Creator

Himself. Before we can expect to take a stand for the truth and teach it to our children, we must instill in ourselves and them a deep sense of faith in God's word. Once we have determined the validity of the word of God, we need to proceed to a careful and accurate exegesis of the text. Finally, having determined the truth from God's word, we can expect an unbiased, honest appraisal of the natural world to show evidence that what He has said is, in fact, true.

Second, God's holy scripture is a complete and independent source of truth, separate and apart from naturalistic "proofs." Scripture is not dependent on science, secular his-

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tory or archeology for its correct interpretation. To understand scripture through the lens of man's disciplines is to deny God as a reliable evewitness to the truth. An understanding of Genesis 1 and 2, or any other passage, is valuable separate and apart from what science claims for these events. Whether an account is literal, or it is allegorical, mythical or poetic must be determined by a careful study of the text and its context. If we must rely on man's archeological, historical or scientific conclusions to determine if a passage is figurative or literal, then we had better prepare to concede that all scripture may well be mythical. When we concede to this type of confirmation, then we have opened the floodgates of doubt. Pennock likens the creation story to the story of the Tower of Babel: the creation account, in the author's mind, contradicts what science knows about the evolution of living organisms, and the Tower of Babel account contradicts what we know of the evolution of language (Scott, pp. 92-93). Can we not see that to capitulate on the creation account is to give up the whole revelation. When we begin to compromise scripture in order to satisfy secular "proofs," where can we draw the line? Or do we roll over and acquiesce to whatever these "scholars" tell us? I hope not.

Third, how we stand on the account of

God's creation has a direct effect on how we view the rest of God's revelation. One of the most intriguing features of God's word is that it consistently reveals a single fabric of truth. Of course, there are portions and passages that we do not fully understand or even seek to explain, but it is truth throughout. The Bible is its own best commentary. Materialists are convinced that the account of creation and the other stories of miracles in the Old and New Testaments are the figments of ancient, primitive minds attempting to explain events far beyond their capability. To them, these accounts are fables and myths. Our faith, in contrast, compels us to listen carefully to inspired writers and share their faith. Jesus understood that the account of the creation of Adam and Eve was a true historical event (Mark 10: 6): and He spoke of the flood as an actual event occurring in Noah's day (Matt. 24: 38-29). He argued that the events in Noah's day foreshadow those surrounding His own second coming. If Jesus was not accurate about the events related to the flood, maybe He is wrong about His own second coming. They stand and fall together.

Paul was clear about the creation of man and woman, and he made distinct arguments based on the actual sequencing of that creation (1 Tim 2:12-15; 1 Cor. 11: 7-9). Peter also understood that Old Testament events were literal. He makes at least two major arguments from the reality of the flood: emphasizing the reality of our salvation in baptism by comparing it to the salvation of Noah and his family in the flood (1 Pet. 3: 20ff), and he dispels the arguments of uniformitarians (much like evolutionists) who said things have continued as they always have with no intervention by God (2 Pet. 2: 5ff). Peter says they willingly forget the flood which catastrophe chronicled God's intervention into the world. The Bible either presents a unified account of truth or it is not the work of God.

Finally, as humans who fervently believe in God's creation, we sometimes take positions that are not supported by the word of God, and they are not even necessary to be faithful to God and His word. In various biology textbooks, evolutionary authors have addressed what they thought were creationists' beliefs on the nature of the creation; beliefs which often were foreign to the Bible. An example is the belief that God created all things exactly as they are today and where they are today. As will be noted later, the Bible does not teach either of these concepts. Another example is the idea that God gave the best organs to the pinnacle of His creation, man. I have an article in my files that ridicules the design of the human eye, point-

ing out that the giant squid eye is far superior. The argument is made that if God designed the vertebrate eye that way, He made a mistake or it was a prototype for the squid's eye. The fact is that God made the human eye so that it does exactly what is was designed to do. No passage in scripture says God had to make the human eye better than a hawk, eagle or squid eye. Incidentally, at least two recent articles have shown evidence that the human eye would not work if it were designed differently. The bottom line for us, however, is that we don't take an untenable position from a poor exegesis or understanding of the Bible. Poor exegesis opens us to deserved criticism. Let's choose our battles carefully and defend truth.

What God's Word Says of Creation

Let me say at the outset that I am not an Old Testament or Hebrew scholar; in fact, I am not even a strong student of the Old Testament. However, I believe that we can know much of what we need to know about the first events in the universe from an honest and careful look at a number of passages.

First, it appears obvious that each of the successive days of creation were distinct and separate events. For example, the Genesis account indicates that fish and birds were involved in one act of creation, while the creation of cattle and creeping things were a separate and distinct act. Man, likewise, was a unique and separate act of creation having been formed from the dust of the earth. There is no provision in the record for a single event under the control of God which progressed from one set of organisms to form any other set of creatures. Such progressions are taught by both theistic and atheistic evolutionists. Scripture records no series of gradual changes so that primitive life becomes modern life. Certainly, man is not in any such line of descent. Such a sequence of separate creations denies both atheistic and theistic evolution.

Second, Genesis 1, 2 and other creation passages, promote the orderliness and planning of God. There is no solid evidence in scripture or science for a series of random events that are capable of producing order and increasing complexity from chaos and high levels of entropy. Larson and Witham report that the National Association of Biology Teachers (NABT) "in its 1995 'Statement on the Teaching of Evolution' . . . that evolution is 'an unsupervised, impersonal, unpredictable and natural process'..." (p. 91). They subsequently dropped that term "unsupervised" arguing that this made this statement theological; but evolutionists have not changed their minds about the intent of the statement. To adopt macroevolution in any

form is to stand with the NABT and say that life, as we see it today, exists independent of any intelligent mind. This assertion of order coming from disorder is contrary to all man's experience, it violates everything we know about the production of orderly and meaningful information systems, and it is an affront to the nature and creative power of God. The formation of the universe, including the earth and all the living matter on it, was through the intelligent guidance of God's Son (John 1, Hebrews 1). Life must have been brought into being and sustained by an intelligent God. God's fingerprints are all over His creation.

Third, it is clear from the record that God set limits and bounds to the change and development of these created beings. Whatever "kind" includes in this and other passages, it is a limiting term. The Lord said that organism groups (grass, herbs with seeds, trees with fruit, sea creatures, every living thing that moves in the waters, winged birds, etc.) would reproduce "after their kind." Organisms were allowed to reproduce within this God-given category (kind).

There is no scripture that I know which prevents minor changes within the kinds created in the beginning. A number of passages, on the other hand, chronicle variety among humans and animals. There were giants on the earth by the time of Noah, Noah's sons were the forefathers of many varied peoples, and Jacob took advantage of genetic variation to gain flocks. We might also note that some change took place in Eve so that childbearing would become more difficult (Gen. 3:16). Our unbiased and honest study will show that God's word is true. Scientific experimentation has repeatedly shown that change takes place, but only within limited boundaries.

Fourth, scripture indicates that organisms dispersed and inhabited their eventual niches from a central location. "And God blessed them, saying, 'Be fruitful and multiply, and fill the waters in the seas, and let birds multiply on the earth" (Gen. 1: 22). This language suggests that these organisms dispersed to fill the waters in the seas or spread across the earth. Scripture is particularly clear on the distribution of humans from Babel because their speech was confounded. Some evolutionists claim that we believe God created every single organism already resident where they are now. This is not supported by these passages. Evidence of biogeographical distribution is not contrary to God's will.

Fifth, the creation process was miraculous. The indication from the account of man's creation is that Adam was created fully formed as an adult. Even if one had a

problem with Adam's creation as a full-grown man, there can be no doubt that Eve was formed by a novel and unique method: surgically from the man. Eve, by all indications in the text, was fully formed as an adult woman when she was created.

Finally, scriptures are clear that humans were created independently by God, male first and then female. These scriptures clearly show us that man did not evolve through some natural process to become what he is today. In addition, to call this truth into question is to deny both the Genesis account and also the veracity of the Lord, Himself (see Matt. 19:4).

Conclusion

Since Darwin first proposed a mechanism for evolution in the mid-1800's, Bible-believers have been in a battle against the materialism related to his theory. When we give undeserved credence to science so that the word of God is diminished or supplanted, we have compromised with God's enemies. Our faith in Him must supercede any position that men may take in opposition to Him. Although in a different context, the apostle Paul revealed God's mind when he said,

"Let no one cheat you of your reward, taking delight in false humility and worship of angels, intruding into those things which he has not seen, vainly puffed up by his fleshly mind, and not holding fast to the Head, from whom all the body, nourished and knit together by joints and ligaments, grows with the increase that is from God. Therefore, if you died with Christ from the basic principles of the world, why, as though living in the world, do you subject yourselves to regulations-'Do not touch, do not taste, do not handle,' which all concern things which perish with the using-according to the commandments and doctrines of men? These things indeed have an appearance of wisdom in self-imposed religion, false humility, and neglect of the body, but are of no value against the indulgence of the flesh" (Col 2:18-23).

Where he described the dangers of turning to religious false teaching, the religion of science can have the same devastating effects on our souls when we turn from God and His Son.

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16 October 1999