DISCUSSION No. 17

ISSCIENCE INTROUBLE?

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OUTLINE

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INTRODUCTORY NOTE

This discussion is different because we are getting into some of the thinking and reasons that fuel the battle between science and the Bible. While we will still reference some scientific data and the Bible, we also get into the intriguing areas of the psychology, sociology and philosophy of the scientific community.

These perspectives are important in facilitating an understanding of this great intellectual conflict, and in providing insights that will be beneficial to both your search for truth and in helping others find that truth.

- The Harvard Physicist Phillip Frank has stated that in science "every influence of moral, religious, or political consideration upon the acceptance of a theory is regarded as 'illegitimate' by the 'community of scientists.'"
- This statement reflects both exclusivity and elitism in science. There are a number of areas that the current practice of science rejects.
- Is science better than other methods of inquiry? Is it the best mode of thought? Is science a closed and limited system of thought?

On the other hand, in the Bible (Job 38:4), God asks the provocative question: "Where wast thou when I laid the foundations of the earth? Declare if thou hast understanding."

And Paul (2 Timothy 4:3-5) warns us: "For the time will come when they will not endure sound doctrine; but after their own lust shall they heap to themselves teachers, having itching ears; And they shall turn away their ears from the truth, and shall be turned unto fables."

We are dealing with two opposing views; on the one hand, science that now excludes God from its interpretations, and on the other hand the Bible that presents God as the creator and also points to nature: "The heavens declare the glory of God and the firmament sheweth his handywork." (Psalms 19:1). Science excludes God, but the Bible does not exclude nature. The Bible is more open. It also raises provocative questions about origins and warnings of turning away from the truth.

As science has advanced during the last two centuries, has it moved in the wrong philosophical direction?

2. THE GOOD PART OF SCIENCE

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Science has accomplished many good things.

Antibiotics

Astronomical discoveries of the Hubble telescope Mapping the genome of many organisms Genetic engineering

Inserting genes into humans so as to provide immunity

Altering microbes so they can produce vaccines and hormones such as insulin

Altering animals such as making larger pigs and mice, and cows that produce more milk

Altering plants so as to produce vitamins, or produce fruit that keeps fresher longer, and cotton plants that have a toxin from a microbe that kills predatory insects

However some of these new organisms could be dangerous!

2. THE GOOD PART OF SCIENCE

In many areas, science is eminently successful, and the accomplishments of science are very impressive.

But there is good science and there is bad science!

3. 10 + 1D DIFFERENCE BETWEEN DATA AND INTERPRETATION

3. THE DIFFERENCE BETWEEN DATA AND INTERPRETATION

The story is told about a resourceful biology professor who had trained his pet fleas to jump when ordered to do so. One day he was demonstrating to a group of friends how very well one of his fleas was trained. To authenticate his point, he tore off one of the legs of his flea and asked it to jump; in spite of its injury, the flea jumped. He then proceeded to tear off more legs, one at a time, each time asking the flea to jump, and each time it jumped. When the flea had only one leg left it was asked to jump, and the well trained flea jumped. The professor then tore off the last leg and asked it to jump, but it did not jump. The professor then turned to his friends and told them that over the years he had learned that when you tear all the legs off of fleas, they can no longer hear!

3. THE DIFFERENCE BETWEEN DATA AND INTERPRETATION

This story illustrates the difference between data and interpretation. That the legless flea did not jump is data. That it could not hear is an interpretation. Of course a more plausible interpretation is that the flea did not jump because it had no legs. In case you were wondering, a flea has six legs!

One of the great confusions in science is the mixing of data and interpretations. While often scientific papers separate the two, interpretations are too often mixed up with the data, and eventually speculations can almost take on the tone of scientific laws.

3. THE DIFFERENCE BETWEEN DATA AND INTERPRETATION

The term *historical science* is sometimes used to designate the more speculative or interpretive aspects of science. Historical science is less testable and often deals with past events that cannot now be repeated, hence the "historical" designation. These are areas where authentication is more difficult. Areas like cosmogony, paleontology, evolution, creation and physical anthropology are more on the historical side. On the other hand we have *experimental science* such as much of chemistry, physics and some aspects of biology including genetic engineering; these can be tested and retested by repeatable experiments and are thus more easily authenticated by observation and experiments.

One needs to be especially careful to sort out data from interpretation when dealing with historical science topics.

Thomas Kuhn in his famous book The Structure of Scientific Revolutions has pointed out that too often science is not a steady advancement towards truth. Instead, sociological factors dominate as scientists group themselves under broad dominant ideas called paradigms. Paradigms can be true or false, but they provide an accepted framework under which a lot of scientific testing can be done. If you do not accept the prevailing paradigm you can be excluded from the scientific community, as a number of creationist have discovered.

An example of a paradigm is the idea that the continents of the earth shift (drift). The earlier idea that they do not shift was also a paradigm. In those early days if you suggested that the continents shifted you were not welcomed by the scientific community. Now the accepted paradigm is that the continents do shift, and if you disagree, you tend to be excluded. Changes in paradigms, which are called scientific revolutions, can be fast or slow depending on the data, interpretations and sociological circumstances. Some scientists object to the paradigm concept because it challenges the image that science is strongly objective. It is in some cases, but not in others.

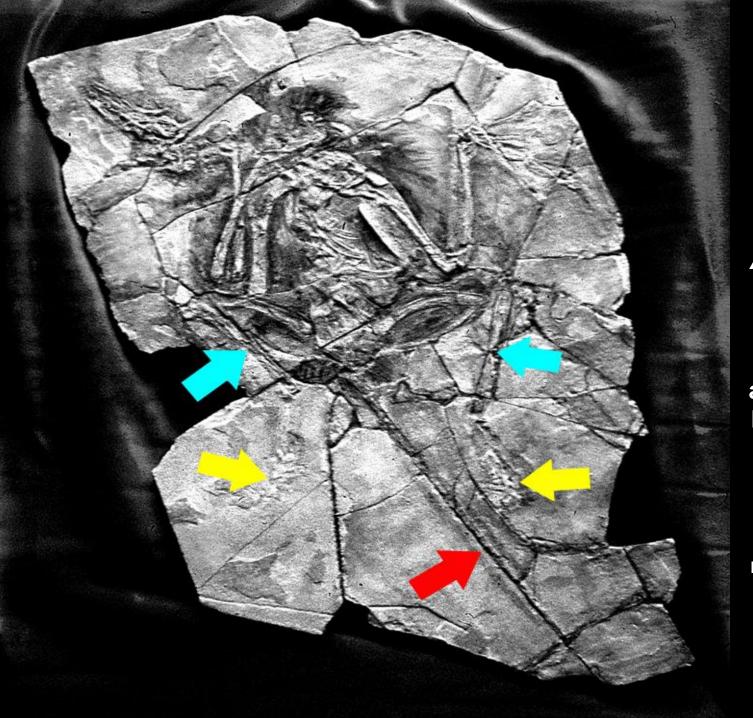
Evolution is another example of a paradigm. While some data indicates that there is minor variation in organisms (microevolution), there is hardly any solid data that can even suggest that the general theory of evolution, i.e. starting with simple chemicals and evolving on up to man, ever occurred. In fact, as we have pointed out earlier, there are a multitude of serious problems with the theory. Yet the concept is accepted, and often defended, by the majority of scientists.

One gets a little sense of the captivating power of paradigms when we see how confident evolutionists are about their theory (i.e. macroevolution) in spite of the fact that it is hard to find any data to support it. Douglas Futuyma, of the University of Michigan and NYSUSB, has written the most widely used textbook on evolution in the United States and in that book he states: "Evolutionary biologists today do not concern themselves with trying to demonstrate the reality of evolution. That is simply no longer an issue, and hasn't been for more than a century." When science exhibits such a confident attitude, especially in the face of so much contrary evidence, it has moved from searching for truth into dogma. Such attitudes keep paradigms going and going in spite of the evidence.

Sometimes evolutionists go to great lengths to try and demonstrate the truthfulness of their theory, and that can create problems.

In 1999 The National Geographic Society scheduled a press conference at their Explorer's Hall in Washington, DC. The news was about the discovery of a new fossil that was intermediate between dinosaurs and birds, thus authenticating the evolution of dinosaurs into birds. The fossil that was about a foot long was on display and scientists who had studied it commented that "We're looking at the first dinosaur capable of flying. ... It's kind of overwhelming." and "We can finally say that some dinosaurs did survive, we call them birds." This was followed by an article about the fossil published in *National Geographic* that characterized the fossil as "a missing link between terrestrial dinosaurs and birds that could actually fly."

Following is an illustration of a cast of the fossil. The head is in the upper left corner. The lowest arrow indicates the tail while the four side arrows point to the legs. Note that the two legs are actually from just one leg; the left one being the counterslab cover of the fossil leg on the right.



Cast of the fossil Archaeoraptor.

The tail of a dinosaur (red arrow) was attached to the body of a bird.

See text for details.

Photo by Lenore Roth

The fossil originally came from China and was purchased for \$80,000 by a dinosaur museum in Utah. Professors from several universities worked with the National Geographic Society to study and prepare the specimen for a big bang type of announcement about this momentous discovery. In general the main body of the fossil appeared to be bird-like, but the tail definitely appeared like that of a dinosaur.

Some scientists who had different ideas about the evolution of birds, immediately started questioning the authenticity of the fossil. The tail was not well attached to the body and the two legs came from just one original leg. X-ray studies showed that the rock slab of the fossil consisted of 88 different parts that had been carefully glued together in China. A review of the source of the tail showed that it originally came from a small fossil dinosaur. Someone had attached the tail of a dinosaur to the body of a bird, and scientists who wanted to believe that birds evolved from dinosaurs interpreted this as an intermediate between dinosaurs and birds. Later on, National Geographic acknowledged their error. In this case, overconfidence and defense of the paradigm of evolution resulted in an embarrassing scientific error. We all need to carefully check all our ideas.

In general the idea that birds evolved from dinosaurs, especially from tyrannosaurs or allosaurus types, has been gaining popularity. However recent research suggests that is not such a great idea. For instance birds use their more or less fixed thigh bones (femurs) to prevent the collapse of the all important air-sacks that facilitate the high rate of exchange of oxygen in the lungs that is essential for flight. Dinosaurs have a movable thigh bone, and this strains the suggestion that birds evolved from dinosaurs. So the speculation about how birds evolved goes on, but most scientists insist that they did evolve as the paradigm of evolution dominates scientific interpretations.

Paradigms have a very strong influence, even if they are wrong, because most everybody follows them. How could most everybody be wrong? However since some major paradigms eventually change, we know that just because the majority follow an idea is no guarantee that it is true.

Scientists frequently state that science and religion are separate realms. We can separate out all kinds of areas of information like literature, economics, psychology, physical chemistry or biochemistry. However, purposefully ignoring some of them, as science too often does for religion, can eventually end up as a minor distraction along the broad highway to finding truth. Our search for real truth, reality or ultimate truth, as some call reality, needs to include as much information as possible, especially when asking deep broad questions like the origin of everything. The more possibilities we look at, the more likely we are to encounter correct explanations.

Unfortunately the tendency to exclusiveness and isolation in science is unusually strong. Because of this, science sometimes finds itself attempting explanations that are beyond its capabilities and are really only speculations. Examples of these are thinking that life originated from information hidden in atoms, or sociobiology that attributes our behavior to evolution.

Most scientists are quite aware that science can be powerful, and that is not something that scientists are likely to give up. This can contribute to a sense of superiority that tends to barricade science from other realms of inquiry that are also a part of reality, such as our free will (freedom of choice) that is not cause and effect, and thus not science.

Some wonder if science is being less than honest when it arbitrarily excludes God, while at the same time it claims to have the truth about ultimate origins. This problem is not a matter of integrity, but is what is called self deception. This is where scientists and others honestly think they are right and others are wrong. God can be excluded because after all, don't most scientists exclude Him? For example, self deception seems evident when scientists think that certain organisms existed hundreds of millions of years earlier than they can find them in the fossil record according to their time reckoning. They are sure they evolved from other kinds, and they know that would take a lot of time, so they must have existed long before their fossils can be found.

Science is likely more prone to self deception because of its unusual success in some areas. When you are successful it is more difficult to think you might be wrong.

At present, science has taken a strong secular stance and God is not allowed in the picture. The famous Harvard evolutionist Stephen Gould has characterized the idea of even just an intelligent designer as a "fallacy" that is "historically moth-eaten." Several notable scientists suggest that the appearance of design in nature is an illusion or that it needs to be avoided. Julian Huxley, the grandson of Darwin's valiant defender Thomas Huxley, comments that "organisms are built as if purposefully designed ... the purpose is only an apparent one." In his book The Blind Watchmaker, Richard Dawkins from Oxford University opines that "biology is the study of complicated things that give the appearance of having been designed for a purpose." He then spends the rest of the book trying to show how that is not the case. Nobel Laureate Francis Crick warns: "Biologists must constantly keep in mind that what they see was not designed but rather evolved." It is

hard not to conclude that a secular agenda is at work here.

Furthermore, Richard Lewontin at Harvard points out that in science "materialism is absolute, for we cannot allow a Divine Foot in the door." As far as God is concerned, science has posted a "DO NOT ENTER" sign. In the study area of ultimate origins, science is no longer an open search for truth, following the data wherever it may lead.

The fact that half a million scientists, when they take a scientific stance, interpret nature without God, while only a handful include Him, has introduced a tremendous bias against God in the scientific literature. This fact needs to be always kept in mind when one tries to quantitatively evaluate the interpretations for and against God's existence as found in science. At present, science tries to interpret everything without God. The secular paradigm of science without God dictates the thinking, vocabulary, and what gets published in scientific publications.

While creation is receiving much more attention from the scientific community than it used to, it is often not welcome and many leaders of science despise the concept. Creation is usually ridiculed, and it would be a brave scientist who would try to suggest God as an active agent in nature in the scientific literature, even though the data of science very much points to the necessity for a perceptive Creator. Some scientists have lost their jobs because they suggested a God that might be active in nature

A survey, discussed earlier (Discussion 1), querying some 1000 scientists in the USA indicates that 40% of them believe in a God who answers prayers, (and 45% do not). However the secular ethos in science is so pervasive that virtually none of these will publish about God in the scientific literature. The 40% of scientists that believe in God keep quiet about it when they take a secular scientific stance. There is truth in the statement that "many scientists believe in God, but only on weekends when they go to church!" Leading scientists keep emphasizing that if you want to be a scientist, you need to eschew any thoughts of religion. If a chemist creates a complex organic molecule, that is science; if God does the same thing, it is not!

At present, science asks the question: "How did life evolve," and not "Did life evolve?" In doing this, scientists tend to bypass the crucial question about whether God exists. A strong secular attitude in science influences both the questions and conclusions of science.

It turns out that as presently practiced science is the odd combination of the study of nature and a secular philosophy that rules God out. You can exclude God by definition, but that does not work well in case God exists!

One can rightfully ask if science isn't entitled to define itself as secular. It certainly is, but if it does, it needs to stay out of the religious realms. That can be extremely hard to do. For instance, when science tries to answer everything in a secular context it is inadvertently making the theological statement that God does not exist, and that is straying into religious territory. When you are wondering where everything came from, isolation into secularism is not a good idea.

Evolutionists often assert that creation is not science, because there is no scientific way to evaluate a miracle like creation, but that argument tends to lose its validity when evolutionists turn about-face and write books like *Scientists Confront Creation* and evaluate creation using science. Can they have it both ways? As presently practiced by scientists the definition of science is nebulous.

A lot of science can be practiced without involving the question of God's existence. But when it comes to the deep questions about the origin of life or our ordered universe, it is hard to ignore God.

A number of scientists associate evolution with God. In this mode you have a God to help out with evolution's most serious problems such as the origin of life or the Cambrian Explosion. However you won't find any such ideas promoted in standard scientific journals or textbooks where God is not considered a causative agent. Should you allow God in the picture, there is no need for the general theory of evolution and all its problems. Furthermore, if you include God, this tends to deprecate the autonomy of science, and if you associate God with the harshness of evolution this tends to deprecate the image of a caring and forgiving God described in the Bible. Putting evolution and the God of the Bible together is a very difficult task.

Other scientists elect to live with two different world views at the same time and jump from one to the other. In one view God is included and in the other He is excluded. This can be convenient, but it is not a way to find truth, since truth cannot contradict itself. Either there is a God or there isn't one.

Science's stance against God is a restricted view. In this stance science no longer respects academic freedom. It is not an open search for truth where one follows the data of nature wherever it leads. By arbitrarily excluding God from its explanatory menu, science has lost its credentials as far as finding ultimate truth.

In science, the data of nature should be allowed to speak for itself, including the possibility that God designed the consistency, precision and complexity we have found in nature. In my opinion this would be a more open and more scientific stance.

Science does not have to exclude God. As mentioned earlier (Discussion 1), the geniuses that established many of the laws of modern science such as Kepler, Galileo, Newton, Boyle, Pascal, and Linné all believed in a God who had established the laws of science, and a God who was active in nature. These pioneers of modern science showed how God and science can work very well together. However now, the scientific community excludes God from science.

7. 10 # OE SCIENTIFIC EVIDENCE FOR GOD

The scientific data that points to God is not especially of the weaker historical science kind mentioned earlier. Here we have the great advantage of dealing with information like the forces of physics and biochemistry that is mostly of the hard experimental and observational type.

Below we will briefly describe some of the most important scientific evidence for God, and there is much more.

a. MATTER'S ORGANIZED NATURE. Matter could be just unorganized amorphous goo. Instead we find that it is composed of some 100 well organized kinds of elements that have atoms that are extremely versatile and have the capability of forming minerals, microbes, elephants, stars and galaxies. Atoms can emit light and facilitate chemical changes. These atoms are composed of subatomic particles like quarks, neutrons, and protons that have very precise parameters and follow laws that indicate a masterful design plan. For instance, the mass of a proton has to be precise within one part out of a thousand in order to have the elements that form the universe. Such precision indicates that design by a perceptive God seems essential.

b. THE FORCES OF PHYSICS. There are four forces in physics. The very precise value of each, over a range of 10³⁹ from weakest to strongest and the exact realm of action of each, is just what is necessary for the existence of atoms and the resultant universe that is so well suited for life. The strength of gravity as it relates to the electromagnetic force has to be extremely precise. Some physicists suggest that a change of only one part out of 10⁴⁰ for either force would cause the sun to be either way too cold or too hot. It is hard to imagine that such precisions just happened by chance. A creator God seems necessary.

c. THE ORIGIN OF LIFE. The simplest organisms we know of are so complex that it does not seem possible that they could have originated without intelligent planning. In organisms we have all kinds of complexities including: proteins, DNA, ribosomes, biochemical pathways, a genetic code, etc., and the ability to reproduce all of this, including a system for proofreading and editing any errors in newly copied DNA. It does not seem reasonable to think that life could originate all by itself as evolution claims.

d. COMPLEX ORGANS. In advanced organisms we have all kinds of organs that have interdependent parts that cannot function unless other necessary parts are present. Examples would include many of the parts of the autofocus or auto-exposure mechanism of the eye. Our brains also have many interdependent parts that represent irreducible complexity. The useless separate but necessary parts of these organs would have no evolutionary survival value until other necessary parts were present. Furthermore advancement would have to proceed in the presence of dominantly harmful mutations, with very rare advantageous ones. Hence, the origin of complex organs like the eye seems to require planning by a perceptive Creator.

e. TIME. Evolution relies heavily on billions of years of time for the highly improbable events proposed. However, when quantitatively evaluated the very long ages proposed for the age of the earth and the universe are way, way too short for what evolution needs. Calculations indicate that the five billion years age of the earth is thousands of billions of times too short for the average time required to produce just a single specific protein molecule by chance. God seems necessary.

f. FOSSILS. During most of evolutionary time, virtually no evolution occurs. Then suddenly, towards the end, and during less than two percent of that evolutionary time, most of the animal phyla appear in what is called the Cambrian Explosion. Furthermore we don't find any significant ancestors to those phyla just below them. Many major groups of plants as well as modern mammals and birds also appear suddenly as if they had been created. If evolution had taken place the fossil record should be full of intermediates trying to evolve, but evolutionists can only point to a few suggested intermediates, usually between closely related groups.

g. THE PHENOMENON OF MIND. There are many characteristics of the mind that science has a great deal of difficulty analyzing. These are characteristics that science has not been able to find in ordinary matter and as such they point to a reality beyond materialistic interpretations. These characteristics point towards a transcendent God who created us. Examples of these higher characteristics include: consciousness, understanding, freedom of choice, meaningfulness, sense of good and evil and concern for the life of others, which is diametrically opposite to what evolution's harsh survival of the fittest principle would produce.

CONCLUSION ABOUT SCIENTIFIC EVIDENCE FOR GOD

Either there is a God or there isn't one.

Either the universe was designed by God or it wasn't.

When we look at all the hard data presented above, like the precision of the forces of physics, the precision of the mass of subatomic particles, also the complexity of living things from small to large, the lack of time for evolutionary improbabilities, the paucity of fossil intermediates, our brains and our minds, one has to admit that there is a lot of significant data that is very hard to explain if we don't believe there is a God.

The scientific data forces a belief in God.

Why doesn't the scientific community consider this!

The fact that God has been excluded from science for a century and a half, without providing any satisfactory answers to the main questions of origins, should be a matter for deep concern.

Scientists too often ignore or reject compelling scientific data. Sometimes the data becomes so convincing that they later accept it. Examples of ideas that were rejected for a while by the scientific community in spite of compelling evidence include:

- 1. Semmelweis' idea that contamination spreads disease
- 2. Mendel's principles of heredity
- 3. Wegner's idea that the continents move
- 4. Bretz's interpretation of a catastrophic flood.

While the pioneers of modern science such as Kepler, Galileo, Newton, Boyle, Pascal and Linnaeus, who established many of the laws of science, included God in their scientific interpretations, and while 40% of American scientists believe in a God who answers prayers, and while a lot of scientific data indicates the necessity for God; at present, the science leaders especially arbitrarily exclude God. They do this although they are willing to speculate about many other things such as evolutionary intermediates that do not exist, or many other universes for which there is virtually no evidence. But when it comes to God, He is not now allowed in the science discussion. Now in science, you can speculate about many things, but not about God.

Humanity's major modes of thinking tend to change dramatically over time. Alchemy and witch hunting have had their centuries of dominance; thankfully they are gone. In antiquity, thought leaders like Socrates, Plato, and Aristotle placed a great deal of importance on thought processes, how we arrive at truth, and the importance of reason. In the Western World, during the Middle Ages there was a different set of priorities in thinking. That was during the period known as scholasticism and the interest was in logic, grammar, rhetoric, the relation of faith and reason, and respect for authority. In the past two centuries we have had a different set of priorities, with empirical (observed) data engendering a high degree of acceptance. We are in an age of materialistic science.

Through all this maze of changing priorities of thought, I would like to suggest that nature provides compelling data that God is a necessity. There are firm scientific anchor points for this conclusion. This is confirmed in the Bible in Romans 1:20 where we are told that on the basis of what we can see, there is no excuse for not believing in God. Scientists can ignore the scientific evidence for God, but this is not following the data of nature with an open mind.

The battle is not just between some kind of evolution and some kind of creation. These are just symptoms of a deeper problem, namely can materialistic (naturalistic, mechanistic) explanations provide a satisfactory world view? Thus far, in that context, no probable workable models have been proposed for the precision and complexity of nature.

This raises the weighty question, has science led humanity down an erroneous pathway as it has excluded God? There is no doubt in my mind that that is the case. Science excludes God in spite of evidence to the contrary, and too many scientists insist on staying there.

This raises another important question, why do scientists exclude God? The question of the behavior of scientists, or of any other group of human beings, is far too complex to come up with simple definitive answers. I discuss reasons why science rejects God in my book: SCIENCE DISCOVERS GOD, p 225-231. It is likely that scientists exclude God largely because of personal and sociological factors, not because of the scientific data.

9. AN UNUSUAL PREDICTION

9. AN UNUSUAL PREDICTION. THE BIBLE PREDICTED LONG AGO THAT GOD AND THE GENESIS FLOOD WOULD BE IGNORED IN THE LAST DAYS

The Bible makes a remarkable prediction in 2 Peter 3:3-6. It says that in the last days of the earth (and many think that we are in those last days) scoffers would be willingly ignorant of creation and the Flood. This is exactly what we see now. Science has replaced creation with evolution, and it has replaced the Genesis Flood with the long geologic ages.

There are hundreds of other ideas that Peter could have predicted would be willingly ignored in the last days. That he picked the very two major disagreements between science and the Bible, namely creation by God and the Genesis Flood is remarkable.

9. AN UNUSUAL PREDICTION. THE BIBLE PREDICTED LONG AGO THAT GOD AND THE GENESIS FLOOD WOULD BE IGNORED IN THE LAST DAYS (Continued)

This is what Peter predicted

2 Peter 3: 3-6

"Knowing this first, that there shall come in the last days scoffers, walking after their own lusts, And saying, where is the promise of his coming? For since the fathers fell asleep, all things continue as they were from the beginning of creation [i.e. since the beginning of the world, as some translations put it]. For this they are willingly ignorant of , that by the word of God the heavens were of old, and the earth standing out of the water and in the water: Whereby the world that then was, being overflowed with water, perished."

That science ignores creation and the Genesis Flood should not surprise the Bible believer. This was predicted almost 2000 years ago. The Bible seems to be no ordinary book!

10. CONCLUSIONS ABOUT: IS SCIENCE IN TROUBLE?

10. CONCLUSIONS

Science is in trouble because presently it has excluded the possibility of God in scientific interpretations. It has trapped itself into a box that no longer permits it to openly search for truth. God is arbitrarily excluded.

In a special way science is a restricted secular philosophy, posing as a study of nature, pretending to provide ultimate answers, but without allowing for the possibility of testing to see if God is the creator.

10. CONCLUSIONS

Science was not always that way; during the first two centuries of modern science, a God who was active in nature was part of scientific interpretations. The pioneers of modern science, who acknowledged God in their studies, demonstrated that there is a home for God in Science.

In my opinion, science committed its greatest philosophical error a century and half ago when it rejected God and tried to explain everything in a mechanistic way. Hopefully, science will again broaden its outlook and consider that there is a God who is active in nature. A lot of scientific data points to that.

11. GENERAL CONCLUSIONS FORALLTHE DISCUSSIONS

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- Many wonder whether science or the Bible is true. A more important question is: What truths do I find when I examine both nature and the Bible?
- When we examine the nature of matter, from atoms to galaxies, we find a precision of design and of forces that is so exact that it seems virtually impossible to think that a perceptive God was not involved.
- The simplest life we know of is so complex that it does not seem possible that it evolved all by itself.
- Complex organs of advanced organisms, like the eye, have many interdependent parts that do not work unless other necessary parts are present. Hence these parts have no evolutionary survival value until other parts are present. Natural selection would tend to eliminate such useless parts, not create them.

11. GENERAL CONCLUSIONS FOR ALL THE DISCUSSIONS

- Radiometric dating is used to suggest long geologic time, but other scientific data such as residual carbon-14, rates of erosion, and paraconformities, suggest that the long geologic ages are in error.
- The fossil sequence in the geologic column is explained by the Flood acting on the preflood ecology. Buoyancy and motility factors also affected distribution.
- The gaps in the fossil record, and the sudden appearance of major groups at the same level, such as the Cambrian Explosion in the geologic column, indicate that evolution never occurred.
- Evidence for the Genesis Flood includes evidence of major water activity on the continents, the almost total lack of erosion at the gaps (paraconformities) in the sedimentary layers, incomplete ecological environments, and unusually thick coal layers.
- Science made its greatest philosophical error when it rejected God as an explanatory factor and tried to answer everything within a limited materialistic framework.

12. REVIEW **QUESTIONS FOR:** IS SCIENCE IN TROUBLE?

(Answers given later below)

12. REVIEW QUESTIONS – 1

(Answers given later below)

- 1. What is the difference between data and interpretations? In what aspects of science is it especially important to separate the two?
- 2. Why did some scientists report that a bird fossil, to which the tail of a dinosaur had been attached, was an evolutionary intermediate between dinosaurs and birds?
- 3. Because of its success, scientists tend to feel that science is self sufficient. What are the consequences of such an attitude?
- 4. What are the implications of the fact that 4 out of 10 scientists in the United States believe in a God that answers prayers, while God is virtually absent in scientific textbooks and journals?

REVIEW QUESTIONS – 2

- 5. Should science be open to all ideas including the concept that God exists?
- 6. Seven lines of scientific evidence pointing to God were summarized above. They are: organization of matter, forces of physics, origin of life, origin of complex organs, lack of time, fossil record, and our minds. Explain how each one of these points to the necessity for God.
- 7. What simple conclusion about the relation of science to God can be deduced from the fact that the pioneers of modern science, such as Kepler, Boyle, Newton, Pascal and Linné often referred to God in their interpretations of nature?
- 8. In the context of the broad approach science generally takes, what is so paradoxical about science's exclusion of God?

1. What is the difference between data and interpretations? In what aspects of science is it especially important to separate the two?

Data is what one observes; it is the facts that we deal with. Interpretation is the explanation for what we observe. In those aspects of science that deal with past unrepeatable and unobservable events it is especially important to separate data (facts) from interpretations.

2. Why did some scientists report that a bird fossil, to which the tail of a dinosaur had been attached, was an evolutionary intermediate between dinosaurs and birds?

Because they were convinced that the paradigm of evolution is true. Likely they were also especially interested in supporting the idea that birds evolved from dinosaurs. This helped them overlook the facts that indicated that the fossil was a fake.

3. Because of its success, scientists tend to feel that science is self sufficient. What are the consequences of such an attitude?

Science now tries to answer all questions within its materialistic outlook. This causes it to ignore aspects of reality beyond materialistic (mechanistic) concerns like free will, religion, beauty, God, etc. This narrow outlook can lead to error because it is too restricted for determining all truth.

4. What are the implications of the fact that 4 out of 10 scientists in the United States believe in a God that answers prayers, while God is virtually absent in scientific textbooks and journals?

There seems to be a strong secular ethos in the practice of science. When questions about God might be raised, God is not mentioned. This strong secularism is not representative of the beliefs of the scientific community as a whole, many of whom believe in God.

5. Should science be open to all ideas including the concept that God exists?

If science is searching for truth it should be willing to test all ideas including the existence of God. What if God exists? To arbitrarily exclude God can introduce some serious biases especially in those areas such as evolution and deep questions about origins that bring into focus the question about God's existence.

6. Seven lines of scientific evidence pointing to God were summarized above. They are: organization of matter, forces of physics, origin of life, origin of complex organs, lack of time, fossil record, and our minds. Explain how each one of these points to the necessity for God.

For the explanations, just look a few slides up in the section titled "The Scientific Evidence for God."

7. What simple conclusion about the relation of science to God can be deduced from the fact that the pioneers of modern science, such as Kepler, Boyle, Newton, Pascal and Linnaeus often referred to God in their interpretations of nature?

You can do very good science when you include a God who is active in nature in your interpretations of nature. God created the laws of nature that make science possible.

8. In the context of the broad approach science generally takes, what is so paradoxical about science's exclusion of God?

As presently practiced, science is willing to speculate about really wild ideas, such as all kinds of universes and evolutionary intermediates that don't exist; but when it comes to God, He is not allowed in the picture. This suggests a bias against God.

ADDITIONAL REFERENCES

For further discussions by the author (Ariel A. Roth) and many additional references, see the author's books titled:

- 1. ORIGINS: LINKING SCIENCE AND SCRIPTURE. Hagerstown, MD. Review and Herald Publishing Association.
- 2. SCIENCE DISCOVERS GOD: Seven Convincing Lines of Evidence for His Existence. Hagerstown, MD. Autumn House Publishing, an imprint of Review and Herald Publishing Association.
- Additional information is available on the author's Web Page: Sciences and Scriptures. www.sciencesandscriptures.com. Also see many articles published by the author and others in the journal ORIGINS which the author edited for 23 years. For access see the Web Page of the Geoscience Research Institute www.grisda.org.

Highly Recommended URLs are:

Earth History Research Center http://origins.swau.edu

Theological Crossroads www.theox.org

Sean Pitman www.detectingdesign.com

Scientific Theology www.scientifictheology.com

Geoscience Research Institute www.grisda.org

Sciences and Scriptures www.sciencesandscriptures.com

Other Web Pages providing a variety of related answers are: Creation-Evolution Headlines, Creation Ministries International, Institute for Creation Research, and Answers in Genesis.

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