Perspective Digest

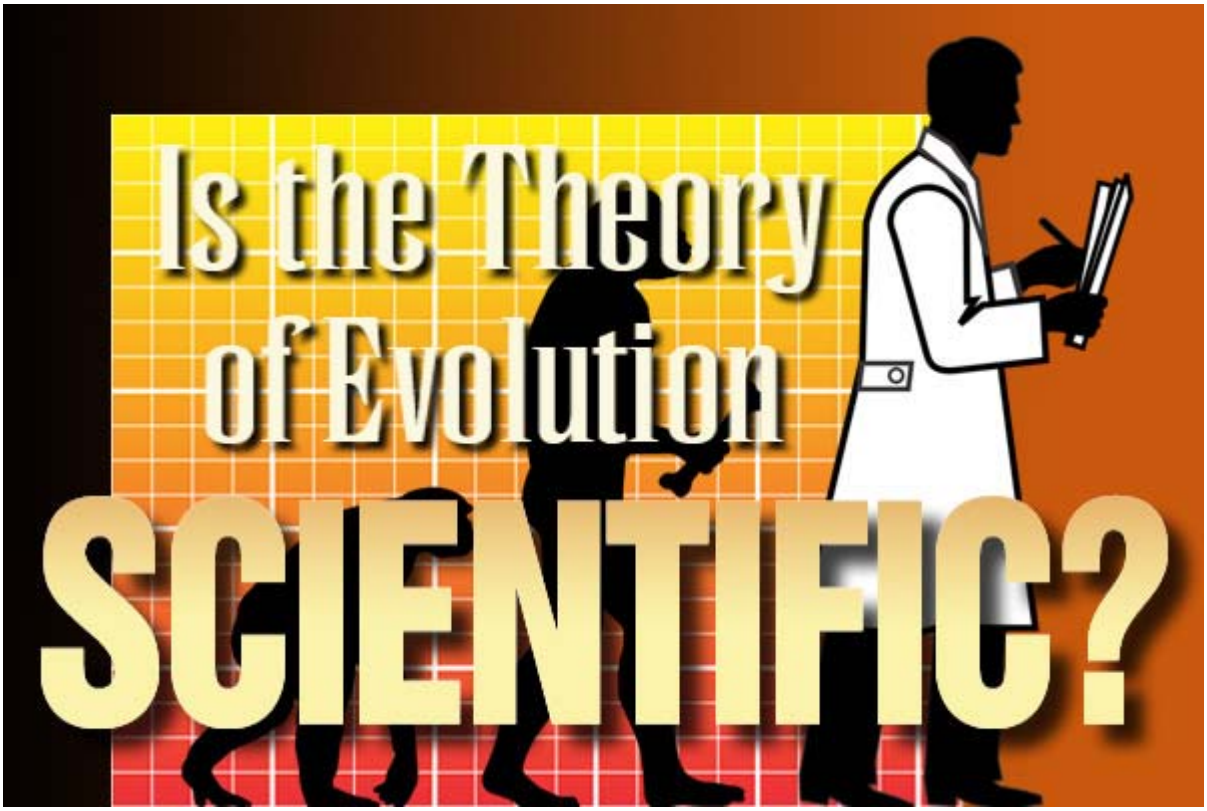
Volume 16
Issue 4 *Fall*

Article 2

2011

Is the Theory of Evolution Scientific?

Leonard Brand
Loma Linda University



Even in some Christian circles, more credence is given to contemporary scientific interpretations than to God's Word.

By Leonard Brand

Is the theory of evolution scientific? The search for an answer involves worldviews, data and its interpretation, as well as other issues. The easy answer is "Yes, it is scientific," but before we understand what that means, we need to ask what makes any theory scientific.

Science and Religion

Science is a process of searching for answers. An idea may be labeled scientific if it can be studied using the scientific method. If we have an idea and would like to know if it is a good one, several approaches can help us decide if it is correct. First,

we can use our own reasoning ability to decide whether we believe the idea to be true. We can also ask God to tell us if it is true. This approach, asking God or looking for an answer in the Bible, is religion. Finally, we can think of observations or experiments that may help determine whether the idea is correct. This approach is science. Let's compare these three approaches.

If we just think about it, how do we know our conclusion is correct? We need to compare our thoughts against some kind of standard. If we have no such standard, our thinking is just a wild guess. If we wonder how many teeth a horse has, will it be more helpful to think about how many teeth a horse should have, or to open a horse's mouth and count them?

We could ask God or search the Bible for the answer to the question about the number of a horse's teeth. The problem is that the Bible was not given us to answer questions such as this—questions that we can easily answer for ourselves and that have no spiritual significance. The Bible was given to answer other kinds of questions, which we will consider shortly.

The scientific method may be described with the following sequence of events: A scientist develops an idea, called a hypothesis, and then thinks of observations and experiments that will test the hypothesis. The observations are made, the experiments are conducted, and the results may indicate the hypothesis is false, or may support it. Another possible outcome is that the answer will remain unclear, and different observations and experiments will have to be designed to test the hypothesis better. Of one thing we can be sure: Science will not provide us with absolute proof or disproof. We may think we have proof, but it is always possible that new evidence will change the picture. Only in TV commercials does science provide proof!

I sometimes tell my science students that half of what I am teaching is untrue, that we'll have to wait for new scientific discoveries to show us which half is wrong! Some years ago the

scientific evidence indicated that there were 10 species of chipmunks in California, but new evidence showed the existence of 13 species. In molecular genetics, a concept once referred to as “the central dogma” was that each gene on our chromosomes directs the making of a single protein. New discoveries, however, have shown the process to be significantly more complicated. The list of such changes in scientific understanding is endless. Science makes many significant discoveries, but in its continual progress, it keeps showing us that things we once were sure of are actually incorrect. We just didn’t have enough evidence at the time to realize that our interpretation was not correct.

There are some ideas for which scientific study cannot offer us an answer because of their nature. They cannot be proved, no matter how much research is done. For example, when Jesus lived on earth, did He truly perform miracles? Try to devise an experiment to test that idea, and you’ll find it simply can’t be done. Jesus’ life on earth was long ago, and we were not there. Some of us are absolutely sure that He did actually perform miracles, but this belief cannot be proved with science. There is more to life and more to knowledge than just science. Science is an excellent way to discover many things, but it’s important to acknowledge the limits of what questions science can answer for us.

Evolution

Now back to our question about the theory of evolution. To give an answer that is not superficial, we need to consider the meaning of the word *evolution.* One basic definition of biological evolution is “change through time.” Animals and plants change as their genetic system allows them to adapt to different environmental conditions. There are complexities in the process that we don’t need to deal with here, but the essential part of the definition is the change that occurs in populations of organisms as

time passes.

A simple example of this is the beaks of finches on the Galapagos Islands. The climate changed over a period of several years, resulting in changes in the finches' food supply. Individual birds with beak sizes that didn't allow the food to fit well had less chance of survival, and the average size of finch beaks changed to accommodate the available food. Then, as the climate shifted back to its previous condition, the available food also changed, and the average finch beak size returned to what it was before the climate shifts.* This is an example of microevolution, change within a species, which generally occurs through mutations and natural selection.

Another example occurs all the time in places like hospitals. For decades we have been using antibiotics to kill bacteria, but a few individual bacteria remain after the antibiotic kills off all the other bacteria. The result is strains of bacteria that are immune to our treatments, and thus very hard to control. This is also microevolution. Microevolution doesn't really make any new types of animals; it just allows species of animals or plants to adapt to changing environmental conditions.

The theory of evolution includes another concept: the evolution of all life forms, through long ages of time, from a common ancestor. This part of evolution claims that toads, sparrows, worms, cabbage, palm trees, lobsters, and scientists are all the result of evolution, that they evolved through time from a common, one-celled ancestor. We will simply refer to this as descent from common ancestors.

Can either or both of these ideas about evolution be studied by the methods of science? Yes. Many scientists conduct research on microevolution, observing how creatures change as the environment changes. They use observations and experiments to test hypotheses about these changes. They are studying processes that can be observed and documented.

What about the larger changes through time, descent from common ancestors? Can this be studied with the methods of science? Yes, scientists use many types of evidence to develop and test hypotheses about evolution from common ancestors.

Both types of evolution are scientific in the sense that they can be studied with the methods of science. There is a difference, however, between them. At least parts of the microevolution process can be observed, but descent of different types of animals from common ancestors in the distant past cannot be observed. Research on common descent does make use of scientific evidence, but it is much more dependent on assumptions in order to interpret that evidence.

The most important assumption that is generally accepted by scientists claims there have never been any supernatural acts in all of history. In other words, everything in nature can be explained by the laws of nature that have been discovered. This is the assumption of naturalism, the worldview that doesn't accept the possibility of creation or intelligent design. Whenever this assumption is made, scientists will always interpret evidence according to the theory of common descent through evolution. The evidence can be interpreted in various ways, but in the naturalistic worldview, the only interpretations that will be accepted are those based on descent of all organisms from a common ancestor through evolution.

Many of us want to know more, not just if the theory of evolution can be studied with science, but whether it is true. Sometimes the term *scientific* is used in a way that implies that if something is not scientific, it is not true. Since Jesus' miracles can't be tested by science, does that mean they are not true? That is not a reasonable conclusion. Science can't show that Jesus' miracles happened; neither can it show that they didn't occur. Science simply has nothing to say about it.

What does this tell us about evolution? Can the assumption

of naturalism be tested by the methods of science? If it could, it would no longer be an assumption. The supposition that there were no supernatural acts involved in the origin of life forms (i.e., no creation) is a belief about the past. It cannot be tested by observations or experiments. For this reason, the assumption is an arbitrary philosophical choice, not a choice that rests on science.

Considerable evidence is claimed to support evolution over millions of years, but different worldviews can lead to different interpretations of the evidence. The difference is in the interpretations, and in the assumptions on which those interpretations depend. Science can provide evidence for us to think about, but cannot show us *how* to understand that evidence.

We do experience some difficulty in explaining some of the evidence in biology and geology according to a biblical view of creation; there are also many types of evidence, however, that are difficult to reconcile with the theory of millions of years of evolution. Since we were not there and don't have all the evidence, science does not have definitive answers to origins, and it is wise to seek God's answers to these questions.

To illustrate this difference in worldviews and the resulting interpretations, consider this example: Worms and scientists have the same biochemical processes occurring in the cells of their bodies. Naturalistic scientists think this indicates they evolved from the same common ancestor, but it could also mean that the same Creator designed both, using the same biochemical mechanism to maintain life in their cells. The difference between those two interpretations, evolution or creation, cannot be tested by the methods of science because they are based on assumptions about what happened in the past.

In the study of microevolution we can often open the horse's mouth and count the teeth. But when we ask if we

evolved from bacteria and worms, we are asking a question about ancient history when no scientist was there to open the horse's mouth. We can ask God for the answer, and in this case, it is a spiritually significant question that the Bible does address. The only other option to answer the question is philosophical in nature: We can think about the limited evidence we have and decide that the assumption of naturalism is correct. Is this a satisfying approach? Does God obey that assumption, or is He amazed at our naiveté?

My family name is Brand. My father asked an expert in genealogical study to trace our ancestry, and he traced our history back to some prominent families in England. The problem was that the expert had made a false assumption: the supposition that the last name had been used in a consistent form through time. What he didn't know was that grandfather Brandt, a German peasant farmer, named his first half dozen offspring "Brandt," but on the birth certificates of the last half dozen, he named them "Brand." Arriving at a correct genealogical interpretation of origins depended on knowing that the history of the name had been changed by an intelligent choice. (I assume it was intelligent, but nobody knows why he did it; and yes, there were a dozen.) Our name had not been subject to the typical laws governing the descent of family names. So it is in science; if intelligent choice or creation was involved in the origin of groups of animals and plants, science will not recognize it if the scientists investigating this idea depend on a false assumption about origins.

The Lack of Certainty

Is the theory of evolution scientific? Yes, it is scientific in the sense that it can be studied by the methods of science. Does this mean that it is *true*? Does its status as a scientific theory make it a demonstrated fact?

Many books written by scientists stoutly assert that evolution is a fact, as much so as gravity. Those claims are not realistic, however, if one accepts a proper understanding of the scientific method. Parts of evolution, especially microevolution, are well-documented and seem essentially true, although there may still be much to learn before we understand even that part correctly. This uncertainty is not unique to the study of evolution; in all of science the discovery of new phenomena keep improving upon or correcting scientific ideas.

Other parts of evolution—for example, its claims about ancient history and the origin of life forms—are in a different category. Science can study these claims and devise hypotheses, but those hypotheses can never be rigorously tested by science. We were not there, and our interpretations of the ancient past are only as good as our assumptions. The claims are not scientific, if "scientific" means that they are demonstrated to be true; however, that is not really what the term *scientific* means.

The level of confidence any one person places in the truth of evolutionary history (i.e., common descent of all organisms) directly reflects the degree of confidence they have that science is the surest way of finding truth in any topic, and/or the confidence they have in the assumption of naturalism.

Our confidence that God has spoken to us in His Word, the Bible, and has given a true history of life on earth is the basis of our Christian worldview. Thus, for many of us, the Word of God is a more reliable guide to understanding ancient history. God was there when life was created; we were not. In the case of origins, He "counted the horse's teeth and reported the answer." The Bible does address the topic of origins because it is important for us to know where we came from, why we are here, and where we are going.

The question "Do I know Jesus?" may not seem very scientific, and to some may not be considered relevant to our

decision about evolution. However, it is the most important question of all. Do we give more credence to contemporary scientific interpretations than to God's Word, or do we know Jesus well enough to have confidence in His communication to us through the Bible?

Leonard Brand, Ph.D., is Chair of the Department of Earth and Biological Sciences at Loma Linda University in Loma Linda, California.

Adapted with permission from Understanding Creation, *L. James Gibson and Humberto M. Rasi, eds. (Nampa, Idaho: Pacific Press Publishing Association, 2011).*

———————————————————————————————————————

* P. A. Grant, *Ecology and Evolution of Darwin's Finches* (Princeton, N.J.: Princeton University Press, 1999).