Faith and science: Can they coexist?

by Leonard Brand

The approach of faith and science involves different worldviews, but scholarship and integrity can help one understand the other.

Can faith and science coexist? Many would say scientists must leave all religious influences out of their scholarly pursuits, because to do otherwise would compromise the search for truth. However, I believe the God of the Bible understands the highest levels of scholarship, not just comforting inspirational themes. Even in what may seem like the most unlikely disciplines—paleontology and geology—we can benefit through insights from the Creator of the universe, insights that others ignore.[1]

Challenges to be overcome

Any attempt to integrate faith and scholarship immediately introduces a tension. Can religion bring bias into our scholarly search for truth? Yes, it can. For example, some conservative Christians believe, on the basis of what they consider is biblical teaching, that dinosaurs never existed. But numerous dinosaur skeletons have been found. One suggested solution is to leave the Bible out of our scholarly pursuits, so religious biases will not trouble us, and we can be more objective.

But such a solution is shallow, as an episode in the history of geology illustrates. For more than a hundred years, the pioneering geologist Lyell's work was considered authoritative in the field of geology.[2] Lyell rejected all the catastrophist geology interpretations common in his day, and replaced them with the theory that all geological processes occurred very slowly and gradually over eons of time (gradualism). Historical analysts of Lyell's work, however, have concluded that the catastrophists were the more unbiased scientists, and Lyell imposed a culturally derived theory upon the data.[3] Gould and others do not agree with the biblical views of some of the early geologists; but they have concluded that Lyell's colleagues were more careful observers than Lyell, and their catastrophist views were realistic *interpretations* of the data. Lyell's strictly gradualistic theory was bad for geology because it closed geologists' minds to any interpretations that suggested rapid, catastrophic geologic processes.[4] So said Gould and Valentine. These authors still prefer to explain geology in a scenario of millions of years, but they recognize the evidence that many sedimentary deposits were catastrophic in nature. Now that Lyell's serious bias has been recognized and at least partially abandoned, the minds of geologists have been opened to recognize evidence for catastrophic processes. That evidence was there in the rocks before, but was not recognized because of Lyell's bias.

This episode reveals that bias is not limited to religion. It's a problem that we all have to contend with, no matter what worldview we adopt. The idea that religion introduces biases, but scholarship that leaves religion aside is objective, is naive. We do read our pet ideas into the Bible, between the lines, and misunderstand how to relate Scripture to nature. But those who do not take Scripture seriously have their own problems with other biases, and these are as significant as the biases that can result from religion.

The study of geology and paleontology is usually dependent on the assumption that life has evolved over millions

of years, and did not involve any divine intervention. This naturalistic worldview can introduce extremely pervasive biases into scientific inquiry. Nevertheless, the nervousness of many Christian thought leaders about seeking an integration between science and religion cannot be lightly brushed aside. But there are answers to their concerns,[5] and this article will focus on part of the answer.

Approaches to the relationship between faith and science

One common approach is to keep science and faith separate.[6] This method works fine in many disciplines that deal with issues on which Scripture may not say anything. However, in the study of Earth history, the Bible and conventional science say different things, and we need a method that can deal with this conflict. My solution is to know God as a personal friend, learn to trust His Word, and use it to assist us in our scholarly thinking. Meanwhile, our interaction with other scholars with varied views can help us avoid simplistic attempts to relate Scripture to the natural world. There are many creationists who write books or pamphlets on evolution or geology that are clearly an embarrassment even to conservative Christians informed on these subjects. Perhaps the problem isn't their use of biblical concepts, but a lack of scientific knowledge combined with a lack of peer review of their ideas.

This leads us to an approach that has been tried and proven, using the following steps:

- Actively search for and utilize insights from Scripture pertinent to your discipline.
- Be aware of the work and thinking of those who have a different worldview.
- Whenever feasible, submit your work for publication and peer review.
- Be friendly with those who hold a different worldview, and perhaps even do collaborative work with them. This requires the confidence and independence of thought to not accept whatever one's collaborators think, while maintaining a constructive dialogue that can reduce the likelihood of superficial thinking.

Examples of published research based on the above approach

1. **Grand Canyon geology.** Geologists have interpreted the Cambrian Tapeats Sandstone, near the bottom of the Grand Canyon, as an accumulation of sand in shallow water along an ancient ocean shore, with the water level and sand deposit gradually rising along an existing cliff face over eons of time. Dr. Arthur Chadwick, Dr. Elaine Kennedy, and their collaborators found a geological deposit that clearly challenges that interpretation of the Tapeats Sandstone.[7] Their evidence indicates accumulation of the sand in deep water by processes very different from those that would occur in shallow water (these deep water processes possibly were also much more rapid, but that is another issue). They presented their data and conclusions at a professional meeting of geologists, including some who had done much of the previous research on that formation, who concluded that Chadwick's and Kennedy's conclusions were correct. One geologist asked Dr. Chadwick afterwards what led him to see these things that other geologists had missed? The answer was that their worldview prompted them to ask questions that others were not asking, to question conclusions that others take for granted, and it opened their eyes to see things likely to be overlooked by a geologist working within a conventional naturalistic scientific theory. The questions a scholar asks have a strong controlling influence on what features of rocks or fossils will catch their attention, and what data they will collect.

A careful scientist who allows Bible history to inform his or her science will not use a different scientific method from the method used by other scientists. When scientists are at a rock outcrop, they all use the same scientific method. The types of data potentially available to them are the same, and they use the same scientific instruments and logical processes to analyze data. The differences are in (1) the questions that Christians tend to ask, (2) the range of hypotheses we are willing to consider, and (3) which of the potential types of data are likely to catch our attention.

Just because we start from what we believe to be a more correct beginning point (like Scriptural insight), that does not guarantee that the hypotheses we develop will be correct (Scripture doesn't give that much detail). It just initiates a search in a more productive direction, and if we have reason to trust divine insights, it will help us to improve our progress in some areas of science by opening our eyes to things we would otherwise be less likely to see.

2. **Fossil whales of the Miocene/Pliocene Pisco Formation of Peru.** The Pisco Formation in Peru contains numerous fossil whales in a diatomite deposit. Microscopic diatoms are organisms that float near the surface of lakes and oceans. Upon death, their silica skeletons sink, and in modern oceans they form accumulations of diatomite a few centimeters thick in a thousand years. Most scientists assume that ancient (fossil) diatomite deposits formed at the same slow rate, a few centimeters per thousand years.

Geologists and paleontologists who had published on the geology and the fossils of the Pisco Formation apparently did not ask how it can be that sediment accumulating at the slow rate of a few centimeters per thousand years can contain complete, well-preserved whales, which would seem to require rapid burial for their preservation. This was another case in which our Christian worldview

opened our eyes to see things that others have not noticed—the incongruity of the well-preserved whales as opposed to the presumed slow rate of diatom accumulation.

Our research there during the last three summers, with my graduate student Raul Esperante and other Earth scientists, has accumulated evidence pointing to rapid burial of the whale carcasses, probably within a few weeks or months (a few years at an extreme maximum) for any given whale, and suggests how ancient diatomites may have formed much more rapidly.

Our research results and conclusions were presented at annual meetings of the Geological Society of America,[8] and in an initial published paper.[9] More papers will be submitted. The best scientists in the field have opportunity to evaluate our work, and will be eager to point out our mistakes. That is a powerful incentive to keep us from being careless.

In this research (and other paleontological research not described here,)[10] I have spent time in the field with geologists or paleontologists who are not Christians and who have a worldview completely different from mine. I have found that there is value in working with someone from a different point of view. I have discovered things that they would probably never even consider, and they notice things that I would likely overlook. This helps us to avoid simplistic answers as we seek to understand geological history.

Integrating faith and science

Scientists get their ideas in many different ways[11] and no matter where their ideas come from (even from the Bible), those ideas and hypotheses are valid science if they can be tested against data. Science, of course, has nothing to contribute to evaluating much of the content of Scripture. Whether Jesus actually changed water to wine, or bodily raised Lazarus from the dead is beyond scientific scrutiny. What experiment would you do to test those biblical miracles? On the other hand, when a biblical worldview can suggest testable hypotheses, these are valid contributions to science.

Actively attempting to integrate faith and science can help us find a balance between opposing concerns. For example, our biblical insights helped us to ask the right questions, and find that at least some geological deposits were formed quite rapidly. At the same time our scientific research seems to indicate that the common non-biblical assumption of no geological activity on Earth between Creation week and the Flood does not seem to be correct. The geological column may not have formed entirely in the Genesis flood, but may have accumulated over a period of time before, during, and after the Flood.

Religion can introduce biases into our science, but so can any other approach. If we make a conscious effort to integrate faith and science, or faith and our other disciplines, the effort can open our minds to new insights. The reverse of this is also true: if we *do not* seek to integrate science and faith, it is unlikely that we will adequately understand the areas where science and religion seem to be in conflict. If we do not put forth serious effort to challenge conventional thinking and develop a positive synthesis of science and faith, we are likely to accept conventional thinking without knowing whether or not it is based on a solid foundation.

Leonard Brand (Ph.D.,Cornell University) is professor of biology and paleontology at Loma Linda University, Loma Linda, California, U.S.A. E-mail: lbrand@univ.llu.edu

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