

Are the Bible and Science in Conflict?

n discussions of science and faith, one often gets the impression that either science or Scripture can be believed—not both. In the secular world, science is by default seen as the true source of knowledge. The Bible, if considered at all, is seen as useful only as a source of spiritual insight—as long as it presents no conflict to the current scientific consensus. This article will examine the question: Are the Bible and science in conflict? Then we will explore how a believer who is also a scientist can relate to the issue.1

Before proceeding, let us define what is meant by science in this article. In using this term, I refer to a systematic process that attempts to explain phenomena in terms of the physical mechanisms that cause them. Other definitions are possible, but this definition will suffice for our purposes. In a similar vein, a miracle is an event that cannot be explained solely by naturalistic scientific means.

Experimental and Historical Sciences

In discussing science and faith, it is useful to distinguish between experimental (or empirical) science on the one hand and historical science on the other. Sciences that are mainly experimental (e.g., chemistry, physics, anatomy, ecology) involve the manipulation of physical conditions in order to isolate and identify causal factors that will explain an event. Those sciences that are mainly historical (e.g., archaeology, paleontology) study the results of some past event and attempt to explain what occurred in order to produce the observed evidence.

Most sciences include both empirical and historical aspects. However, only the empirical aspects are open for experimentation—the historical parts are not. Normally, there is no conflict between Scripture and experimental

science. Difficulties arise when attempting to understand historical events for which the Bible provides a supernatural explanation, while science assumes a naturalistic explanation.

Different Types of Bible Passages

Before considering further the ways in which science and Scripture seem difficult to reconcile, let us note that there are many areas where we find no conflict. For example, although the Bible is not primarily a science text, it nevertheless describes many phenomena of a scientific nature. Various Bible authors mention mammals, birds, and plants. Aspects of anatomy, physiology, and behavior—plant, animal, and human—are mentioned by Bible authors. The Bible describes the creation of life forms, implying that God designed and fabricated the living systems available for us to study today. Science today confirms the appearance of design at all levels of complexity, al-

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though considerable disagreement exists over the cause of the design.

Some passages in the Bible were written in symbolic terms or using figures of speech. Thus, one might mistakenly interpret an expression as literal when it is, in fact, figurative. For example, Habakkuk 3:3 says that God came from Teman.² Perhaps some people would conclude from that text that God lives in Teman, but most of us consider this to be a figure of speech. Here, God is represented as coming from the south, or Sinai, where the Ten Commandments were given. Other passages may be poetic, illustrative, or expressions of common understanding not written to convey scientific explanations.

On the other hand, there are many portions of Scripture that are clearly intended as historical narrative. These include passages such as Genesis 1-11; the Gospel accounts of Jesus' miracles; and of His virgin birth, death, and resurrection. The clearly expository prose does not support attempts to "spiritualize" them or otherwise categorize them as allegorical or poetic.

Some Christians interpret Genesis 1-11 and miraculous events in Scripture as figurative and/or poetic, not to be understood literally. Many of these Christians assume that the authors of these parts of the Bible described their own understanding of the events or recorded the traditions that were handed down to them. These authors were not sophisticated enough to understand that the events didn't really happen in the way they described them—and presumably God did not try to correct the misunderstanding. This low view of biblical inspiration seems to undermine belief that "All Scripture is given by inspiration of God, and is profitable for doctrine, for reproof, for correction, for instruction in righteousness" (2 Timothy 3:16, NKJV). It also appears to destroy faith in Jesus and the apostles since their references to Genesis indicate that they believed the events really happened.

Natural and Supernatural Explanations

We are able to offer two possible explanations of phenomena (or events): natural or supernatural. The two explanatory systems may be in conflict or may complement each other. As the Bible primarily describes God's activities in the course of human history, it almost always proffers supernatural explanations. As mentioned above, explanations of past events are inherently not directly testable by scientific methods. For a given phenomenon that the Bible describes as supernatural, a materialistic (or naturalistic) scientist may give a naturalistic explanation. In some instances, both explanations may apply. In other words, God may well have used ordinary physical processes in a supernatural way to accomplish His will.

Many of the great scientists of the past were believers and saw no conflict between the Bible and science. In the 17th century, scientists were divided into two camps in regard to religion and science (or philosophy, as it was then called). Francis Bacon and Galileo Galilei belonged to the "separatist" group who felt that the book of Scripture and the book of Nature were best kept separate, while recognizing that both had the same author.3 During the past half-century, American scientist Stephen Gould has extended the idea of separation with his NOMA (nonoverlapping magisteria) proposal, which declared that science and religion occupy separate realms that do not interact.4 According to Gould, religion deals with spiritual and ethical ideas, while science deals with the real world. Accepting NOMA thus seems to necessitate rejection of Scripture as the inspired Word of God. The other group of 17th-century scientists, the pansophists, viewed science and Scripture as being ultimately in harmony.

Thus, both groups arrived at a "no conflict" answer—the separatists because they compartmentalized the fields of study, and the pansophists because they saw science as reinforcing Scripture. Both groups saw God as Author of

Scripture and Creator of the world. Any apparent conflict lay in a disagreement between interpretations of the Bible and/or interpretations of science. We might take the same approach today with one additional caveat—not all of our questions will be answered. Since we are in a sinful world and have only an incomplete understanding of science and Scripture, we will not arrive at complete answers to all questions.

Areas of Conflict

Conflict is especially prominent in the study of origins, which is a historical question, not an experimental one. Those with a naturalistic worldview prefer evolutionary theory because it posits explanations in terms of purely physical mechanisms. Those with a worldview based on biblical revelation prefer creation theory because it accepts biblical accounts of supernatural activity in the creation and maintenance of the natural world. Both views cite evidence to support their position. Because that evidence is so incomplete and open to different explanation, the scientist's worldview comes to play a major role in interpretation. We will now turn to areas where conflict is very much in evidence.

One of the best known examples is found in the experience of Galileo Galilei (1564-1642), considered by many to be the father of modern observational astronomy, modern physics, and ultimately the individual most responsible for the birth of modern science.

In the late 16th century, leaders of the Roman Catholic Church endorsed the idea that the Earth was the center of the universe. While a pious believer, Galileo was nevertheless a scientist. He advocated Copernicus' idea that the Earth revolved around the Sun. Since the church considered itself the supreme authority, Galileo was deemed a heretic.⁵ In this example, it is important to note that Galileo's problem was not strictly a Bible/science conflict, but reflected a difference between religious leaders and some scientists over how to

interpret the Bible and scientific data.

In the eyes of most materialistic scientists, conflict has always existed between secular scientists and those who hold a theistic worldview. Books have been written on the topic of the socalled "war" between "science and religion."6 Unfortunately, overzealous Christians share in the responsibility for this conflict. Serious thinkers were often alienated by superstition, suppression, and coercion (associated with the dominant church), and this led to distrust of the Bible itself.

The Bible chronicles the occurrence of numerous miracles, which are almost invariably interpreted differently by the two groups. A person not persuaded of the Bible's divine inspiration (i.e., a "nonbeliever" in this discussion) concludes that the miracle did not in fact occur and that the biblical account is fallacious. The nonbeliever arrives at one of the following conclusions: (1) The

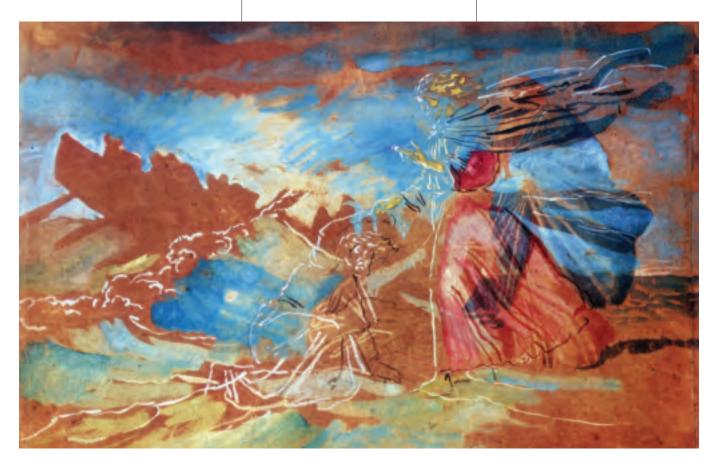
writer *thought* it happened the way he wrote it but was wrong; (2) he knew it was wrong but was trying to fool his audience; or (3) he wanted to make a point and merely told an illustrative story to do so. In any of these cases, the biblical report is regarded as unreliable, or at the least, not to be taken literally. In contrast, the person who accepts the Bible as divinely inspired (a "believer" in this discussion) accepts the miracle by faith. Because the occurrence was placed in the Bible, and the Bible is God's Word, the believer accepts that God used His power to cause the miracle.

Miracles With No Available Physical Evidence

Now we will turn our attention to miracles for which we have no physical evidence. An example included by Gospel writers is Jesus walking on the water (see Matthew 14:25-32). Skeptics might suggest that Jesus may have known the location of rocks just under

the surface so that He could walk from land to the boat, thus appearing to walk on water. Peter, not knowing the location of these rocks, lost his footing and had to be rescued. Believers may rightfully regard such explanations as strained, but since no direct physical evidence is available to us today, we cannot conduct any test. Thus, we either accept or reject the story based on our personal presuppositions.

A second example is Jairus' daughter, a young girl who died, and whom Jesus brought back to life (see Luke 8:49-56). The nonbeliever may observe that Jesus Himself declared the girl was only asleep (Matthew 9:24), and that He merely awoke her. Matthew's and Luke's reports are thus discounted as wrong. We have no direct physical evidence to know for sure whether the girl was in fact dead or not. One's response to the account will depend on one's confidence in the reliability of Scripture.



Miracles With Physical Effects Observable to Us

Miracles for which physical evidence does exist today seem to present more problematic issues. At times, it appears that scientific evidence strongly disagrees with our most careful interpretation of Scripture. These are issues that we might call "no conflict, but . . ." issues. Our belief is that the Bible and science are not in conflict. Nevertheless, they do appear to be so. To resolve these issues, evidence must be very carefully evaluated, as it can be interpreted in many different ways.

According to a believer, the origin of life on Earth is an example of a miraculous event in which the Bible and science are not in conflict. The believer sees no conflict on this issue because he or she feels that the many "life-fromchemicals" experiments that have been performed in the past 60 years have provided strong evidence that life could not have originated by natural means. All such experiments have relied heavily on the intelligence of the investigator—if life originated from these types of experiments, it could hardly be described as "spontaneous."

Because it is possible to generate organic molecules from inorganic gases in the laboratory, secular scientists have concluded that spontaneous generation of a living cell could occur. They believe that given enough time and the right conditions, life could arise by natural (random) means. Therefore, they see conflict between the results of their experiments and the assertion by Christians that God made the first living things.

The area where the "no conflict, but ..." questions are perhaps the most vexing is the amount of time required for accumulation of the fossil-bearing sediments in the Earth's crust. There seems to be a conflict between the relatively short time implied in the Bible and the long time inferred by science.

Ice cores offer another example. In places on the world's surface like Greenland, a thick layer of ice has formed. When the ice is drilled into and a core is pulled out, one sees that

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there are different layers, like rings in a tree. Some ice cores may contain 160,000 layers,⁷ the lower ones which have been identified by chemical means. Since the layers are presumably laid down one layer per year, this presents a conflict with the Bible's timetable. Of course, there are no dates in the Bible, but most conservative biblical scholars have used genealogies mentioned in the text to conclude that not much more than 10,000 years are represented by biblical history.

Many other examples can be given of conventional dating techniques that suggest the Earth is much older than 10,000 years. Many Bible-believing scientists see no conflict in old dates for rocks. God certainly could have created the rocks of the Earth many millions of years ago and then organized the Earth's crust during a more recent Creation week. However, many examples of fossils have been found in rocks dated by standard techniques as much older than 10,000 years.

Even considering these problems, we have evidence that the last chapter in age dating has not yet been written. In some cases, new scientific evidence may cast doubt on current conventional age dating. For example, soft tissue was recently

discovered inside fossil dinosaur bones thought to be about 67 million years old.8 No one has a good idea to explain how soft tissue could survive that long. Another example is the discovery of the catastrophic nature of the Yellowstone fossil forests,9 once thought to represent long ages of ordinary processes. Other evidence for rapid deposition of sediments includes the rapid underwater deposition of turbidites (geological formations that were caused by a type of underwater avalanche) and the rates of erosion of the continents, which seem to be too rapid for the supposed great age of the Earth.¹⁰

Regarding the Bible as Myth Creates More Problems

Some people solve the conflict by concluding that the biblical miracles are myths—traditional stories that serve to express a worldview. For these individuals, no conflict exists since the event didn't happen the way it was described. For example, there really wasn't a man named Daniel who spent the night in a lions' den. This is merely a story told to show that God takes care of those who believe in Him.

However, this approach undermines the inspiration of Scripture. Some people see the ages obtained by conventional dating as so strongly indicating an old Earth that they conclude a literal reading of the Bible to be absurd. Such individuals may accept the ideas of some biblical scholars who believe that parts of Genesis (chapter 1, for example) were written after other sections. If we take this view of Scripture, we might well end up denying Christ's life and ministry. The evidence against the bodily resurrection of Christ is comparable to that against a literal reading of Genesis 1.

If we are going to be consistent in our understanding of the inspiration of Scripture, we need to be ready to accept that miracles did occur and that, using conventional means, we cannot prove how they happened. Thus, the conflict remains.

Conflict May Be Unavoidable in Some Cases

For most believers, it is no surprise for there to be conflict between faith and secular science. Christian doctrines are based on faith and are supported by evidence that appeals to reason, including personal experience, documentary evidence, and eyewitness testimonies. Empirical evidence is also important but is not the only factor as it is in secular science.

When interpreting Scripture, we must always do so in humility. Are other interpretations possible that do not destroy the original meaning? We may accept alternate views if the passage allows for them while not losing sight of the event's miraculous nature. The same principle should apply to interpreting science—a humble attitude and consideration of alternative hypotheses. Maintaining this attitude can help keep conflicts between the Bible and science in perspective.

If we are consistent in our understanding of Scripture's inspiration, we must be ready to accept that miraculous events did in fact occur and that, using conventional means, we cannot prove how they happened. Thus, the potential for conflict remains—as it will as long as the world does, in its present iteration.

Conclusion

Perhaps God will someday reveal to us the kind of science He employs, the laws within which He has chosen to operate. Only then will we understand that there was no conflict after all. For the present, we must live with the tension, which for a scientist, can at times be considerable.

From the above, we can conclude that there will always be some conflict between science and the Bible. Some apparent conflicts may be resolved as science makes new discoveries, but others will only be resolved in eternity. Conflict between the Bible and science arises for several reasons, including: (1) differing philosophical understandings of the role of God in nature; (2) the difficulty of interpreting the history of the world scientifically; (3) the inability of science to explain in scientific terms what God did miraculously; and (4) the brevity and incompleteness of the biblical information about the history of nature.

All of these questions and conflicts should present opportunities for scientists and theologians to grow together in their understanding. The tragedy is that both often seem limited by and locked into their own perspective and fail to communicate in a common language.

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NOTES AND REFERENCES

- 1. For helpful suggestions on how to deal with tension, see Chapter 20, "How Can I Live Without Having All the Answers?" by Gary Burdick in *Understanding Creation* (Nampa, Idaho: Pacific Press Publ. Assn., 2011).
- 2. "God came from Teman, The Holy One from Mount Paran" (NKJV). Texts credited to NKJV are from the New King James Version Copyright © 1979, 1980, 1982, Thomas Nelson, Inc., Publishers.
- 3. F. E. Manuel, *The Religion of Isaac Newton* (London: Oxford University Press, 1973).
- 4. Stephen Jay Gould, "Nonoverlapping Magisteria," *Natural History* 106 (1997):16-22.
- 5. Maurice A. Finocchiaro, "Myth 8. That Galileo Was Imprisoned and Tortured for Advocating Copernicanism," in *Galileo Goes to Jail and Other Myths About Science and Religion*, R. L. Numbers, ed. (London: Harvard University Press, 2009), pp. 68-78.
- 6. William H. Jennings, *Storms Over Genesis: Biblical Battleground in America's Wars of Religion* (Minneapolis: Fortress Press, 2007).
- 7. T. H. Jacka, "Antarctic Ice Cores and Environmental Change," Glaciology Program, Antarctic Cooperative Research Centre and Australian Antarctic Division: http://www.chem.hope.edu/~polik/warming/iceCore/iceCore2.html. Accessed March 11, 2010.
- 8. M. H. Schweitzer, et al., "Analyses of Soft Tissue From *Tyrannosaurus Rex* Suggest the Presence of Protein," *Science* 316:5822 (2007):277-280.
- 9. H. Coffin, "The Puzzle of the Petrified Trees," *Dialogue* 4:1 (1992):11-13, 30, 31. Also available online at http://www.aiias.edu/ict/vol_08/08cc_091-095.htm#_ednref6.
- 10. Ariel Roth, *Origins: Linking Science and Scripture* (Hagerstown, Md.: Review and Herald Publ. Assn., 1998).