The Teachers' File

THE THREE CRISES: SCIENCE, HISTORY, AND PLURALITY

by Gregory R. Peterson

Abstract. Modern religions are confronted by three crises: the scientific revolution, the historical revolution, and the pluralistic revolution. The development of each of these diverse revolutions in Western intellectual history has posed serious challenges to traditional conceptions of religious authority. This paper seeks to briefly elucidate the nature of each of these revolutions and their significance for religious traditions. While the specific challenges posed are separate, the revolutions share common traits. Additionally, it is not enough for a religious tradition to deal with only one of the crises; to proceed into the next stage of religious reflection, it must deal with them all.

Keywords: historical revolution; pluralistic revolution; scientific revolution.

There is an apocryphal story of the Muslim conquest of Alexandria. It is said that when the Muslim general Amr asked the Caliph Umar what to do with the famed library of Alexandria (which actually met its demise several centuries earlier), the reply came, "If those books contained the same doctrine with the Qur'an, they could be of no use, since the Qur'an contained all necessary truths; but if they contained anything contrary to that book, they ought to be destroyed." Either way, the books were to be burned.¹

This story, in and of itself, says nothing of Islam, which has its own rich legacy of inquiry and literature. But it can be taken as a metaphor for the situation that many religious believers find themselves in today. The Western

Gregory R. Peterson is Assistant Professor of Religion at Thiel College, Greenville, PA 16125. His e-mail address is gpeterso@thiel.edu. Material in this paper was originally presented at the Templeton Foundation Science & Religion Workshop at Chicago, June 1998. Permission is hereby granted to reproduce this article for class use, with this note: Reprinted from Zygon: Journal of Religion and Science.

religious traditions (and perhaps all religious traditions) can be said to be in a state of crisis. By this I do not mean that they are facing an imminent end or that religion, as many secular prophets have proclaimed, will soon be discarded into the trash bin of history. What I do mean is that religion is facing an intellectual crisis, and it is an intellectual crisis of authority. Like the fictional Muslim conquerors, modern religious traditions are confronted with the intellectually other, with authorities that exist outside the religious tradition. Unlike the library of Alexandria, these authorities cannot be burned, and, in all events, it would be foolish to do so. What then are religious traditions to do?

My goal here is not so much to answer as to pose questions: What is this crisis? What are these authorities? Normally, we think in terms of *the* crisis of the modern period. Thus, the emergence of science is often taken as *the* crisis posed to the existence of religion. I shall suggest, however, that there are three crises. Each has taken the form of an intellectual revolution. While sharing some features, each crisis has posed and continues to pose a separate challenge. The task is not to confront just one crisis. It is to confront all three.

THE THREE CRISES EXAMINED

The three crises are the scientific revolution, the historical revolution, and what I call the pluralistic revolution. The first two revolutions are not by any means new; both are products of the Enlightenment. The pluralistic revolution is largely a product of the twentieth century, although it too has roots in the Enlightenment period. The consequences of all three are still being worked out, not only in Western society but in non-Western societies as well. To many, the term *crisis* may seem a bit extreme. Many of us in the religion-science dialogue think that, if we have not completely worked out the problems posed by each of these revolutions, we have at least a basic understanding of the problem as well as of where the answer lies. While this may be so, I would suggest that very few of us indeed have grasped all three of these crises satisfactorily. More important, the term *crisis* seems hardly inappropriate when we turn to the world at large, where science and religion are still seen as largely in conflict, where faith communities battle with historical approaches to sacred texts, and where many faith traditions (and we can include secular traditions here) are intolerant not only of differing traditions but of differences within their own tradition.

As we shall see, these three crises are interrelated, a fact that is often overlooked. Scholars are sometimes wont to focus on a single issue and to reduce complexities to that single issue. We are tempted to see the scientific revolution as *the* crisis of the modern period. Others are apt to see history as *the* crisis. Yet others think it is pluralism. But any solution that treats only one neglects at its peril the other two. Any true solution must address all three.

Moreover, the crisis that each of these revolutions provokes is a crisis of authority. More specifically, each provokes a crisis of epistemic and ontological authority and does so in a novel way. Not only does each ask the basic questions, "What is real?" (ontology) and "How do I know that?" (epistemology), but it also forces us to ask, "Whom do I trust to answer those questions?

The Crisis of the Scientific Revolution. The most popular mode of presentation of the relation between science and religion remains the warfare model—this despite years of precise historical scholarship that has shown the weakness of many of its historical presuppositions. Both youngearth creationists and many atheists promulgate the conflict model in part because it suits their respective agendas. Even a mainstream periodical such as *Newsweek* cannot help but portray the Science and Spiritual Quest conference except in terms of bucking the history of warfare (Begley 1998).

Three decades of solid historical research have built quite a different picture. This research roots the warfare model not in the history itself but in two popular apologetic works of the nineteenth century, one by John Draper (1874) and the other by Andrew Dickson White (1896). These works sought to portray science and religion as being continually in conflict since the time of Galileo, with science ever pushing back the ignorant dogmatism of religion. It turns out that such a view of science and religion severely distorts the facts. When the historical details are taken into account, a rather different picture emerges. Not only are science and religion not at war, but they have historically often played complementary and mutually supportive roles. And when periods of conflict are examined, it is often the case that science *versus* religion is not the issue but that there are other factors at play.

The Galileo affair has received particular attention as an exemplar of what is wrong with the popular warfare model. Galileo often has been used as the example par excellence of the virtuous scientist bravely holding forth the light of truth against the dark shadows of religious intolerance. More recent research (Langford 1971, Shea 1986) shows a quite different picture. Galileo, from all accounts, was as much a churchman as his opponents. The strongest criticisms of his theory were based not on literal readings of biblical passages but on the science of Aristotle and Ptolemy. Moreover, Galileo was putting forth his theory during one of the most explosive political (as well as religious) events in Western history: the Reformation. His situation was worsened by political blunders in a politically sensitive era. If anything, the Galileo affair was not a case of religion versus science but a particular kind of theology allied with a particular kind of natural philosophy (Aristotelian) opposed to a different kind of theology allied with a different kind of natural philosophy (Copernican), mixed up with local and international politics during one of the most convulsive

periods in Western history (the Reformation). The affair was an episode that is profoundly complex and fascinating, and it does not make for easy sloganeering.

Recent research has applied this same strategy of revisionist history to the initial reception of Darwin's theory of evolution (Gregory 1986) and even to the notorious Scopes "monkey trial" (Larson 1997; Gould 1991). After considering Christian intellectuals who did not oppose evolutionary theory, the weaknesses in Darwin's theory before the discovery of modern genetics, and the mixed motives of the protagonists in the public debate, one is tempted to conclude that the "warfare" between religion and science is largely illusory. Science properly understood is not at war with religion properly understood. Science wrongly understood and religion wrongly understood are what lead to conflict.

Why then all the fuss? If science and religion are not at war, why is it that no one seems to know about it? How could such wrong thinking arise? I would suggest that those who are involved in the science-religion dialogue need to look at the reasons for conflict a bit harder, for they are potentially more complicated than they appear at first glance.

One obvious reason is that, despite the findings of the revisionist historians, history remains replete with individuals who opposed what would now be considered good science for what would now be considered religious reasons. Martin Luther opposed the Copernican theory because it appeared to contradict the Bible. Bishop Wilburforce debated T. H. Huxley not only for scientific interest but as a representative of the church as well. Early geologists and biologists drew their first scientific theories from the Bible and defended them tenaciously with little reference to theologians to back up their claims. Many modern Christians oppose evolutionary theory precisely because it contradicts a literal reading of the Genesis story. Many atheists embrace certain scientific theories for precisely the same reason. The actions of both fuel this appearance of conflict, even when they may not always represent the populace at large.

The revisionist histories, to their credit, acknowledge this (for example, Barbour 1997 gives a typically evenhanded account), and they have done a great deal to correct the record and public misconceptions. The more interesting question, however, remains. How could religion and science even appear to be in conflict? I suggest that, at base, the issue has been and remains an issue of authority. Over what domains of knowledge does a religious tradition have authority? Over what domains does science have authority? And how is that authority expressed?

In exploring this crisis of authority, the first thing we need to do is recognize that what counts as "religion" and what counts as "science" have significantly changed over time. For many medievals and many even beyond that time, it could truly be stated that all truth is religious truth, whether it comes from scripture or from philosophy. For medieval Chris-

tian theologians, a prime concern surrounding the use of Aristotle's philosophy was that Aristotle was not a Christian. How could a pagan have the truth? Such a question is utterly foreign to modern conceptions, where the truth of a scientific theory is seen as being determined in complete independence from a scientist's religious convictions. This is, in part, because the very idea of what counts as a religious conviction has changed. Conversely, the way many moderns bracket "religion" and "science" would be utterly foreign to Galileo and his peers.

Recognizing this, we can now recognize how science threatens religion. Science presents an authority external to the religious tradition. This is often where the real crux of the matter lies. It is not simply that science provides new information or new ideas. It is that these ideas come from outside the normal canons of religious authority and tradition.

Typically, the external authority of science is portrayed in terms of ontology. Most of the literature concerned with the warfare model (either pro or con) has emphasized how science has produced a new ontology that appears to be at variance with the prior claims of the religious tradition. Galileo removed the Earth from the center of the universe, and Darwin removed human beings from the center of creation. In each case, the arrangement and relationship of the things in the universe were altered. The Bible seems to imply that the Earth is flat and that the sun revolves around the Earth rather than the reverse. The Bible seems to imply that human-kind was created directly by God, without an evolutionary process connecting human beings to the other creatures of the universe. Because scientific theories appeared to contradict certain passages in the Bible, a crisis was declared.

This is not the real threat. Christians over the centuries have weathered, and indeed adopted, widely varying views of the nature of things and how they fit together. Although the Bible speaks of four corners of the Earth, most medieval intellectuals took this reference to be metaphorical and adhered to Ptolemaic astronomy, which assumed the Earth to be round. The real challenge is an epistemological one. Science does not simply present alternative ontologies and theories; it produces them by using its own methods and, furthermore, refuses to integrate itself into the Christian or any religious tradition. The appearance of conflict so strongly persists because science is never simply Christian science, or Jewish science, or Muslim science. As such, religious traditions find themselves in the awkward position of being able neither to absorb science nor to deny it. Rather, religious traditions are learning something new: to live with science.

The Crisis of the Historical Revolution. We all have heard of the scientific revolution. Many of us, however, would scratch our heads at the phrase "historical revolution." When did that happen?

Interestingly enough, one may trace the roots of the latter back to the same formative periods as the former. Very few of us, however, speak of a

historical revolution. One reason may be that its success has been so thorough. History is now a secular discipline, and, unlike the teaching of science, no one objects to this. There is virtually no debate about whether the history of the United States should be taught solely in terms of Manifest Destiny or whether Manifest Destiny should receive "equal time" with purely secular accounts. Supernatural agency is never invoked when a historian describes the causes of World War II.

Although history as a discipline traces its roots back to the ancient Greeks, the modern practice of history gets much of its inspiration from the period of the Enlightenment. David Hume, besides writing philosophical treatises, also wrote histories, including a history of religion ([1779] 1979). The quest for the historical Jesus is traditionally said to have started with Samuel Reimarus, a contemporary of Immanuel Kant (Schweitzer [1906] 1968). What is significant about the historical revolution is that, like the other disciplines emerging from the Enlightenment, modern history seeks to be objective and nonpartisan. In modern nomenclature, one might say that history seeks to be scientific. What is important, however, is the way that history seeks to do this. First, modern history denies appeals to the supernatural or, at the very least, circumscribes them in such a way as to make them coincident with natural causes. People may have religious experiences, and prayers may be answered; but psychological explanations are usually cited for the religious experiences, and naturalistic explanations are usually given for the answers to prayers, with some (perhaps) charitable agnosticism remaining toward ultimate causes. Second, history interprets events in terms of their own contexts. Historians ask what the Nicene Creed meant in the fourth century, not what it means for Christians today. Historians ask why the medievals, in the context of their own time, believed in the Ptolemaic theory rather than the Copernican, not why we do not subscribe to the Ptolemaic theory today.

It has taken considerable time to fully realize the impact of this shift, for it radically relativizes all claims to knowledge. For religious communities this has been most obvious. Modern historians (both Christians and others) remain agnostic or skeptical about Constantine's vision of Christ and his resultant conversion. They are quick to point out the political advantages that Constantine probably saw in making Christianity the official religion of the empire. While modern historians do not doubt the sincerity of Luther's faith, they do emphasize the political, economic, and technological factors that seem to have made the Reformation or something like it almost inevitable. This is quite different from espousing a sacred history of the Reformation, in which the movement is portrayed as a struggle between good and evil, with an emphasis on the role of ideas and the heroes of the faith.

Furthermore, in studying all the details of the past as objectively as possible, one begins to realize that the truths one thought to be held by all

members of the faith have not been held so long; some may indeed be quite recent. And even those tenets held from the dawn of the faith, one learns, have often been interpreted quite differently at different times. Virtually no modern Christian holds the same understanding of the Nicene Creed as did its original authors, in large part because the debates that produced the technical Greek vocabulary of the Creed have been forgotten. Such ideas as the meaning of the Eucharist, the proper relation between men and women, and even the very nature of God have had widely variant interpretations in the course of Christian history. Members of other faiths can easily find like instances within their own traditions.

But surely, it may be countered, we must not confuse the existence of multiple interpretations with finding the right interpretation. Jesus' saying "Render therefore to Caesar the things that are Caesar's, and to God the things that are God's" (Matthew 22:21 RSV) has for most of history been taken as justifying obedience to the government and paying taxes. Recent New Testament scholarship (Horsley 1992) suggests, however, that we fail to take the original colonial context of Judea *vis à vis* the Roman empire into account. For the first-century Palestinian Jew, Caesar made the coins, but the promised land belonged to God. A statement seen as supporting the status quo is now seen as one challenging it!

But now the insidious side of the modern historical revolution reveals itself. How do we know that our interpretation is the right one, or the one originally held? Every generation has established opinions on what were thought to be good canons of rationality and judgment. Most medieval scholars regarded the proofs for the existence of God as valid; most modern scholars do not. How can we be confident that our ideas and ours alone are immune to the sweep of history? Is not this the ultimate hubris?

Only in recent decades has the radicality of this challenge—and not only to religious history—been fully felt. It turns out that the historical crisis is not only a crisis for religion; it is also a crisis for science. The most influential philosophy of science text today remains Thomas Kuhn's *Structure of Scientific Revolutions* (1970). It remains influential precisely because it brings historical reasoning to the bulwark of certainty, the sciences, and appears to undercut the exaggerated status of the scientific disciplines. Kuhn argued that science is characterized by revolution, not evolution. Scientists of the eighteenth and nineteenth centuries had absolute faith in Newton's laws, yet these laws were replaced by Einstein's theory of relativity. How can we be sure that this theory, in turn, will not be replaced? The static model of continental formation has given way to the dynamic model of plate tectonics. These radical shifts require such reconceptualizing that the meanings of terms (gravity, species, proton) actually change under the new system.

Historicizing every epoch, including our own, makes all of our claims to truth, both scientific and theological, relative. It does so by shaking our

confidence in our own historical epoch. Ironically, this relativizing can shake our confidence in the historical analysis itself. Does Kuhn's analysis tell us about science or about the turbulent sixties, during which political ideas of revolution so broadly infected the culture that revolutionary language even spilled into scientific discourse? Taken to an extreme, the historical revolution can devour itself. Yet, at the same time, history can be a tremendous ally. Not only does it dispel modern myths regarding the relationship of science and religion; history can and should inform us of the true possibilities of relating science and religion and the diversity of ways that are possible.

The Pluralistic Revolution. I use this term to refer to an ongoing trend. Like the other two revolutions, the pluralistic revolution can be said to have its origins in roughly the same period, but for different reasons. The pluralistic revolution stems in part from our knowledge of other ways of knowing, precipitated by the great voyages of discovery, especially to the Orient. Exploration led to a long process of becoming aware of civilizations that in many ways seem as advanced and noble as our own.

Only recently, however, has the idea of taking the resources of these other traditions seriously as equals come to the fore—a result, in part, of the influence of the scientific and (especially) the historical revolutions. Both have served to undermine confidence in the absoluteness of our own religious traditions. There have also been many other forces to bear. We are far more knowledgable about other religious traditions, although this may be considered as much an effect as a cause. The West has known of Islam for quite some time without knowing anything much about it. The modern interest in non-Western religious traditions has been spurred in part by increased awareness of the fallibility of Western values, not only in the past but especially in the present. The collective experience of the misplaced brutality of colonialism, two world wars and a cold war, economic ideologies, and the Holocaust has shaken our confidence in Western modes of thought.

The mere awareness of other traditions, however, does not itself produce a pluralistic crisis, even in the face of such loss of confidence. What finally produces the crisis is the recognition that other traditions are not wholly evil but in fact have highly laudatory elements in them, and they may even be strong where ours is weak. This is the most disturbing of all possibilities: that in some real sense we could be wrong and they could be right! We are confronted with the beauty of Islam, the sublimity of Hindu philosophy, and the compassion of Buddhism. Indeed, it seems virtually inconceivable that any one tradition, in all its historical and doctrinal vastness, could be completely right or wrong.

Many of us in the academic world are so acclimated to the pluralistic revolution that the impact of these ideas is not as great as it once was,

although we are still working through them. For how are we to adjudicate these differences? One option is simply to abandon one's faith altogether in the face of one of the newly exposed traditions. This is not altogether satisfactory, however, because every tradition is subject to the same crisis. Muslims and Hindus and Buddhists must all face the same question in their encounter with the West. But if all traditions face the same problem, how do we select one? Some propose a perennial philosophy or a sort of metareligion, which would emphasize similarities between religious traditions and would assert that, in essence, all religions point to the same thing. The work of John Hick (1987) typifies this point of view. It is not altogether clear, however, that this solution truly resolves the problem, for not all agree on what the unifying precepts are (least of all the practitioners of the diverse traditions), a fact that turns the metatradition into just one more tradition alongside the others, exacerbating the problem instead of curing it.

Secular atheists sometimes use this point to confirm the futility of religious belief and claim that we should rely on science instead. This position has many problems (not least of which is the assumption that secular atheism is not itself one of these competing traditions), but the most relevant one is that science itself is not entirely immune from the problem of pluralism. Externally, science and technology have arisen predominantly in the Judeo-Christian West, but we may also speak of science and technology in Muslim and Chinese contexts. The Chinese example in particular (Needham 1982) suggests the possibility that science need not have proceeded along the path it did and that a Chinese science, if it had fully developed, might have approached the natural world in a quite different fashion. The inexplicable efficacy of acupuncture in some contexts is a reminder of this possibility.

Internally, scientists and philosophers have become increasingly aware of the plurality of science. The great confidence of logical positivists that the sciences could be unified with a single methodology and vocabulary has long since been dashed. Biologists insist on the irreducibility of biological concepts, and the information sciences have introduced a stubborn dualism between information and matter. Instead of science's slowly and steadily evolving toward the truth, science is now seen as being composed of incommensurable paradigms and competing research programs, and as linked to subjective tacit knowledge.

This point can be (and has been) overemphasized, but it is important not to underemphasize it. Science, or rather the sciences, cannot answer all of our questions. Science cannot tell us anything about the ultimate, what is the absolute truth, or unusual or unique events. The sciences tell us what is the best hypothesis (or hypotheses) given the scientific data to date. The practice of science, indeed, entails plurality. It is left to the philosophers, the theologians, and the poets to present the unity.

CONFRONTING, EMBRACING, AND MOVING ON

My primary goal has been to briefly state and illustrate the nature of the three crises. But worth developing as well is the commonality of these crises. The astute reader will observe that there are "family resemblances" between the three crises, at least in the type of questions that they pose. Indeed, all three could perhaps be subsumed into a single metacrisis: a crisis of authority. The values of the Enlightenment, with its emphasis on reason and objectivity, contributed significantly to both the scientific and historical revolutions. Although the problem of pluralism is typically seen as a postmodern issue, there is a real sense in which it too stems from the ideals of the Enlightenment and its desire to objectify, and thus know, all religious traditions. It is these Enlightenment values brought to each of these diverse areas of inquiry that give them their radical character. In recognizing science, history, and other religious traditions, any one religious tradition is acknowledging its incompleteness. That is, it recognizes, at some level, the external authority of these other traditions and ways of knowing.

Throughout its history, any religious tradition (indeed, any tradition) develops its own norms and authorities. In the Christian context these have included the Bible, creeds, church officials, and (sometimes) direct religious experience. For Muslims, the Qur'an, the Hadith, and the legal traditions regarding Shari'ah may be included. Of course, no tradition is an isolated monad. Over the centuries religious traditions have interacted with their cultures and adapted with varying degrees of ease. The aforementioned illustration of the use of Aristotle by medieval theologians may still serve as a prime example.

What is unique about the three crises that currently face religious traditions is their severity and scope. It is not simply that the sciences present an external authority. It is their amazing scope and success that make the sciences such a compelling authority. It is not simply that history presents an external authority. It is history's sweeping ability to uncover facts, even facts about one's own religious tradition, that makes it so challenging.

Equally important, we must recognize the kind of challenges to authority that these three crises present. First, they present an ontological challenge. This is most true of the sciences but also, to a lesser extent, of history and pluralism. These crises challenge our conceptions regarding the ultimate nature (being) of things. Science does this preeminently, not only by its ability to develop sophisticated models of the material world but also by its inability to achieve the same sort of sophistication in the spiritual and social worlds, tacitly challenging their ontological status. Other religious traditions challenge our ontological claims by presenting sophisticated but radically different ontological claims of their own.

But even more important than this first challenge is the second. These

three crises challenge each religious tradition's epistemological claims. Science does so by successfully applying the scientific method, challenging (either explicitly or implicitly) truths eked out by other means. The acknowledgment of history and pluralism, however, presents a rather different problem by challenging the absoluteness of any truth claim, scientific or otherwise. This is the quandary of any contemporary epistemology: to ably confront all three revolutionary challenges.

As a result, it is not enough to engage in a dialogue, whether between religion and science, or religion and history, or religion and pluralism. What is really needed is a quadralogue between religion *and* science *and* history *and* pluralism. That is a tall order, to be sure; yet it is only when religious traditions begin to take that fateful step that each of these revolutions can cease to be a crisis and can instead become part of the basis for a better understanding of the ultimates of life which religion encourages us to embrace.

Note

1. The eclipse of this story in recent literature is an interesting tale in and of itself. I first heard it as an undergraduate. When I checked to verify its origins, I could find no trace of it in recent surveys of Islam or in recent encyclopedia articles on Islam, Amr (the Muslim general who captured Alexandria), or Umar (the caliph who allegedly ordered the burning). This is understandable, because the story turns out to be a late legend, but frustrating if one is trying to track down its origins. It is fortunate that the Thiel College library still carries some rather outdated editions of the *Encyclopaedia Britannica*. From the 1875 and 1910 editions, I learned that the story was first promulgated by Abulfaragius, also known as Bar Hebraeus, a thirteenth-century monophysite Christian of Jewish descent (hence the latter name) who wrote a then-influential and often inaccurate history of the world. Interestingly enough, both editions record the story under the entry for Alexandria. In the 1875 edition the story is cited without comment. In the 1910 edition the story is described as of "doubtful authority." The story is missing altogether from current editions of the *Encyclopaedia*. There, in a nutshell, is the history of religious studies in the West. Given the Christian origins of the story, it is ironic that the library probably met its final fate during antipagan riots by Christians in 391 C. E. The quotation is taken from the 1910 edition of the *Encyclopaedia Britannica*.

REFERENCES

Barbour, Ian. 1997. Religion and Science: Historical and Contemporary Issues. San Francisco: Harper and Row.

Begley, Sharon. 1998. "Science Finds God." Newsweek, July 20, 46–51.

Draper, John. 1874. History of the Conflict between Religion and Science. New York: D. Appleton.

Gould, Stephen Jay. 1991. "William Jennings Bryan's Last Campaign." In Bully for Brontosaurus: Reflections in Natural History. New York: W. W. Norton.

Gregory, Frederick. 1986. "The Impact of Darwinian Evolution on Protestant Theology in the Nineteenth Century." In *God and Nature: Historical Essays on the Encounter between Christianity and Science*, ed. David C. Lindberg and Ronald L. Numbers. Berkeley: Univ. of California Press.

Hick, John. 1987. "The Non-Absoluteness of Christianity." In *The Myth of Christian Uniqueness: Toward a Pluralistic Theology of Religions*, ed. John Hick and Paul Knitter. Maryknoll, N.Y.: Orbis Books.

Horsley, Richard. 1992. Jesus and the Spiral of Violence: Popular Jewish Resistance in Roman Palestine. Minneapolis: Fortress Press.

- Hume, David. [1779] 1979. The Natural History of Religion. Ed. H. E. Root. Berkeley: Stanford Univ. Press.
- Kuhn, Thomas. 1970. Structure of Scientific Revolutions, 2d ed. Chicago: Univ. of Chicago Press.
- Langford, Jerome L. 1971. Galileo, Science, and the Church. Ann Arbor: Univ. of Michigan Press.
- Larson, Edward J. 1997. Summer for the Gods: The Scopes Trial and America's Continuing Debate over Science and Religion. Cambridge: Harvard Univ. Press.
- Needham, Joseph. 1982. Science in Traditional China. Cambridge: Harvard Univ. Press.
- Shea, William R. 1986. "Galileo and the Church." In God and Nature: Historical Essays on the Encounter between Christianity and Science, ed. David C. Lindberg and Ronald L. Numbers. Berkeley: Univ. of California Press.
- Schweitzer, Albert. [1906] 1968. The Quest of the Historical Jesus. A Critical Study of its Progress from Reimarus to Wrede. Trans. W. Montgomery. New York: Collier Books.
- White, Andrew Dickson. 1896. A History of the Warfare of Science with Theology. New York: D. Appleton.