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For nearly 2,500 years, some conservative members of societies have ex-
pressed concern about the activities of those who sought to find a natural-
istic explanation for natural phenomena. In 429 BCE, for example, the comic 
playwright, Aristophanes parodied Socrates as someone who studied the 
phenomena of the atmosphere, turning the awe-inspiring thunder which 
had seemed to express the wrath of Zeus into nothing but the farting of 
the clouds. Such actions, Aristophanes argued, were blasphemous and 
would undermine all tradition, law, and custom. Among early Christian 
spokespersons there were some, such as Tertullian, who also criticized 
those who sought to understand the natural world on the grounds that 
they “persist in applying their studies to a vain purpose, since they indulge 
their curiosity on natural objects, which they ought rather [direct] to their 
Creator and Governor” (Tertullian, 1896–1903, p. 133).

In the twentieth century, though a general distrust of science persisted 
among some conservative groups, the most intense opposition was re-
erved for the theory of evolution by natural selection. Typical of ex-
treme anti-evolution comments is the following opinion offered by Judge 
Braswell Dean of the Georgia Court of Appeals: “This monkey mythology 
of Darwin is the cause of permissiveness, promiscuity, pills, prophylactics, 
perversions, pregnancies, abortions, pornography, pollution, poisoning, 
and proliferation of crimes of all types” (Toumey, 1994, p. 94).

It can hardly be surprising that those committed to the study of natu-
ral phenomena responded to their denigrators in kind, accusing them of 
willful ignorance and of repressive behavior. Thus, when Galileo Galilei 
was warned against holding and teaching the Copernican system of a-
stronomy as true, he wielded his brilliantly ironic pen and threw down a
gauntlet to religious authorities in an introductory letter “To the Discerning Reader” at the Beginning of his great *Dialogue Concerning the Two Chief World Systems*:

Several years ago there was published in Rome a salutary edict which, in order to obviate the dangerous tendencies of our age, imposed a seasonable silence upon the Pythagorean [and Copernican] opinion that the earth moves. There were those who impudently asserted that this decree had its origin, not in judicious inquiry, but in passion none too well informed. Complaints were to be heard that advisors who were totally unskilled at astronomical observations ought not to clip the wings of reflective intellects by means of rash prohibitions.

Upon hearing such carping insolence, my zeal could not be contained. (Galilei, 1953, p. 5)

No contemporary discerning reader could have missed Galileo’s anger and disdain for those he considered enemies of free scientific inquiry.

Even more bitter than Galileo was Thomas Henry Huxley, often known as “Darwin’s bulldog.” In 1860, after a famous confrontation with the Anglican Bishop Samuel Wilberforce, Huxley bemoaned the persecution suffered by many natural philosophers, but then he reflected that the scientists were exacting their revenge:

Extinguished theologians lie about the cradle of every science as the strangled snakes beside that of Hercules; and history records that whenever science and orthodoxy have been fairly opposed, the latter has been forced to retire from the lists, bleeding and crushed, if not annihilated; scotched if not slain. (Moore, 1979, p. 60)

The impression left, considering these colorful complaints from both sides is that science and religion must continually be at war with one another. That view of the relation between science and religion was reinforced by Andrew Dickson White’s *A History of the Warfare of Science with Theology in Christendom*, which has seldom been out of print since it was published as a two volume work in 1896. White’s views have shaped the lay understanding of science and religion interactions for more than a century, but recent and more careful scholarship has shown that confrontational stances do not represent the views of the overwhelming majority of scientific investigators or religious figures throughout history.

One response among those who have wished to deny that conflict constitutes the most frequent relationship between science and religion is to claim that they cannot be in conflict because they address completely different human needs and therefore have nothing to do with one another. This was the position of Immanuel Kant who insisted that the world of
natural phenomena, with its dependence on deterministic causality, is fundamentally disjoint from the noumenal world of human choice and morality, which constitutes the domain of religion. Much more recently, it was the position taken by Stephen Jay Gould in *Rocks of Ages: Science and Religion in the Fullness of Life* (1999). Gould writes:

I . . . do not understand why the two enterprises should experience any conflict. Science tries to document the factual character of the natural world and to develop theories that coordinate and explain these facts. Religion, on the other hand, operates in the equally important, but utterly different realm of human purposes, meanings, and values. (Gould, 1999, p. 4)

In order to capture the disjunction between science and religion, Gould enunciates a principle of “Non-overlapping magisterial,” which he identifies as “a principle of respectful noninterference” (Gould, 1999, p. 5).

In spite of the intense desire of those who wish to isolate science and religion from one another in order to protect the autonomy of one, the other, or both, there are many reasons to believe that theirs is ultimately an impossible task. One of the central questions addressed by many religions is what is the relationship between members of the human community and the natural world. This question is a central question addressed in “Genesis,” for example. Any attempt to relate human and natural existence depends heavily on the understanding of nature that exists within a culture. So where nature is studied through scientific methods, scientific knowledge is unavoidably incorporated into religious thought. The need to understand “Genesis” in terms of the dominant understandings of nature thus gave rise to a tradition of scientifically informed commentaries on the six days of creation which constituted a major genre of Christian literature from the early days of Christianity through the Renaissance.

It is also widely understood that in relatively simple cultures—even those of early urban centers—there is a low level of cultural specialization, so economic, religious, and knowledge producing specialties are highly integrated. In Bronze Age Mesopotamia, for example, agricultural activities were governed both by knowledge of the physical conditions necessary for successful farming and by religious rituals associated with plowing, planting, irrigating, and harvesting. Thus religious practices and natural knowledge interacted in establishing the character and timing of farming activities.

Even in very complex industrial societies with high levels of specialization and division of labor, the various cultural specialties are never completely isolated from one another and they share many common values and assumptions. Given the linked nature of virtually all institutions in any culture it is the case that when either religious or scientific institutions
change substantially, those changes are likely to produce pressures for change in the other. It was probably true, for example, that the attempts of Presocratic investigators of nature, with their emphasis on uniformities in the natural world and apparent examples of events systematically directed toward particular ends, made it difficult to sustain beliefs in the old Pantheon of human-like and fundamentally capricious Olympian gods. But it is equally true that the attempts to understand nature promoted a new notion of the divine—a notion that was both monotheistic and transcendent, rather than polytheistic and immanent—and a notion that focused on both justice and intellect rather than power and passion. Thus early Greek natural philosophy undoubtedly played a role not simply in challenging, but also in transforming Greek religious sensibilities.

Transforming pressures do not always run from scientific to religious domains, moreover. During the Renaissance, there was a dramatic change among Christian intellectuals from one that focused on the contemplation of God’s works to one that focused on the responsibility of the Christian for caring for his fellow humans. The active life of service to humankind, rather than the contemplative life of reflection on God’s character and works, now became the Christian ideal for many. As a consequence of this new focus on the active life, Renaissance intellectuals turned away from the then dominant Aristotelian view of science, which saw the inability of theoretical sciences to change the world as a positive virtue. They replaced this understanding with a new view of natural knowledge, promoted in the writings of men such as Johann Andreae in Germany and Francis Bacon in England, which viewed natural knowledge as significant only because it gave humankind the ability to manipulate the world to improve the quality of life. Natural knowledge would henceforth be prized by many because it conferred power over the natural world. Modern science thus took on a distinctly utilitarian shape at least in part in response to religious changes.

Neither the conflict model nor the claim of disjunction, then, accurately reflect the often intense and frequently supportive interactions between religious institutions, practices, ideas, and attitudes on the one hand, and scientific institutions, practices, ideas, and attitudes on the other. Without denying the existence of tensions, the primary goal of the volumes of this series is to explore the vast domain of mutually supportive and/or transformative interactions between scientific institutions, practices, and knowledge and religious institutions, practices, and beliefs. A second goal is to offer the opportunity to make comparisons across space, time, and cultural configuration. The series will cover the entire globe, most major faith traditions, hunter-gatherer societies in Africa and Oceana as well as advanced industrial societies in the West, and the span of time from classical antiquity to the present. Each volume will focus on a particular
cultural tradition, a particular faith community, a particular time period, or a particular scientific domain, so that each reader can enter the fascinating story of science and religion interactions from a familiar perspective. Furthermore, each volume will include not only a substantial narrative or interpretive core, but also a set of primary documents which will allow the reader to explore relevant evidence, an extensive bibliography to lead the curious to reliable scholarship on the topic, and a chronology of events to help the reader keep track of the sequence of events involved and to relate them to major social and political occurrences.

So far I have used the words “science” and “religion” as if everyone knows and agrees about their meaning and as if they were equally appropriately applied across place and time. Neither of these assumptions is true. Science and religion are modern terms that reflect the way that we in the industrialized West organize our conceptual lives. Even in the modern West, what we mean by science and religion is likely to depend on our political orientation, our scholarly background, and the faith community that we belong to. Thus, for example, Marxists and Socialists tend to focus on the application of natural knowledge as the key element in defining science. According to the British Marxist scholar, Benjamin Farrington, “Science is the system of behavior by which man has acquired mastery of his environment. It has its origins in techniques ... in various activities by which man keeps body and soul together. Its source is experience, its aims, practical, its only test, that it works” (Farrington, 1953). Many of those who study natural knowledge in preindustrial societies are also primarily interested in knowledge as it is used and are relatively open regarding the kind of entities posited by the developers of culturally specific natural knowledge systems or “local sciences.” Thus, in his Zapotec Science: Farming and Food in the Northern Sierra of Oaxaca, Roberto González insists that Zapotec farmers ... certainly practice science, as does any society whose members engage in subsistence activities. They hypothesize, they model problems, they experiment, they measure results, and they distribute knowledge among peers and to younger generations. But they typically proceed from markedly different premises—that is, from different conceptual bases—than their counterparts in industrialized societies. (González, 2001, p. 3)

Among the “different premises” is the presumption of Zapotec scientists that unobservable spirit entities play a significant role in natural phenomena.

Those more committed to liberal pluralist society and to what anthropologists like González are inclined to identify as “cosmopolitan science,” tend to focus on science as a source of objective or disinterested knowledge,