

Higher Education as a Context for “Religion and Science”

with Thomas Aechtner, “Galileo Still Goes to Jail: Conflict Model Persistence within Introductory Anthropology Materials”; and Garrett Kenney, “Why Religion Matters and the Purposes of Higher Education: A Dialogue with Huston Smith.”

GALILEO STILL GOES TO JAIL: CONFLICT MODEL PERSISTENCE WITHIN INTRODUCTORY ANTHROPOLOGY MATERIALS

by Thomas Aechtner

Abstract. Historians have long since rejected the dubious assertions of the conflict model, with its narratives of perennial religion versus science combat. Nonetheless, this theory persists in various academic disciplines, and it is still presented to university students as the authoritative historical account of religion–science interactions. Cases of this can be identified within modern anthropology textbooks and reference materials, which often recapitulate claims once made by John W. Draper and Andrew D. White. This article examines 21st-century introductory anthropology publications, demonstrating how such works perpetuate religion–science myths and the notion that history has been replete with inevitable religion versus science warfare. In particular, this study reveals how such introductory materials propagate discord narratives associated with the Scientific Revolution and the Enlightenment. Affiliated with these anecdotes are oversimplified accounts of religious responses to heliocentrism and evolutionary theory, as well as claims that science has invariably led to the usurpation of religious belief and secularization from Galileo onwards.

Keywords: anthropology; conflict model; Charles Darwin; Galileo; pedagogical materials; reference texts; social sciences; textbooks

For scholars committed to examining the manifold interactions between science and religion, it has become somewhat banal to note that the conflict model is an outdated, academically rejected thesis. The acclaimed works of Brooke (1991) and Ferngren (2002), among others, have helped demonstrate to wide readerships how the historical associations between

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what might be called science and religion have been, if anything, quite complex. At the same time, modern bookstores and libraries now stock such texts as *Galileo Goes to Jail*, which succinctly dismantle widespread religion–science myths. As the title of Ronald N. Numbers’s edited book (2009) suggests, these pervasive legends include stories of the arch-Copernican’s torture and imprisonment at the hands of an antiscientific inquisition. Nonetheless, the conflict model’s warfare plot, articulated so deliberately and dubiously in the works of the 19th-century scholars John William Draper and Andrew Dickson White, continues to be recapitulated within popular discourse. What is more surprising, perhaps, is that contemporary postsecondary textbooks and reference materials of various disciplines still present the conflict model’s narrative as *the* historical account of religion and science interactions. Hence, the conflict model persists not merely as a popular artifact, but also as a conspicuous historical narrative in modern university-level pedagogical and reference materials. With this in mind, the current article provides a brief survey of modern introductory anthropology publications, demonstrating how such works endorse religion and science myths, while advancing a chronicle of inevitable and perennial science–religion conflict.

This essay arises out of an experience I had in 2011 while teaching at the University of Victoria, Canada, as a fellow in the Centre for Studies in Religion and Society. It was during this time that I coordinated an introductory undergraduate course in religion and science, which had at its core a diagnostic analysis of the conflict model. Due to the conflict model’s popular diffusion, I approached the course with an expectation that many students would adhere to one rendering or another of its general narrative. What was not anticipated, however, were corresponding reports from several undergraduates, who indicated that various courses at the same university were presenting the conflict model as the sole paradigm of religion–science interactions. In fact, students insisted that what I was teaching, along with the views expressed via assigned readings authored by leading historians of science, contradicted the resources and lecture content of other university curricula.¹ After investigating such claims, I found that courses teaching the conflict model were consistently affiliated with one department: Anthropology.

In consideration of this episode, this study examines how modern anthropology textbooks and reference materials address religion–science relations. To undergo this investigation works printed only within the 21st century by leading textbook and reference publishers were appraised. These presses include AltaMira, McGraw-Hill, Pearson, Routledge, Sage, and Wadsworth, which retail many of the most widely used university-level pedagogical materials employed within classrooms across the globe. Several of the publications analyzed here have undergone numerous contemporary editions, are still in use, and are designed to introduce newcomers to the field of anthropology and its associated categories. What is

particularly noteworthy about these materials is how they depict the history of science and religion. For it is in describing the Scientific Revolution and the Enlightenment, as well as religious responses to heliocentrism and Darwin's theory of evolution, that introductory anthropology texts frequently perpetuate widespread religion–science myths readily dispatched by contemporary historians of science. This includes the conflict model's central supposition that science and religion have always been, and will continue to be, bitter adversaries.

THE SCIENTIFIC REVOLUTION AND THE AGE OF ENLIGHTENMENT

The 19th-century polemicist John William Draper famously contended, “The history of Science is not a mere record of isolated discoveries; it is a narrative of the conflict of two contending powers, the expansive force of the human intellect on one side, and compression arising from traditional faith and human interests on the other” ([1875] 2009, vi). Though contemporary historians of science reject this statement as gross exaggeration, in many respects similar language peppers modern introductory anthropological materials. Such comments frequently appear as offhanded allusions to longstanding religion and science conflict, or remarks concerning fundamental science–religion irreconcilabilities that interlace discourse on other topics. For example, in *Encyclopedia of Anthropology*, edited by Birx, an article addressing religion and the environment does just that while referring to spiritual ecology. The author explains with amazement, “Likewise, spiritual ecology is conducive to such cooperative initiatives between representatives from science and religion,” even after “several centuries of antagonism” (Sponsel 2006, 2008). Though indirect, this statement contains a perceptible opinion regarding the general historical condition of religion–science relations.

Other conspicuous cases of this also occur in *21st Century Anthropology: A Reference Handbook*. An article entitled “Enlightenment and Secularism,” for instance, first explains to readers: “The Copernican revolution generally marks the advent of the scientific revolution because of the tremendous implications of heliocentrism. In replacing the earth with the sun as the center of the universe, Copernicus revolutionized humankind's understanding of science and religion” (Bonanno 2010, 465). The author then clarifies, “Indeed, the Copernican revolution marks the beginning of the disagreements between science and religion that would quickly become a persistent theme of history thereafter,” and as a result, “science-versus-religion debates have increasingly developed as a struggle between conflicting worldviews, of enlightenment versus orthodoxy” (Bonanno 2010, 465). Underscoring the point further, a subsection within the same chapter, named “The Controversy of Science Versus Religion” begins with the following unambiguous statements: “The relationship between science and religion has been uneasy throughout much of history. Revolutionary scientific developments such

as the Copernican, Newtonian, and Darwinian revolutions all significantly strained the relationship” (Bonanno 2010, 468).

It is apparent that such comments frequently occur beside references to the Scientific Revolution and the Enlightenment, which act as motifs for describing historical religion–science conflict. These periods are often narratively framed as historical stages in which humanity overcame the cultural paralysis, or medieval mediocrity, of religion, religious cosmologies, and religiously entrenched ideas. They are effectively categorized as the phases in which humanity first successfully fashioned a split between religion and science, which then led to a societal shift in the direction of secular, rational, scientific thought. Hence, the Enlightenment, notes Visnovsky, “was the age of reason, which could not eliminate faith as such, despite all its efforts; rather, it replaced the religious faith with the secular faith in reason itself” (2006, 817–18). Accordingly, it was during this era that “Enlightenment thinkers replaced the universalism of theology with the universalism of scientific conceptions” (819). Perhaps unsurprisingly, the emergence of the social sciences is included within the genealogy of this Enlightenment narrative, effectively linking the genesis of its disciplines to the historical rise of scientific rationalism over and against religion. Accordingly, in *Social and Cultural Anthropology: The Key Concepts*, Rapport and Overing provide the following chronological account:

In succeeding centuries, the humanism of the Renaissance gave on to the Enlightenment and the rise of science, with its belief in rationality, as opposed to (religious) revelation, as an adequate source of human knowledge; also on to liberalism, and a belief in the inherent dignity of individuals and their right to freedom and self-determination; and also on to social science, and its belief in the possibility and necessity of applying knowledge about human affairs and individual relations to an improvement of the socio-cultural conditions of human life. (2000, 172–73)

Notably, such treatments of the Scientific Revolution and the Enlightenment reveal no sense of the complex relationship that is thought to have existed during these periods between religion and what today one might call science. This is particularly striking, considering that even cursory glances at how contemporary historians of science approach the Enlightenment reveals a much more complicated story. It is with this in mind that Brooke insists of the Enlightenment that to “reduce the relations between science and religion to a polarity between reason and superstition is inadmissible, even for that period when it had such rhetorical force” (Brooke 1991, 18). In fact, Edelstein goes so far as to argue that the narrative describing the Enlightenment as an age of movement from religious ignorance to scientific reason is very much just that; a narrative primarily shaped and imparted to us to us by the *philosophes*:

The key contribution made by these French scholars, writing between 1680 and 1720, was less epistemological than narratological. In other words, they did not propose a new method of reasoning or advocate a new philosophical

understanding of the world. Rather, they offered a seductive account of the events and discoveries of the past century, in conjunction with a more overarching history of human civilization. (2010, 2–3)

As Edelstein goes on to say, “Calling this narrative a myth underscores its constructed and partial nature, reminding us that this story should not be mistaken for an accurate history” (116). Despite such assessments of the Enlightenment, however, introductory anthropology publications simply recapitulate the philosophes’ Enlightenment narrative *as* accurate history. “During the 18th-century Age of Enlightenment,” explains Elisa Ruhl in the *Encyclopedia of Anthropology*, “the emphasis shifted toward shedding superstitions and recognizing the human capacity for reason.” (2006, 21)

HELIOCENTRISM AND RELIGION–SCIENCE CONFLICT

While referring to the Scientific Revolution and the Enlightenment, anthropology materials frequently allude to Copernicanism, Galileo, and the Roman Catholic Church’s resistance to heliocentrism. In every case where this subject matter is mentioned, the Church is presented as an oppressor of scientific thought, which persecuted scientific pacesetters such as Galileo because of an amaurotic zeal for religious tenets. Under a subsection entitled “Religion, Science, and Intelligent Design,” in *The Tapestry of Culture: An Introduction to Cultural Anthropology*, the book’s authors identify how many “aspects of the natural world that were formerly explained by religious ideology are now explained by means of science” (Rosman, Rubel, and Weisgrau 2009, 233). The Catholic Church’s refusal to accept heliocentrism is then subsequently appealed to as representative of science’s defiant and progressive victory over moribund religious dogma. “In the seventeenth century,” summarize the textbook’s writers, “the Catholic Church insisted that the earth was at the center of the solar system, and persecuted Galileo for his scientific research, which demonstrated that Copernicus’s earlier conclusion was correct: that the sun, not the earth, was at the center of our solar system.” Moreover, this persecution occurred despite “conclusive evidence supporting this scientific view of the solar system,” and unfortunately, “it took the Catholic Church hundreds of years to officially accept the scientific explanation” (Rosman et al. 2009, 233). Consequently, in much the same cursory manner that anthropology texts deal with the Enlightenment, such materials also fail to identify the salient intricacies which helped engender Rome’s response to Copernicanism.

What such materials do imply, however, is that one of the great intellectual accomplishments of the Copernican Revolution was its displacement of humanity from the center of the cosmos. In this way, anthropology texts essentially reaffirm a popular myth associated with Galileo, once promulgated by Bertolt Brecht’s play *Leben des Galilei*. This legend proposes that the church interpreted Copernican’s astral displacement as an anti-Biblical

downgrading of both humanity and the earth's divine status. "In Europe during the Renaissance (after c. 1450 A.D.)," explain the authors of *Anthropology: A Global Perspective*, "scientific discoveries began to challenge conceptions about both the age of the Earth and humanity's relationship to the rest of the universe" (Scupin and DeCorse 2012, 46). As a result "humans could no longer view themselves and their planet as the center of the universe, which had been the traditional belief" (46). This "traditional belief" was the Church's ossified view of the universe fortified by scripture and a sort of theological literalism (45–46). Similarly, in an encyclopedia article on naturalism, Bill Cooke insists: "Since the Renaissance, naturalism has returned to the center stage of all intellectual and scientific life. Three great revolutions in naturalism have been instrumental in achieving this" (2006, 1695). The first of these three revolutions, he affirms, "was what is now called the Copernican revolution," which ceased to make it "credible to see Jerusalem, or even the entire planet Earth, as the center of the universe" (1695).

Jerusalem's appearance in Cooke's overview seems an obvious allusion to religious cosmologies, and the assumption that heliocentrism threatened the central location of humanity, the earth, and the holy city. Yet even a perfunctory reading of history of science texts addressing Galileo reveals that this was simply not the case. As Ernan McMullin has argued, the Galileo affair's volatile concern was not whether Copernicanism displaced humanity from the center of the cosmos, but *who* had the authority to interpret scripture in a post-Reformation world. "Galileo had the misfortune to bring the Copernican claims to public notice at just the wrong time," McMullin explains, "a time when sensitivities in regard to questions involving scriptural interpretation and Church authority were at their most intense" (1998, 275). In fact, he hypothesizes that had "Galileo made his case for Copernicanism a century earlier or a century later, it seems unlikely that it would have evoked the strong response it did on the part of the Roman theologians" (274). It is for this reason that he concludes: "The Galileo affair ought not then be construed, as it so often has been, as primarily a clash between rival cosmologies, with the resistance of the Church authorities to the new cosmology to be explained by their stubborn adherence to an outmoded Earth-centered cosmos" (275). Lindberg has further identified that even within the Church itself some clergy were Galileo's most vocal supporters, and in many respects the entire affair was actually an inter-scientific dispute (2003, 58).

Danielson has made analogous claims, also recognizing that in relation to the church and Copernicanism, "*anthropocentrism* is a figurative term only" that does not theologially necessitate a physically central location within the universe (2009, 51). Thus, it "is true of course that in the seventeenth century the arch-Copernican Galileo Galilei (1564–1642) met opposition from Catholic authorities in Rome," but fundamentally "their

dispute focused on matters related to biblical interpretation, educational jurisdiction, and the threat Galileo represented to the entrenched ‘scientific’ authority of Aristotle, not on any supposed Copernican depreciation of the cosmic specialness or privilege of humankind” (Danielson 2009, 52). Coinciding with such findings, historians have also pointed out that, from an Aristotelian–Catholic perspective, the center of the universe was by no means an esteemed theological locality. “If anything,” writes Danielson, “Galileo and his fellow Copernicans were *raising* the status of earth and its inhabitants within the universe” (52).

While considering heliocentrism, the Enlightenment, and the Scientific Revolution, several anthropology texts also make some brief mention of Giordano Bruno. In these cases Bruno is described as a type of scientific martyr, who was condemned by the church explicitly for advocating a heliocentric model of the universe. Such reports echo White’s account of Bruno’s cruel immolation, and readers are told that this dark episode helps to demonstrate the longstanding conflict between religion and science. For instance, it is in this context that Bonanno writes of the Copernican revolution: “The notion of an infinite universe, with untold number of planets, moons, and even suns was met with disdain by religious authorities, both Catholic and Protestant” (2010, 465). In validation of this claim, he notes that the “Roman Inquisition sought to make an example of the Italian philosopher Giordano Bruno, a well-known supporter of heliocentrism who also elaborated on its precepts, by condemning him to death on the charge of heresy” (465). More sharply, in the textbook *Introducing Anthropology of Religion: Culture to the Ultimate*, Eller states the following regarding Catholicism’s early encounters with heliocentrism:

Received religious truth did not retire gracefully. The new theory was condemned by the Church, which was waging its wider war against heresy. In 1600, Giordano Bruno, a former Dominican brother who had been defrocked for his unorthodoxy in 1576, was burned at the stake for criticizing the traditional view and believing, beyond Copernicus, that the ‘heavenly bodies’ were merely distant suns with their own solar systems around them (2007, 258).

These narratives preserve White’s 19th-century rendering of Bruno, and fail to acknowledge contemporary historical analyses of the legendary friar. For instance, modern assessments of Bruno emphasize that his vicious execution did not simply result from a belief in heliocentrism, or even the acceptance of an infinite universe, but from a series of theological and philosophical heresies. In fact, scholarly consensus insists that Bruno’s astronomical notions were, at most, a minor feature of his heresy trial. Though acknowledging the complexities surrounding Bruno’s execution does not diminish its ghastliness, it does reframe and shift interpretations away from White’s crude anecdotes. Consequently, anthropology texts

neglect the intricacies affiliated with the friar's murder, which demonstrate rather more than simply a religion-versus-science clash. Likewise, anthropology materials also tend to misrepresent 19th-century religious reactions to Charles Darwin's theory of evolution by natural selection.

DARWIN AND EVOLUTIONARY THEORY

Accounts of early religious reactions to evolutionary theory, following the publication of Darwin's *Origin of Species*, feature extensively throughout introductory anthropology texts. Noticeably, these pedagogical materials only detail negative responses to the theory of natural selection, which according to Peter Metcalf in *Anthropology: The Basics*, greatly "alarmed the established churches at the time" (2005, 186). Consequently, such texts distill the milieu of 19th-century religious reactions to evolution down to a straightforward conflict between two irreconcilable perspectives. It is within this context that Bonanno maintains the "theory of evolution by means of natural selection presented a major crisis between science and religion," which added "tremendous fuel to a conflagration" of history's ongoing religion–science battle (2010, 468). In similar fashion, the authors of *The Tapestry of Culture* tell readers succinctly that following Darwin, "For a time, both religious and scientific explanations of creation competed with one another" (Rosman et al. 2009, 234). The notorious Huxley-Wilberforce debate is also cited as representative of this early evolution–religion discord. "In 1860 at the University of Oxford, England," writes Birx, "the infamous Thomas Huxley and Samuel Wilberforce confrontation exemplified the intense conflict between the new evolution paradigm in science and an outmoded static worldview in religion" (2010, 596). Further exemplifying this historical conflict between religion, evolution, and science generally, Birx also points to the Scopes Trial, noting, "In 1925 at Dayton, Tennessee, the infamous John Scopes 'Monkey Trial' had best represented this ongoing clash between science and religion over the factual theory of organic evolution" (596). Framing Birx's brief comments on evolution and religion is a clear dichotomy of two basic options: "Religious Creationism or Scientific Evolutionism" (596). Accordingly, he fails to discuss nonantievolutionist responses to biology, and simply mentions intelligent design theory as a case of religion trying to harmonize itself with contemporary science (596).

The dissension between religious belief and evolutionary theory is portrayed as relatively inescapable due to an apparent intrinsic religion–science incompatibility. Accordingly, Bonanno contends that "evolution remains an active source of debate in many societies due to the fundamental contradictions between religious interpretation and scientific investigation" (2010, 467). This is further insinuated by remarks which assume that evolution's materialistic account of nature axiomatically contravenes

religious suppositions; including the creation of the universe by any sort of designer God, the existence of a soul, or even supernatural forces. Ergo, Bonanno presumes, “Evolution and the principle of common descent demolished the scientific plausibility of creation and design for the universe” (467). Correspondingly, Lukaszek first notes that through “common descent, multiplication of species, gradualism, and natural selection, Darwin provided an explanation for diverse life forms on this planet” (2006, 228). He then insists, “The metaphysical implications are evident; the evidence for a God (designer), the soul, and afterlife are rejected in light of evidence and rational explanation” (228). In the *Companion Encyclopedia of Anthropology*, Ingold likewise remarks curtly that Darwin’s theory of human evolution “of course had no place for mind or spirit except as the output of a material organ (the brain)” (2003, 22). Employing similar rationale, Eller explains that Darwin’s theory provided “a natural mechanism by which new species could arise” (2007, 259). This triumph, along with many others, has added to religion’s disgrace in the face of scientific reason:

The one continuous insult to religion from the scientific program is that natural law seems to suffice to explain everything we see; as Richard Dawkins would say, “the universe we observe has precisely the properties we should expect if there is, at bottom, no design, no purpose, no evil and no good, nothing but blind, pitiless indifference” (1995, 133). No matter where science looks, it does not find supernatural beings or forces. Even the Catholic Church has had to abandon its resistance to evolution. (259–60)

A noteworthy facet of Eller’s assertions is not only the quote from Richard Dawkins, who he describes as “the arch-evolutionist,” but Eller’s reference to the Catholic Church (259). If anything, the Catholic Church’s historical response to evolution has been quite ambiguous. For instance, Olson notes that the majority of Catholics have “had relatively little inclination to condemn Darwinian evolutionary theory” (2006, 193). Regarding recent history, Numbers has observed that Catholic creationism has failed to garner significant support, and even when divided on the issue of evolutionary theory in the United States, Catholics have rarely favored any sort of creationist legislation (1986, 397; 2006, 349). Such reports demonstrate that Eller seems unaware of the historical interactions between Catholicism and evolution, causing him to unreasonably accentuate science–religion conflict. Similarly, descriptions of only negative 19th-century religious responses to evolution skew the record through oversimplification. While there undoubtedly were noteworthy reactions to Darwin’s theory, as it challenged important theological and scientific concepts, many religious leaders were not hostile to the theory, and responses within the scientific community were also mixed. Nonetheless, within university-level introductory anthropology texts, accounts of religion during the Darwinian revolution are articulated matter-of-factly, without an indication of the

varied reactions that occurred not only within Christendom, but also in non-Christian religions and among scientists.

SCIENCE AND SECULARIZATION

Throughout anthropology materials the articulation of science and religion conflict is often embedded within narratives of secularization, and suggestions that science itself from the Enlightenment onwards has directly led to the secularization of societies. These narratives are encapsulated in the words of Raymond Scupin, who explains to students, “Ever since the Renaissance and Enlightenment periods, Western industrial states have experienced extensive secularization, the historical decline in the influence of religion in society” (2012, 260). He then implies that this has occurred because scientists “such as Galileo and Charles Darwin developed ideas that challenged theological doctrines” (260). Bonanno also sets down an account of secularization that involves the decline of religion, along with affiliated beliefs and dogma, resulting from the contravening success of science. “The intellectual culture of skeptical inquiry that emerged during the seventeenth-century scientific revolution, and developed during the eighteenth-century Enlightenment,” outlines Bonanno, “affected nearly every field of human thought” (2010, 466–67). Consequently, “Belief in supernatural explanations diminished as humankind developed a greater understanding of the universe,” causing “more people came to accept the idea that science was the best means to understanding our world” (467). The result, he claims in an exposition on secularization, is that humankind’s “greater understanding of the natural world has affected popular belief in supernatural phenomena at an inverse relationship” (469).

Eller also describes science’s history as the considered deposition of religion, ensuing from Newton’s theories of gravity and celestial mechanics, as well as accumulated knowledge about electromagnetism and particle physics. Therefore, he concludes that the supernatural has historically been fading away, because “science does not seek nor accept supernatural explanations and so far has had no need to resort to them” (2007, 259). In fact, from the 19th-century onwards science has acted as a direct “alternative to religion for the average person” (258). To add insult to injury, modern physics has increased science’s secularizing capacity by reducing the rationality of belief in God. “Even worse,” Eller reasons, “quantum theory appeared to describe an almost incomprehensibly strange world that followed none of the rules of everyday reality. Worst of all, it is a *probabilistic* reality, not a rule-ordered one at all—not the kind of place where a reasonable god seems at home” (259).

These narratives mirror statements made by the mid-20th-century founders of the secularization thesis. Wallace, for instance, stated

confidently in 1966 that “the evolutionary future of religion is extinction” (264). He went on to notably predict:

Belief in supernatural beings and in supernatural forces that affect nature without obeying nature’s laws will erode and become only an interesting historical memory . . . But as a cultural trait, belief in supernatural powers is doomed to die out, all over the world, as a result of the increasing adequacy and diffusion of scientific knowledge and the realization by secular faiths that supernatural belief is not necessary to the effective use of ritual. The question of whether such denouement will be good or bad for humanity is irrelevant to the prediction; the process is inevitable. (265)

Wallace granted that this forecasted development would probably not occur within a span of one hundred years. Nonetheless, in the decades after his claim scholars increasingly judged Wallace’s prediction to be rather abortive, and have questioned the actual role science is thought to play in the secularization process. As Berger has more recently acknowledged, the modern world remains “massively religious,” and it appears nothing like “the secularized world that had been predicted (whether joyfully or despondently) by so many analysts of modernity” (1999, 9). Taylor further contended that there seems to be no definitive link between science and secularization. “I’m not satisfied with this explanation of secularism: science refutes and hence crowds out religious belief,” he notes in contrast with anthropology texts (2007, 4). “I don’t see the cogency of the supposed arguments from, say, the findings of Darwin to the alleged refutations of religion” (4). It appears that secularization is quite a bit more complicated than the arithmetic logic expressed by textbook and reference materials, which suggests that the addition of science causes a societal subtraction of religion. For that reason, claims made by anthropology materials regarding science and secularization are, at the very least, readily contestable.

PROPAGATING CONFLICT

The cumulative picture of historical science–religion interactions sketched by many introductory anthropology materials is unquestionably one of conflict. Even so, it must also be acknowledged that there exist a scattering of textbooks and reference materials which provide a less combative portrait of religion and science relationships. For instance, *Anthropology: The Human Challenge* and *Anthropology* both express comparatively nuanced criticisms of the secularization thesis (Haviland 2000, 692–94; Haviland et al. 2011, 576–77). The textbooks’ authors question science’s actual role within the process, and critique the notion that religion has simply been displaced by scientific knowledge. *Discovering Anthropology*, published in 1992, also contains a small subsection examining the topic “Evolution versus Creationism.” Here Gross questions whether evolutionary theory truly conflicts with religion, and remarks: “Many scientists who base their work

on evolutionary theory are devoutly religious and accept the teachings of the Bible. Many of them feel that their scientific activities are perfectly compatible with their religious beliefs” (120). At the same time, even a few texts that generally advocate the conflict model also occasionally acknowledge some subtle recognitions of science–religion neutrality. The affiliated textbooks *Anthropology: A Global Perspective* and *Cultural Anthropology: A Global Perspective*, which have been cited previously throughout this article, contain near identical “Critical Perspective” pieces entitled “Creationism, Intelligent Design, and Evolution” (Scupin 2012, 26–27; Scupin and DeCorse 2012, 64–65). This two-page article criticizes antievolutionists, but still concedes that there exist noncombative religious reactions to evolutionary theory.

Nevertheless, it is evident that narratives of science–religion conflict persist within many contemporary anthropological texts. As this study reveals, these include allegations that religion and science have remained foes since the Scientific Revolution and Enlightenment periods; typified by the Roman Catholic Church’s assault on heliocentrism and 19th-century religious responses to evolutionary theory. Readers are told that such occurrences result from fundamental science–religion irreconcilabilities, which have led to the usurpation of religious belief, as well as secularization from Galileo onwards. It is, therefore, a rather sobering insight to learn that religion–science myths continue to be disseminated not merely in popular discourse, but also by way of introductory anthropology materials utilized on modern university campuses around the world.

By identifying this trend the current analysis prompts several connected questions, including the following:

1. What impact are introductory anthropology materials actually having on student perceptions of science–religion interactions?
2. Do the introductory materials employed by different social science branches, as well as other academic disciplines, also propagate conflict model frameworks?
3. To what degree is the data reported here indicative of how religion and science relations are generally perceived within the field of anthropology itself?
4. From what particular sources are the authors of these texts deriving conflict-oriented science and religion notions?

Though providing comprehensive answers to these queries necessitates additional research, a preliminary examination of the last three questions offers some early insights. For instance, a survey of modern introductory sociology publications exposes how such materials also occasionally recapitulate common science–religion myths, including the idea that religion

and science have long battled each other. In the textbook *Sociology in a Changing World*, William Kornblum briefly mentions religious antievolutionism, explaining nonchalantly that there exists an “ancient tension between science and religion” (2008, 531). Likewise, Macionis discusses contemporary fundamentalist rejections of secular humanism, which he describes as “our society’s tendency to look to scientific experts rather than to God for guidance about how we should live” (2012, 458). Macionis then asserts, “There is nothing new in this tension between science and religion; it has existed for centuries” (458). He also mentions Galileo, who he claims not only “observed the stars and found that Earth orbited the sun, not the other way around,” but also “discovered some of the laws of gravity” by dropping objects from the Leaning Tower of Pisa. “For his trouble,” explains Macionis, “Galileo was challenged by the Roman Catholic Church, which had preached for centuries that Earth stood motionless at the center of the universe” (459). Moreover, “Galileo only made matters worse by responding that religious leaders had no business talking about matters of science.” He thus concludes, “As Galileo’s treatment shows, right from the start, science has had an uneasy relationship with religion” (459).

Statements resembling Macionis’s interpretation of Galileo, along with other flawed notions regarding heliocentrism and the Church, can be identified in a number of other sociology texts. “Copernicus challenged the Church’s contention that the sun revolves around the Earth, and thus that man is the center of the universe,” notes Albright, diagnosing the positional demotion of humanity as the source of the problem (2007, 3572). In the same text, Bruce (2007, 4099) explains that the Church “imprisoned Galileo for continuing to promote the Copernican view that the earth moved around the sun,” while the author of *Sociology: A Global Perspective* notes that in 1633 “powerful church inquisitors threatened to torture and kill Galileo, who had embraced Copernicus’s theory, if he did not renounce it; upon renouncing it, Galileo was imprisoned for life” (Ferrante 2011, 470). Elsewhere, Antonio claims that it was in fact the threat of “materialism as a subversive force” which moved the Church to convict Galileo (2000, 1781). Thus, while such misconstruals of famed science–religion clashes do seem to appear less frequently in sociology materials, it is evident that the persistence of conflict model narratives is not restricted merely to the field of anthropology within the social sciences.

It could be argued that these conflict narratives appear in textbooks and reference materials partly due to genre constraints and publication limitations associated with such works. That is, introductory texts require condensed accounts of historical periods, and abridged overviews of important terminology. With these obligations in place, it may simply be impractical to elaborate upon the complexities of the Enlightenment, Galileo and heliocentrism within introductory texts; resulting in rather unsophisticated generalizations of such topics as religion and science interactions.

Furthermore, due to industry conventions, these types of publications may not undergo the rigorous fact-checking and peer-review normally required of journal articles and academic monographs. Nevertheless, even with these considerations in mind, it is not particularly difficult to identify references to religion–science conflict in nonintroductory, peer-reviewed anthropology materials.

Beyond textbooks and reference materials, a relatively desultory reading of academic anthropology works also exposes conflict model preconceptions and science–religion misrepresentations. The words of the esteemed anthropologist Jack Goody in the *Journal of the Royal Anthropological Institute*, for instance, show evidence of uninvestigated assumptions regarding religion and science interactions. Hence, Goody explains that the Huxley-Wilberforce debate “represented a major public assertion of the independence of science from theology, a breach that had been in the making since Galileo and long before” (1996, 667). In like a manner, while remarking upon historical divergences between Humanism and Roman Catholicism, Leaf details the following:

In universities and in science this took the form of a conflict between authority and evidence. On the basis of evidence, Copernicus argued that the earth revolved around the sun. On the basis of authority—its own past position—the Church said the earth was the center of the universe and everything revolved around the earth. Copernicus was in Poland, out of reach of the Roman Inquisition, but Giordano Bruno accepted his theory, asserted that the stars were other suns, and made the mistake of accepting a position at the University of Padua. In 1600, he was convicted of heresy and burned alive. Galileo came under scrutiny for holding the same views in 1614. (2014, 198–99)

Others, such as Morton Klass, demonstrate fairly subtle propensities toward warfare narratives. In his *Ordered Universes: Approaches to the Anthropology of Religion*, Klass mentions ideas associated with deism, and subsequently claims, “For advancing even minimal forms of such views Michael Servetus was incinerated, Galileo was threatened with death, Spinoza was excommunicated, and Darwin was calumniated” (1995, 170). In the introduction of the edited text *Across the Boundaries of Belief: Contemporary Issues in the Anthropology of Religion*, Klass and Weisgrau discuss why anthropologists have continued to be interested in the analysis of religion. “It may be,” they offer, “that the continuing, unending anthropological interest in religion reflects the tension of European values and beliefs in conflict with those of other places and time—and maybe (perhaps even more likely) it reflects the unavoidable clash of ‘science’ and ‘belief—any belief” (Klass and Weisgrau 1999, 1). Consequently, while such references may appear rather oblique, they still exhibit outmoded conceits regarding the history of religion and science.

These findings elicit questions regarding the sources cited and directly relied upon by the authors of these materials as they communicate science–religion conflict. What articles, texts, and scholarly authorities are employed to derive the outmoded 19th-century religion and science historiographies expressed throughout anthropology publications? In most cases the answer is unclear. Of all the articles and books detailed within this study, only three anthropology pieces supply in-text citations when referring to religion and science. Two of these include the associated texts *Anthropology: A Global Perspective* and *Cultural Anthropology: A Global Perspective*. Following corresponding statements about the Renaissance, heliocentrism, and religion, both books cite John Henry’s *The Scientific Revolution and the Origins of Modern Science* (Scupin 2012, 21; Scupin and DeCorse 2012, 46). What is particularly striking about this reported source is that Henry demonstrates nuanced renderings of science–religion interactions not expressed in either anthropology textbook. For instance, Henry states the following:

There is still a lingering tendency to see science and religion as thoroughly opposed and incompatible approaches to the understanding of fundamental truths about the world. There has been conflict between these two world-views, but that is far from the whole story. Even the so-called “Galileo affair”, probably the most well-known example of scientific knowledge coming into conflict with religion, was by no means the inevitable outcome of two supposedly contradictory perspectives. (Henry 2002, 85)

He thus maintains, “far from being the inevitable outcome of a clash between scientific and religious mentalities, the condemnation of Copernicanism and of Galileo was the entirely contingent result of a number of highly specific factors” (85). In fact, “The Galileo affair should not be taken as a general indicator of relations between science and religion in the early modern period” (Henry 2002, 86). Henry further contends that, contrary to conflict model narratives, religious influences actually served as a motivator for the leading contributors of the Scientific Revolution. This demonstrates that Scupin and DeCorse seem to disregard and even contradict a fundamental message about science and religion contained so forcefully within the very pages of their cited source.

The third occurrence of in-text citations appears within Jack Eller’s book, which contains quotes from various sources as he outlines the state of turmoil characterizing historical science–religion interactions. These include not only the excerpts from Richard Dawkins detailed above, but also a quote from John Paul II, and citations from Clifford Geertz’s *The Interpretation of Cultures* (Eller 2007, 258–60). Eller, nevertheless, fails to provide any scholarly support for his portrayals of Bruno, Galileo, and Rome’s response to heliocentrism. Consequently, as with other introductory anthropology texts that also do not offer direct citations, Eller’s book

lacks a discernible academic basis for the conflict model notions expressed therein. The same holds true for the sociology materials and nonintroductory works identified here.

Also, for the most part, the bibliographies of these publications do not reveal an inventory of proconflict sources. Most notably, and in addition to a selection of Dawkins's works, Eller's reference list includes Thomas Huxley's *Science and Christian Tradition* while Bonanno catalogs *Man's Ascent to Reason*, a book that cleaves to the conflict model. Likewise, Bill Cooke's article contains suggestions for further reading, which include several books featuring naturalistic critiques of religion that do not necessarily espouse science–religion conflict narratives (2006, 1700). Aside from such references there is little to indicate what scholarly sources, if any, are used to formulate many of the science–religion conceptions identified throughout introductory anthropology materials. The corollary, it would seem, is that the views expressed by the authors of such publication are founded largely upon assumptions rather than academic scholarship.

It is, therefore, notable that conflict model anecdotes are not only exhibited within anthropology textbooks and reference materials, but they also subsist throughout nonintroductory publications, and do not demonstrate citable academic grounding. Additionally, similar descriptions of historical science–religion discord occur within introductory sociology texts, confirming that the promotion of the conflict model is not solely endemic to anthropology as a discipline. Cumulatively then, this study identifies an important modern avenue by which notorious science and religion myths continue to be propagated. What results is evidence that the conflict model is not merely being disseminated by popularizes of science–religion discord. Instead, it is apparent that the conflict model also persists within university-level pedagogical and reference books used to teach the uninitiated on contemporary postsecondary campuses. Hence, Galileo *still* goes to jail in anthropology introductory materials.

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NOTE

1. The primary textbook used for this course was *The Cambridge Companion to Science and Religion*, edited by Peter Harrison (2010). Additional selected readings included chapters from the following books: *Religion and Science: Historical and Contemporary Issues* (Barbour 1997); *Science and Religion: Some Historical Perspectives* (Brooke 1991); *Science and Religion: New Historical Perspectives* (Dixon, Cantor, and Pumfrey, 2010); *Science and Religion: A Historical Introduction* (Ferngren 2002); *When Science and Christianity Meet* (Lindberg 2003); and *The Creationists: From Scientific Creationism to Intelligent Design* (Numbers 2006).

REFERENCES

- Albright, Julie M. 2007. "Postmodernism." In *The Blackwell Encyclopedia of Sociology*, ed. George Ritzer, 3572–76. Malden, MA: Blackwell.
- Antonio, Robert J. 2000. "Materialism." In *Encyclopedia of Sociology*, ed. Edgar F. Borgatta and Rhonda J. V. Montgomery, 1780–86. Detroit, MI: Macmillan.
- Barbour, Ian G. 1997. *Religion and Science: Historical and Contemporary Issues*. New York: Harper Collins.
- Berger, Peter L. 1999. "The Desecularization of the World: A Global Overview." In *The Desecularization of the World: Resurgent Religion and World Politics*, ed. Peter L. Berger, 1–18. Grand Rapids, MI: William B. Eerdmans.
- Birx, H. James. 2010. "Evolution: Science, Anthropology, and Philosophy." In *21st Century Anthropology: A Reference Handbook*, ed. H. James Birx, 586–99. Los Angeles, CA: Sage.
- Bonanno, James P. 2010. "Enlightenment and Secularism." In *21st Century Anthropology: A Reference Handbook*, ed. H. James Birx, 463–72. Los Angeles, CA: Sage.
- Brooke, John Hedley. 1991. *Science and Religion: Some Historical Perspectives*. Cambridge: Cambridge University Press.
- Bruce, Steve. 2007. "Science and Religion." In *The Blackwell Encyclopedia of Sociology*, ed. George Ritzer, 4099–101. Malden, MA: Blackwell.
- Cooke, Bill. 2006. "Naturalism." In *Encyclopedia of Anthropology*, ed. H. James Birx, 1693–700. Thousand Oaks, CA: Sage.
- Danielson, Dennis R. 2009. "That Copernicanism Demoted Humans from the Center of the Cosmos." In *Galileo Goes to Jail: And Other Myths About Science and Religion*, ed. Ronald L. Numbers, 50–58. Cambridge, MA: Harvard University Press.
- Dixon, Thomas, Geoffrey Cantor, and Stephen Pumfrey, eds. 2010. *Science and Religion: New Historical Perspectives*. Cambridge: Cambridge University Press.
- Draper, John W. [1875] 2009. *History of the Conflict between Religion and Science*. Cambridge: Cambridge University Press.
- Edelstein, Dan. 2010. *The Enlightenment: A Genealogy*. Chicago, IL: University of Chicago Press.
- Eller, Jack D. 2007. *Introducing Anthropology of Religion: Culture to the Ultimate*. New York: Routledge.
- Ferngren, Gary B., ed. 2002. *Science and Religion: A Historical Introduction*. Baltimore, MD: Johns Hopkins University Press.
- Ferrante, Joan. 2011. *Sociology: A Global Perspective*, 7th ed. Belmont, CA: Wadsworth.
- Goody, Jack. 1996. "A Kernel of Doubt." *The Journal of the Royal Anthropological Institute* 2(4):667–81.
- Gross, Daniel R. 1992. *Discovering Anthropology*. Mountain View, CA: Mayfield.
- Harrison, Peter, ed. 2010. *The Cambridge Companion to Science and Religion*. Cambridge: Cambridge University Press.
- Haviland, William A. 2000. *Anthropology*, 9th ed. Fort Worth, TX: Harcourt College Publishers.
- Haviland, William A., Harland E. L. Prins, Dana Walrath, and Bunny McBride. 2011. *Anthropology: The Human Challenge*. Belmont, CA: Wadsworth.
- Henry, John. 2002. *The Scientific Revolution and the Origins of Modern Science*, 2nd. ed. New York: Palgrave.
- Ingold, Tim. 2003. "Humanity and Animality." In *Companion Encyclopedia of Anthropology*, ed. Tim Ingold, 14–32. London: Routledge.
- Klass, Morton. 1995. *Ordered Universes: Approaches to the Anthropology of Religion*. Boulder, CO: Westview Press.

- Klass, Morton, and Maxine K. Weisgrau. 1999. "Introduction." In *Across the Boundaries of Belief: Contemporary Issues in the Anthropology of Religion*, eds. Morton Klass and Maxine K. Weisgrau, 1–6. Boulder, CO: Westview Press.
- Kornblum, William. 2008. *Sociology in a Changing World*. Belmont, CA: Thomson Wadsworth.
- Leaf, Murray L. 2014. *The Anthropology of Western Religions: Ideas, Organizations, and Constituencies*. New York: Lexington Books.
- Lindberg, David C. 2003. "Galileo, the Church, and the Cosmos." In *When Science and Christianity Meet*, ed. David C. Lindberg and Ronald L. Numbers, 33–60. Chicago, IL: The University of Chicago Press.
- Lukaszek, David A. 2006. "Aquinas, Thomas (1225–1274)." In *Encyclopedia of Anthropology*, ed. H. James Bix, 228–29. Thousand Oaks, CA: Sage.
- Macionis, John J. 2012. *Sociology*. Boston, MA: Pearson.
- McMullin, Ernan. 1998. "Galileo on Science and Scripture." In *The Cambridge Companion to Galileo*, ed. Peter K. Machamer, 271–347. Cambridge: Cambridge University Press.
- Metcalf, Peter. 2005. *Anthropology: The Basics*. London: Routledge.
- Numbers, Ronald L. 1986. "The Creationists." In *God and Nature: Historical Essays on the Encounter between Christianity and Science*, ed. David C. Lindberg and Ronald L. Numbers, 391–423. Berkeley: University of California Press.
- . 2006. *The Creationists: From Scientific Creationism to Intelligent Design*, 2nd ed. Cambridge, MA: Harvard University Press.
- , ed. 2009. *Galileo Goes to Jail and Other Myths about Science and Religion*. Cambridge, MA: Harvard University Press.
- Olson, Richard G. 2006. *Science and Religion, 1450–1900: From Copernicus to Darwin*. Baltimore, MD: Johns Hopkins University Press.
- Rapport, Nigel, and Joanna Overing. 2000. *Social and Cultural Anthropology: The Key Concepts*. London: Routledge.
- Rosman, Abraham, Paula G. Rubel, and Maxine Weisgrau. 2009. *The Tapestry of Culture: An Introduction to Cultural Anthropology*, 9th ed. Lanham, MD: AltaMira.
- Ruhl, Elisa. 2006. "Aesthetic Appreciation." In *Encyclopedia of Anthropology*, ed. H. James Bix, 19–22. Thousand Oaks, CA: Sage.
- Scupin, Raymond. 2012. *Cultural Anthropology: A Global Perspective*, 8th ed. Boston, MA: Pearson.
- Scupin, Raymond, and Christopher R. DeCorse. 2012. *Anthropology: A Global Perspective*, 7th ed. Boston, MA: Pearson.
- Sponsel, Leslie E. 2006. "Religion and Environment." In *Encyclopedia of Anthropology*, ed. H. James Bix, 2006–09. Thousand Oaks, CA: Sage.
- Taylor, Charles. 2007. *A Secular Age*. Cambridge, MA: Harvard University Press.
- Visnovsky, Emil. 2006. "Enlightenment, Age of." In *Encyclopedia of Anthropology*, ed. H. James Bix, 817–20. Thousand Oaks, CA: Sage.
- Wallace, Anthony F. C. 1966. *Religion: An Anthropological View*. New York: Random House.