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Entangled Histories: Religion, Science, Modernity, and Electricity

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ABSTRACT

In this article, we question the assumption that religion and science have historically operated in conflict with each other. We examine how the modern categories of science and religion were formed and how this modern categorization reinterpreted the earlier knowledge traditions. We argue that the conflict thesis depends on a selective reading of the medieval period and offers a simple story. This simplistic narrative often presents science as progress and religion as regress. The historical analysis of the relationship between the two, however, presents a more complicated story. Religion was never uniformly inhospitable to science and science was never developed entirely outside religion, culture, and politics. Understanding their relationship requires attention to the many histories through which both came to possess their modern meanings. We, in this article, examine some of these more complicated histories. We examine the theological thought of Isaac Newton and investigate religious interpretation of *electricity*. We examine the theology of natural resources and waste to show how religion participated in the development of industrial modernity. The purpose of this article is to challenge the conflict thesis by showing that the relationship between religion and science cannot be reduced either to permanent conflict or complete harmony. We use sources from the history of Christianity, colonial encounters with non-Western religions, and the movement of knowledge across diverse traditions, to show that scientific inquiry was never produced by one civilization or through the rejection of religion alone.

Introduction

In recent times, we have been witnessing two dominant ways of understanding the relationship between religion and science. One way to describe

this relationship is to expose the conflict that some perceive inherent in the structural worldviews between the two. The other way is that of



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reconciliation or independence between them. We argue that both these theses are right and wrong at the same time. But our primary point of departure is to expose the conflict thesis as primarily a product of recent modernity. The assumption that impartial scientific inquiry requires belief to be kept outside the realm of investigation is only recent. The assumption that religion belongs only to the realm of faith, while science deals with facts that can be observed and verified, is also quite recent. Conflict thesis assumes that when both make claims about reality, conflict is unavoidable.

Contrary to the conflict thesis, reconciliation thesis is also gaining strength these days. Scholars working within this perspective do not necessarily argue that religion and science always agree. But they do question the assumption that disagreement between the two is their natural and permanent condition. Reconciliation thesis-people argue that science and religion can occupy different fields. People can accept scientific knowledge while continuing to hold religious beliefs as well. They allude to the fact that the daily lives of religious communities regularly include medical treatment, technology, and many kinds of innovations which were historically an outcome of rigorous and impartial scientific inquiry. What they allude to is that the coexistence of such paradoxical contradictions does not resolve the philosophical questions involved, but it makes the claim of an unavoidable conflict difficult to sustain.

The purpose of this article is to examine the historical construction of the conflict thesis, but we do so by exposing the material extractive outcomes of the reconciliation thesis. We argue that the separation between religion and science cannot be understood without examining modernity and colonialism. The authority that modern science claimed over other forms of knowledge is only recent. The conflict appears natural only when the modern meanings of religion and science are projected upon intellectual traditions that did not organize knowledge within modern domains.

While we do argue against conflict thesis, this does not require the reader to idealize religion. Religious institutions and thinkers have historically suppressed independent forms of inquiry and have attempted to place knowledge under theological authority. But while religious

institutions suppressed knowledge, scientific institutions were also developed out of their own exclusions and political commitments. The result of this complex history is a relationship between the two that has included cooperation as well as conflict. No single description can represent this relationship in its entirety.

The Modern Formation of Science and Religion

Peter Harrison's (2015) *The Territories of Science and Religion* provides an important historical account of the categories through which the conflict thesis became possible. He argues that science and religion, as we now understand them, are concepts of relatively recent coinage. For Harrison, historically, these intellectual traditions were not treated as two separate systems operating in competing realms. The modern separation of science and religion, that we witness in intellectual discussions today, did not emerge from a sudden realization that one was true and the other false. This division was entirely political and economic (more on the economic part later in this article). This division was also connected with changes in political authority and the organization of knowledge. Because once science and religion became separate territories, the separation began to be treated as if both had always existed in a perpetual form of conflict.

This compartmentalization has had immense influence on cultural life. People have been encouraged to adopt this compartmentalization to see the world either through the lens of modern science or modern religion. Each lens, it is assumed, can appear complete by itself. However, both provide partial accounts of a reality that cannot be exhausted by any one intellectual tradition. Ian Barbour's independence thesis offers one response to this problem of compartmentalization. According to Barbour (2007, 84), science and religion have distinct domains and can attend to their own concerns without interfering unnecessarily in the work of the other. Yet, complete independence may be difficult to maintain because scientific and religious claims sometimes cross into common questions. This convergence is not necessarily conflicting. In fact, Barbour (2007) believes in the independence thesis and challenges the assumption that every difference between religion

and science must lead to conflicts.

Harrison's (2015) account shows another interesting way of understanding the earlier transformations between science and religion. Science was used to refer to an intellectual habit, while religion referred to a moral one. Both were qualities of persons before they became systems of knowledge and belief. Under such conditions, there was little reason to speak of agreement or disagreement between science and religion as if they were two institutions facing one another (Harrison 2015, 16). It was also usually accepted that scientific inquiry can explain many features of the natural world while religion can shape moral life. However, there was no reason to proclaim that only one domain can possess access to reality.

Harrison (2015, 24) also points out the historical examples which complicate the image of the scientific thinker as someone who must reject religious life. For example, Thales sacrificed an ox after discovering his famous theorem. Whether treated as a historical event or a myth, the account shows that mathematical discovery and religious practice were not always seen as opposing acts. The idea that an authentic scientist must be an unbeliever belongs to a later construction of scientific identity.

The Invention of Rupture and the Exaggerated Claims of the Christian Right

The language of rupture is quite important to understand the rise of modern science. According to this narrative, humanity become enlightened by throwing the enchanted worlds of the past into the dustbins of history. The language of rupture makes us believe that there is no link between medieval and the modern. The medieval period becomes associated with superstition. Modernity appears as the moment in which truth finally separated itself from belief. Through this interpretation, the modern world is viewed as the true destiny of civilized humanity. The past becomes valuable only in eras where it anticipated modern and advanced developments. Knowledge that does not lead toward the modern scientific worldview is treated as failure or a mistake of the past that must be rejected.

However, such a narrative overlooks the long history through which knowledge was transferred

and expanded. Michael J. Shank shows that contemporary science was not produced in isolation from the medieval world but inherited institutions, texts and questions that had developed over centuries. The difference between modern and medieval knowledge cannot be understood as a complete break between truth and untruth. Shank (2010, 22) points out that the medieval university developed under conditions which were shaped by the Church and that many students studied natural philosophy and the mathematical sciences. Religious authority did not force all learning into theology, and the Church provided spaces in which nonreligious disciplines could be taught.

This history does not mean that the Church always welcomed inquiry. However, this institutional history of medieval learning creates a problem for the conflict thesis. If the Church intended to suppress all inquiry into nature, it failed to do so within institutions over which it possessed considerable influence. But since considerable inquiry was allowed to continue, even if of not all kinds, scientific and philosophical studies gave way to the university which became the most important medieval institution inherited by the modern world.

The point of arguing for these complex histories is to show that the history of religion and science should neither be reduced to permanent hostility nor turned into a story of complete reconciliation. Both interpretations search for one simple relationship where the historical evidence shows several. The Church could support institutions of learning while opposing particular doctrines. Religious scholars could study nature while still placing knowledge within theological limits. These tensions belonged to the intellectual world in which they lived.

The rejection of the conflict thesis has sometimes produced another exaggerated account. Some writers associated with the Christian right claim that Christianity alone gave birth to modern science. Rodney Stark presents a version of this argument when he suggests that the non-European world would have remained intellectually and materially backward without Christian civilization (Stark 2004, 233). Such an account replaces the superiority of secular modernity with the superiority of Christian modernity. It

continues to treat Europe as the central source of scientific reason and presents other civilizations as passive recipients. This reading cannot explain the movement of knowledge between civilizations or the intellectual contributions that preceded the rise of modern European science.

It is also difficult to separate claims of civilizational superiority from the history of colonialism. The British Empire described itself as a civilizing power while extracting resources from the societies it governed. Shashi Tharoor points out that India possessed a substantial share of the world economy before British rule and that this share declined greatly during the colonial period because the colony was governed for British benefit (Tharoor 2016, 23). Economic power cannot be treated as simple proof of cultural or intellectual superiority when it was also produced through extraction.

Noah J. Efron offers a more balanced account of the development of modern science. He argues that science grew through contributions made by several cultures and philosophical traditions. Greek knowledge influenced Muslim scholars, who translated, interpreted, criticized, and extended it. This knowledge later moved into European intellectual life. Natural philosophy received especially careful and creative attention in Muslim societies between the seventh and twelfth centuries (Efron 2010, 83). European scholars encountered knowledge that had already been developed through Muslim philosophy, astronomy, mathematics and other disciplines. Muslim thinkers had themselves inherited knowledge from several traditions. Greek thought had connections with older intellectual worlds that included Egypt, India, and other centers of learning.

Efron's argument that modern science emerged through exchange among cultures over several centuries challenges attempts to give one religion or civilization exclusive ownership over it (Efron 2010, 85). Scientific knowledge developed through movement. Each intellectual tradition entered a history that was already underway. This wider history also weakens the language through which science is used to rank civilizations. No society possesses reason as an inherited racial, cultural, or religious property. Traditions contribute differently according to their

institutions, political conditions and encounters with other knowledge systems.

Colonial Buddhism and the Different Traditions of Observation and Reason

The conflict thesis also shaped colonial encounters with non-Western religions. A religion could become acceptable to modernity if it was reconstructed as rational and compatible with science. Donald Lopez shows how European scholarship participated in the construction of a particular image of Buddhism. The revival of an ancient Buddhism took place through textual studies conducted in European libraries (Lopez 2011, 214). This textual Buddhism was presented as more authentic than the religious practices of Buddhist communities in Asia.

Some of the scholars defining Buddhism had little direct experience of the communities whose religion they were interpreting. They searched texts for a philosophical and rational Buddha who could be separated from local ritual and supernatural belief. The result was a Buddhism that appeared unusually compatible with modern science. According to Lopez (2011), this process reconstructed Buddhism according to modern expectations. Elements that appeared rational and psychological were emphasized. Elements that seemed mythical or ritualistic were reduced in importance.

The category of a progressive religion was therefore defined through an already established meaning of progress. A religion became progressive when it accepted the authority of modern reason and reorganized itself according to that authority. Religions refusing this reconstruction were seen as a threat to the mission of evolution and civilization. Religious traditions were praised when they resembled modern secular philosophies and condemned when they retained practices that did not fit modern expectations. Contemporary science became a measure through which cultures and religions were permitted to enter the modern world.

However, particular religious' traditions also developed practices of interpretation, medicine, and the study of nature on their own without the need to be accepted by scientific methodologies. But their purposes differed, and they did not always separate natural inquiry from moral or

religious life, which, sometimes, made things more complicated. The history of early Christianity offers one such difficult and complicated case. An example of this kind is Augustine. He treated forms of knowledge as valuable only when they served Christian purposes. Scientific and philosophical knowledge could therefore serve only by being placed under religious utility (Harrison and Lindberg 2011, 70). Such a position limited the independence of inquiry.

Another example of this complexity of relationship is how B. V. Subbarayappa describes Ayurveda as involving a combination of religious and rational medicine (Subbarayappa 2011, 198). Practitioners drew upon natural observation and spiritual understandings of the body. The history of such practices reveals an arrangement of knowledge that does not fit neatly into the modern division between scientific medicine and spiritual healing. But that things are complex. We are not romanticizing one form of knowledge over the other. The existence of several ways of knowing does not mean that all claims are equally accurate or useful but that the history of reason is wider than the history modern science tells about itself. Logic, rationality and religious belief have repeatedly occupied the same intellectual worlds.

Selective Histories of Science

The modern image of science often associates serious inquiry with unbelief. Bernard Lightman examines how unbelief became connected with the public identity of scientific reason. According to Lightman (2011, 252), influential figures such as Richard Dawkins present unbelief as an enlightened position while treating religion as an obstacle to intellectual honesty. The public authority of such figures can create the impression that scientific inquiry depends upon atheism or agnosticism. This impression does not correspond with the history of many influential scientists. Isaac Newton provides one of the clearest examples.

For Newton, natural law did not remove God from the universe. The order visible in nature led him toward the recognition of a creative deity (Lightman 2011, 252). He took theology seriously and attempted to connect natural philosophy with natural theology. His scientific work existed alongside religious commitments that formed an

important part of his understanding of nature.

Edward B. Davis challenges the familiar image of Newton as the thinker who established a self-governing clockwork universe. Newton did not accept a cold mechanical universe from which divine activity had been removed (Davis 2010, 116). His cosmology did not treat God as unnecessary after the creation of natural laws. Though the later history of science separates Newton's scientific achievements from his theology, this separation is done to make his science appear modern and his religion personal, irrelevant, or even embarrassing. Yet Newton himself did not organize his thought according to this division. His study of nature and his theological concerns belonged to the same intellectual life.

But again, we should be aware that recognizing Newton's religious commitments does not prove that modern science is inherently religious. We just want to argue that scientific achievement does not require unbelief. The history of science becomes distorted when religious commitments are removed from the lives of major thinkers because they do not fit a later image of scientific identity. The selective memory of Newton is an example of how the conflict thesis maintains itself. Scientists whose beliefs did not fit the expected narrative were presented through one part of their work. Their scientific achievements were preserved, while the theological worlds through which they interpreted those achievements were treated as irrelevant to the cause of science.

Electricity and the Theology of Waste

Another interesting case in the complex relationship between religion and science is how religion actively participated in the environmental destruction of the planet by supporting the scientific agenda of extraction. While the scientific world usually shames religion, particular religions have been proactively participating in the interpretation of new models of developmental extraction. Grainger's (2019, 167–199) study of evangelical religion in antebellum America shows how electricity became connected with theological ideas. Electricity occupied an uncertain place between the visible and invisible. It could produce material effects while remaining somewhere in the

background, difficult to observe. Interestingly, some evangelical thinkers approached it as a possible doorway toward spiritual and supernatural realities. Electricity was not sacred but it was seen to carry hidden meanings which exceeded its practical use.

Interestingly enough, early electricity in evangelical circles had a miraculous character. People thought it had the capability to restore and resurrect life. The boundaries between physics and spiritual speculation became unsettled. However, this religious enthusiasm for energy also became connected with development and the expansion of human control over nature. The spiritual interpretation of energy did not necessarily produce restraints against extraction or industrial ambition. Religious communities interpreted new discoveries and incorporated them into theological thought. This helped them make technological things meaningful within public life. Science entered religious worlds, and religion helped create the cultural environment in which scientific technologies were received (Granger 2019).

On similar line Cara New Daggett's seminal work, *The Birth of Energy* provides another example of religion's participation in industrial modernity. Dagget (2019) examines how waste was redefined during the rise of industrial capitalism through the use of a religious language that gave moral significance to the extraction of energy resources. Oil and gas could be interpreted as *gifts* provided for human use. Leaving them in the ground would be considered wasteful. In some circles, it was considered a sin. Waste was no longer confined to the meaning of a careless destruction of a resource. Waste could also mean the failure to extract and *convert nature into useful work*.

Daggett (2019, 75) argues that the religious authorities justified the use of fossil fuels by arguing that if the natural resources are left underground, they would dissipate over years without serving a human purpose. This reinterpretation of energy provided extraction a moral purpose. The use of coal became an obligation to avoid *waste*. Industrial expansion was provided moral support despite producing immense environmental damage. Evangelical Christianity, in this context, helped provide moral

support for extraction. Religion and science cooperated to dominate and destroy the environment.

Daggett's argument allows us to move beyond the question of whether religion supported science. Religious approval of energy development helped scientific knowledge become part of industrial capitalism. The theology of waste also exposes the limitations of defining scientific progress through technical achievement alone. A society may become more capable of extracting energy while becoming less capable of questioning why extraction should continue. Religion can either strengthen this process or provide moral languages through which such destruction can be challenged.

Conclusion

The relationship between religion and science has never been represented adequately by a permanent conflict. The history of the medieval university tells us that religious institutions could provide space for the study of logic and natural philosophy. The movement of knowledge across traditions shows that modern science was formed through exchanges that no single civilization can claim as its exclusive achievement. The colonial reconstruction of Buddhism exposes how modernity created its own image of an acceptable religion by emphasizing the elements that appeared compatible with scientific reason.

The entanglement of this history only becomes more intricate when we bring in electricity, energy, and the theology of waste into the argument. Religion helped interpret scientific discovery and supported forms of industrial development. Such cooperation did not always produce desirable outcomes. But religious ideas provided moral legitimacy to extraction and the expansion of human control over nature. Science, despite challenging religious authority, drew upon institutions and moral languages shaped by religious traditions to justify extraction.

The entangled relationship between religion and science has changed according to political power, colonialism, and capitalism. The conflict thesis survives because it offers a simple story. The historical record offered above in this article presents a more complicated narrative. Religion has never been uniformly inhospitable to science.

Science has never developed entirely outside religious, cultural, and political life. Understanding their relationship requires attention

to the many histories through which both came to possess their modern meanings.

Conflict of Interest

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