

The Conflict/Relationship between Religion and Science

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ABSTRACT

This paper studies the conflict/relationship between religion and science. The relationship between religion and science is the subject of continued debate in philosophy and theology. The interdisciplinary field of "science and religion", also called "theology and science", aims to answer these and other questions. It studies historical and contemporary interactions between these fields, and provides philosophical analyses of how they interrelate. Both science and religion are complex social and cultural endeavors that vary across cultures and change over time. Most scientific (and technical) innovations prior to the scientific revolution were achieved by societies organized by religious traditions. The conflict between religion and science is what naturally occurs to our minds when we think of this subject. It seems as though, during the last half-century, the results of science and the beliefs of religion had come into a position of frank disagreement, from which there can be no escape, except by abandoning either the clear teaching of science or the clear teaching of religion.

Keywords: Conflict, relationship, religion, science.

INTRODUCTION

The relationship between religion and science is the subject of continued debate in philosophy and theology. To what extent are religion and science compatible? Are religious beliefs sometimes conducive to science, or do they inevitably pose obstacles to scientific inquiry? The interdisciplinary field of "science and religion", also called "theology and science", aims to answer these and other questions [1]. It studies historical and contemporary interactions between these fields, and provides philosophical analyses of how they interrelate. Historians of science and of religion, philosophers, theologians, scientists, and others from various geographical regions and cultures have addressed numerous aspects of the relationship between religion and science. Critical questions in this debate include whether religion and science compatible, whether religious beliefs can be conducive to science (or necessarily inhibit it), and what is the nature of religious beliefs. The difficulty in approaching the question of the relation

between Religion and Science is that its elucidation requires that we have in our minds some clear idea of what we mean by either of the terms, 'religion' and 'science.'

Even though the ancient and medieval worlds did not have conceptions resembling the modern understandings of "science" or of "religion", certain elements of modern ideas on the subject recur throughout history. The pair-structured phrases "religion and science" and "science and religion" first emerged in the literature in the 19th century.[2] [3] This coincided with the refining of "science" (from the studies of "natural philosophy") and of "religion" as distinct concepts in the preceding few centuries - partly due to professionalization of the sciences, the Protestant Reformation, colonization, and globalization. [4] Since then the relationship between science and religion have been characterized in terms of 'conflict', 'harmony', 'complexity', and 'mutual independence', among others.

Both science and religion are complex social and cultural endeavors that vary

across cultures and change over time. [5] Most scientific (and technical) innovations prior to the scientific revolution were achieved by societies organized by religious traditions. Ancient pagan, Islamic, and Christian scholars pioneered individual elements of the scientific method. Roger Bacon, often credited with formalizing the scientific method, was a Franciscan friar.[6] Hinduism has historically embraced reason and empiricism, holding that science brings legitimate, but incomplete knowledge of the world and universe. Confucian thought, whether religious or non-religious in nature, has held different views of science over time. Many 21st-century Buddhists view science as complementary to their beliefs. While the classification of the material world by the ancient Indians and Greeks into air, earth, fire and water was more metaphysical, and figures like Anaxagoras questioned certain popular views of Greek divinities, medieval Middle Eastern scholars empirically classified materials [7].

The conflict between religion and science is what naturally occurs to our minds when we think of this subject. It seems as though, during the last half-century, the results of science and the beliefs of religion had come into a position of frank disagreement, from which there can be no escape, except by abandoning either the clear teaching of science or the clear teaching of religion. This conclusion has been urged by controversialists on either side. Not by all controversialists, of course, but by those trenchant intellects which every controversy calls out into the open. The distress of sensitive minds, and the zeal for truth, and the sense of the importance of the issues, must command our sincerest sympathy. When we consider what religion is for mankind, and what science is, it is no exaggeration to say that the future course of history depends upon the decision of this generation as to the relations between them. We have here the two strongest general forces (apart from the mere impulse of the various senses) which influence men, and they seem to be set one against the other the force of our

religious intuitions, and the force of our impulse to accurate observation and logical deduction [8] [9]. A great English statesman once advised his countrymen to use large scale maps as a preservative against alarms, panics, and general misunderstanding of the true relations between nations. In the same way, in dealing with the clash between permanent elements of human nature, it is well to map our history on a large scale, and to disengage ourselves from our immediate absorption in the present conflicts. When we do this, we immediately discover two great facts. In the first place, there has always been a conflict between religion and science; and in the second place, both religion and science have always been in a state of continual development. In the early days of Christianity there was a general belief among Christians that the world was coming to an end in the lifetime of people then living. We can make only indirect inferences as to how far this belief was authoritatively proclaimed; but it is certain that it was widely held, and that it formed an impressive part of the popular religious doctrine. The belief proved itself to be mistaken, and Christian doctrine adjusted itself to the change. Again, in the early Church, individual theologians very confidently deduced from the Bible opinions concerning the nature of the physical universe. In the year A.D. 535, a monk named Cosmas wrote a book which he entitled Christian Topography. He was a traveled man who had visited India and Ethiopia; and finally he lived in a monastery at Alexandria, which was then a great centre of culture. In this book, basing himself upon the direct meaning of Biblical texts as construed by him in a literal fashion, he denied the existence of the antipodes, and asserted that the world is a fiat parallelogram whose length is double its breadth [10].

What is Science and Religion?

In order to understand the scope of science and religion and what interactions there are between them, we must at least get a rough sense of what science and religion are. After all, "science" and "religion" are not eternally unchanging

terms with unambiguous meanings. Indeed, they are terms that were coined recently, with meanings that vary across times and cultures. Before the nineteenth century, the term “religion” was rarely used. For medieval authors, such as Aquinas, the term religio meant piety or worship, and was denied of “religious” systems outside of what he considered orthodoxy [11]. The term “religion” obtained its considerably broader current meaning through the works of early anthropologists, such as [12], who systematically used the term for religions across the world.

The term “science” as it is currently used also became common only in the nineteenth century. Prior to this, what we call “science” was referred to as “natural philosophy” or “experimental philosophy”. [13] standardized the term “scientist” to refer to practitioners of diverse natural philosophies. Philosophers of science have attempted to demarcate science from other knowledge-seeking endeavors, in particular religion. For instance, [14] claimed that scientific hypotheses (unlike religious ones) are in principle falsifiable. [15] affirm a difference between science and religion, even if the meanings of both terms are historically contingent. They disagree, however, on how to precisely (and across times and cultures) demarcate the two domains.

One way to distinguish between science and religion is the claim that science concerns the natural world, whereas religion concerns both the natural and the supernatural. Scientific explanations do not appeal to supernatural entities such as gods or angels (fallen or not), or to non-natural forces. For example, neuroscientists typically explain our thoughts in terms of brain states, not by reference to an immaterial soul or spirit. Naturalists draw a distinction between methodological naturalism, an epistemological principle that limits scientific inquiry to natural entities and laws, and ontological or philosophical naturalism, a metaphysical principle that rejects the supernatural [16]. Since methodological naturalism is concerned

with the practice of science (in particular, with the kinds of entities and processes that are invoked), it does not make any statements about whether or not supernatural entities exist. They might exist, but lie outside of the scope of scientific investigation. Some authors [17] hold that taking the results of science seriously entails negative answers to such persistent questions as free will or moral knowledge. However, these stronger conclusions are controversial.

The view that science can be demarcated from religion in its methodological naturalism is more commonly accepted. For instance, in the Kitzmiller versus Dover trial, the philosopher of science Robert Pennock was called to testify by the plaintiffs on whether Intelligent Design was a form of creationism, and therefore religion. If it were, the Dover school board policy would violate the Establishment Clause of the First Amendment to the United States Constitution. Building on earlier work, [18] argued that Intelligent Design, in its appeal to supernatural mechanisms, was not methodologically naturalistic, and that methodological naturalism is an essential component of science though it is not a dogmatic requirement, it flows from reasonable evidential requirements, such as the ability to test theories empirically.

Natural philosophers, such as Isaac Newton, Johannes Kepler, Robert Hooke, and Robert Boyle, sometimes appealed to supernatural agents in their natural philosophy (which we now call “science”). Still, overall there was a tendency to favor naturalistic explanations in natural philosophy. This preference for naturalistic causes may have been encouraged by past successes of naturalistic explanations, leading authors such as [19] to argue that the success of methodological naturalism could be evidence for ontological naturalism. Explicit methodological naturalism arose in the nineteenth century with the X-club, a lobby group for the professionalization of science founded in 1864 by Thomas Huxley and friends, which aimed to promote a science that would be free

from religious dogmas. The X-club may have been in part motivated by the desire to remove competition by amateur-clergymen scientists in the field of science, and thus to open up the field to full-time professionals [20].

Because "science" and "religion" defy definition, discussing the relationship between science (in general) and religion (in general) may be meaningless. For example, [21] argues that we can only sensibly inquire into the relationship between a widely accepted claim of science (such as quantum mechanics or findings in neuroscience) and a specific claim of a particular religion (such as Islamic understandings of divine providence or Buddhist views of the no-self).

Brief History of Science and Religion

The concepts of "science" and "religion" are a recent invention: "religion" emerged in the 17th century in the midst of colonization and globalization and the Protestant Reformation, "science" emerged in the 19th century in the midst of attempts to narrowly define those who studied nature. Originally what is today known as "science" was pioneered as "natural philosophy". Furthermore, the phrase "religion and science" or "science and religion" emerged in the 19th century, not before, due to the reification of both concepts. It was in the 19th century that the terms "Buddhism", "Hinduism", "Taoism", "Confucianism" and "World Religions" first emerged [22] In the ancient and medieval world, the etymological Latin roots of both science (scientia) and religion (religio) were understood as inner qualities of the individual or virtues, never as doctrines, practices, or actual sources of knowledge.[23]

It was in the 19th century that the concept of "science" received its modern shape with new titles emerging such as "biology" and "biologist", "physics", and "physicist", among other technical fields and titles; institutions and communities were founded, and unprecedented applications to and interactions with other aspects of society and culture occurred. The term scientist was coined

by the naturalist-theologian William Whewell in 1834 and it was applied to those who sought knowledge and understanding of nature. From the ancient world, starting with Aristotle, to the 19th century, the practice of studying nature was commonly referred to as "natural philosophy". Isaac Newton's book *Philosophiæ Naturalis Principia Mathematica* (1687), whose title translates to "Mathematical Principles of Natural Philosophy", reflects the then-current use of the words "natural philosophy", akin to "systematic study of nature". Even in the 19th century, a treatise by Lord Kelvin and Peter Guthrie Tait's, which helped define much of modern physics, was titled *Treatise on Natural Philosophy* (1867).

It was in the 17th century that the concept of "religion" received its modern shape despite the fact that ancient texts like the Bible, the Quran, and other texts did not have a concept of religion in the original languages and neither did the people or the cultures in which these texts were written.[24] In the 19th century, Max Müller noted that what is called ancient religion today, would have been called "law" in antiquity. For example, there is no precise equivalent of "religion" in Hebrew, and Judaism does not distinguish clearly between religious, national, racial, or ethnic identities. The Sanskrit word "dharma", sometimes translated as "religion", also means law or duty. Throughout classical South Asia, the study of law consisted of concepts such as penance through piety and ceremonial as well as practical traditions. Medieval Japan at first had a similar union between "imperial law" and universal or "Buddha law", but these later became independent sources of power. Throughout its long history, Japan had no concept of "religion" since there was no corresponding Japanese word, nor anything close to its meaning, but when American warships appeared off the coast of Japan in 1853 and forced the Japanese government to sign treaties demanding, among other things, freedom of religion, the country had to contend with this Western idea.

The systematic study of science and religion started in the 1960s, with authors such as [2] [3] who challenged the prevailing view that science and religion were either at war or indifferent to each other. Barbour's *Issues in Science and Religion* (1966) set out several enduring themes of the field, including a comparison of methodology and theory in both fields. *Zygon*, the first specialist journal on science and religion, was also founded in 1966. While the early study of science and religion focused on methodological issues, authors from the late 1980s to the 2000s developed contextual approaches, including detailed historical examinations of the relationship between science and religion. [12] challenged the warfare model by arguing that Protestant theological conceptions of nature and humanity helped to give rise to science in the seventeenth century. [20] drew attention to a broad movement of liberal Christians

Albert Einstein was the most famous scientist of our time, and, because he was so smart, his opinions on non-scientific issues were often seen as incontrovertible. One of the most famous is a pronouncement much quoted by religious people and those claiming comity between science and faith. It comes from Einstein's essay "Science and religion," published in 1954. "Science without religion is lame, religion without science is blind." This quote is often used to show both Einstein's religiosity and his belief in the compatibility—indeed, the mutual interdependence—of science and religion. But the quote is rarely used in context, and when you see the context you'll find that the quote should give no solace to the faithful. But first let me show you how, in that same essay, Einstein proposes what is essentially Stephen Jay Gould's version of NOMA (Non-overlapping Magisteria). Gould's idea (which was clearly not original) was that science and religion were harmonious because they had distinct but complementary tasks: science helps us understand the physical structure of the universe, while religion deals with human

and evolutionists in the nineteenth and twentieth centuries who aimed to reconcile evolutionary theory with religious belief.

In the 1990s, the Vatican Observatory (Castel Gandolfo, Italy) and the Center for Theology and the Natural Sciences (Berkeley, California) co-sponsored a series of conferences on divine action. It had contributors from philosophy and theology (e.g., Nancey Murphy) and the sciences (e.g., Francisco Ayala). The aim of these conferences was to understand divine action in the light of contemporary sciences. Each of the five conferences, and each edited volume that arose from it, was devoted to an area of natural science and its interaction with religion, including quantum cosmology [6], chaos and complexity [8], evolutionary and molecular biology [7], neuroscience and the person [5], and quantum mechanics [11].

CONCLUSION

values, morals, and meanings. Here's Einstein's version (my emphasis): It would not be difficult to come to an agreement as to what we understand by science. Science is the century-old endeavor to bring together by means of systematic thought the perceptible phenomena of this world into as thoroughgoing an association as possible. To put it boldly, it is the attempt at the posterior reconstruction of existence by the process of conceptualization.

Accordingly, a religious person is devout in the sense that he has no doubt of the significance and loftiness of those superpersonal objects and goals which neither require nor are capable of rational foundation. They exist with the same necessity and matter-of-factness as he himself. In this sense religion is the age-old endeavor of mankind to become clearly and completely conscious of these values and goals and constantly to strengthen and extend their effect. If one conceives of religion and science according to these definitions then a conflict between them appears impossible. For science can only ascertain what is, but not what should be, and

outside of its domain value judgments of all kinds remain necessary. Religion, on the other hand, deals only with evaluations of human thought and action: it cannot justifiably speak of facts and relationships between facts. According to this interpretation the well-known conflicts between religion and science in the past must all be ascribed to a misapprehension of the situation which has been described. For example, a conflict arises when a religious community insists on the absolute truthfulness of all statements recorded in the Bible. This means an intervention on the part of religion into the sphere of

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science; this is where the struggle of the Church against the doctrines of Galileo and Darwin belongs. On the other hand, representatives of science have often made an attempt to arrive at fundamental judgments with respect to values and ends on the basis of scientific method, and in this way have set themselves in opposition to religion. These conflicts have all sprung from fatal errors." Although nearly identical to Gould's views in his 1999 book *Rocks of Ages*, Gould mentions neither Einstein nor this passage. But both men were misguided in suggesting that this tactic can harmonize science and religion.

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However, it is a very long time since these attitudes have been held by historians of science.