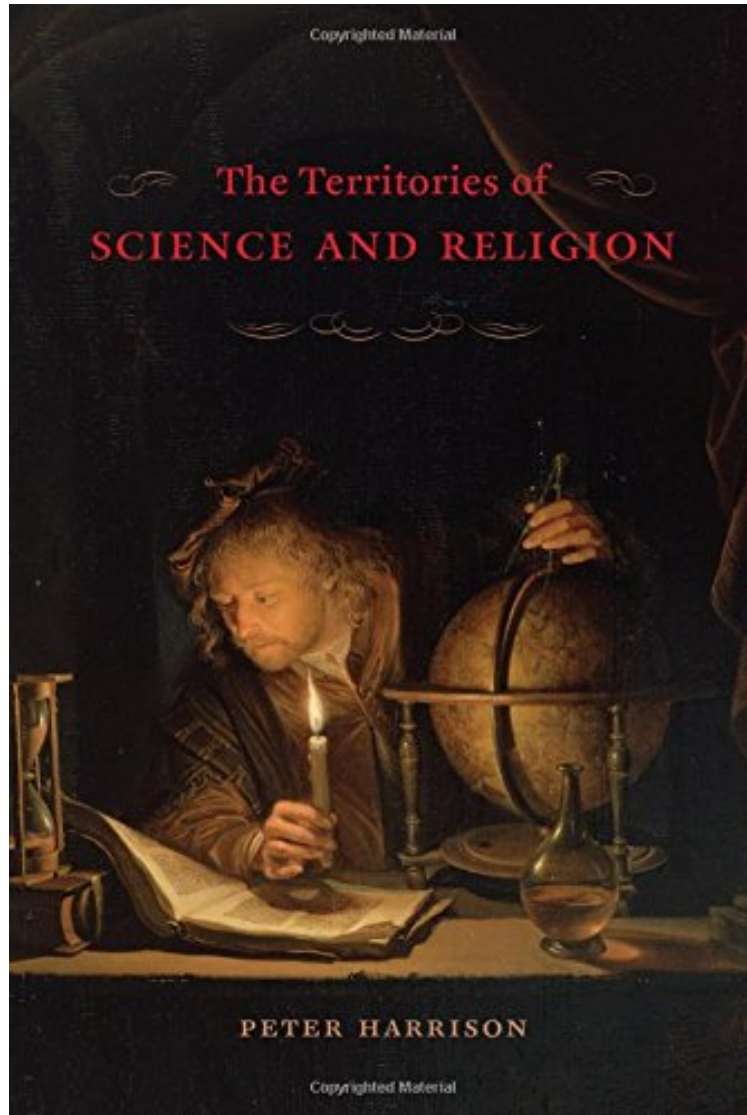


(Ebook pdf) The Territories of Science and Religion

The Territories of Science and Religion

Peter Harrison

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Peter Harrison : The Territories of Science and Religion before purchasing it in order to gauge whether or not it would be worth my time, and all praised The Territories of Science and Religion:

4 of 4 people found the following review helpful. The Invention of the Concepts of "Science" and "Religion" and Their History - Will Shift Views By Clandestine Library For Further Reading This academic book pretty much reverses what we think religion and science actually are by going through time from the ancient period to the 19th century and diligently documenting how both concepts emerged in thought, languages, cultures, and academic discourse. It turns out that the term "religion" was invented in the 16th or 17th centuries due to exploration and the Protestant

Reformation, "science" was invented in the 19th century, and it was in the late 19th century that the combo "science and religion" began to occur in texts. Before then, the used terms were the Latin terms 'scientia' and 'religio', which make up the English words "science" and "religion" and both referred to internal individual qualities of the intellect and morality, respectively. 'Scientia' (science), was associated with derivation of truths from first principles following Aristotle's view of knowledge and 'Religio' (religion) was associated mainly with worship or moral living (similar pursuit to sects of philosophy in the ancient world). Both 'scientia' and 'religio' were seen as parts of a unified whole of knowledge/learning. The Graphs in the book clearly show the the actual invention and shifting of the terms "religion" and "science" in the past 300 years that are definitive. Neither "science" or "religion" were ever seen a source of knowledge or collection of beliefs or doctrines or making epistemic claims about reality before the 16th century. Ancient and medieval people simply did not have our conceptions of religion or science at all. For example, before the 16/17th century, people distinguished each other more by ethnicity, nation, and customs than by beliefs or ultimate concerns (what we call "religion" today) because there was no concept of "world religions" before the 16/17th century. Also, names of Eastern religions emerged in the 19th century, not before. Sacred texts such as the Bible, Quran, etc did not have a term for "religion" in the original languages and neither did the cultures or people that wrote them. For science, the term "natural philosophy" was used to describe the study of nature form the ancient world up to the 19th century and it included moral dimensions. Most researchers were thus called "natural philosophers" (e.g. Aristotle, Newton, Lord Kelvin). Consider this - the term "scientist" was first coined barely in 1834 by the naturalist-theologian William Whewell. See Chapter 6. For more info on the recent invention of both concepts: Science and Religion: A Historical Introduction From Natural Philosophy to the Sciences: Writing the History of Nineteenth-Century Science When Science and Christianity Meet The Beginnings of Western Science: The European Scientific Tradition in Philosophical, Religious, and Institutional Context, Prehistory to A.D. 1450 Scientific Method in Practice Before Religion: A History of a Modern Concept 'Religion' and the Religions in the English Enlightenment Preface "The lectures sought to address the history of two overlapping sets of concerns - those to do with the nature of the physical universe and its operations, and those that concern the goals of human existence and the source of our moral values. We now tend to think of these questions as belonging to the distinct domains of science and religion. When we look to the past, however, we see that the boundaries of these two domains have been understood very differently and that questions concerning ultimate human meaning and value were rarely divorced from understandings of the nature of the universe. In one sense, then, this book is about the history of science and religion in the West. But it would be more accurate to say that it seeks to describe how it is that we have come to understand the world in terms of these distinct categories "science" and "religion" - how, in other words, we have come to separate the domain of materials facts from the realm of moral and religious values. This subject matter brings with it two particular challenges. The first should be more or less immediately apparent. This book cannot be a straightforward history of the relations between science and religion, since my argument is that these two ideas, as they are presently understood, are relatively recent conceptions that emerged in the West over the course of the past three hundred years. What I sought to do, then, is to examine the past activities that we have typically thought of in those terms, or have regarded as leading to them. A significant part of this exercise will be a consideration of the fortunes of the Latin terms 'scientia' and 'religio'. These two notions begin as inner qualities of the individual - "virtues", if you will - before becoming concrete and abstract entities that are understood primarily in terms of doctrines and practices. This process of objectification is the precondition for a relationship between science and religion. In addition to a consideration of the Latin terms from which our modern English words "science" and "religion" derive, we shall also trace changing constellations of other conceptions that are genealogically related to our modern ideas of science and religion. They include "philosophy," "natural philosophy," "theology," "belief," and "doctrine," all of which had meanings for past historical actors that are quite unfamiliar to us today. One of my suggestions will be that there is a danger of systematically misconstruing past activities of we mistakenly assume the stability of meaning of these expressions. A second challenge concerns the historical range of this book, which begins with classical Greece and early Christianity, and extends into the late nineteenth century." (ix-x) 1. The Territories of Science and Religion "So familiar are the concepts of "science" and "religion," and so central to Western culture have been the activities and achievement that are usually labeled "religious" and "scientific," that it is natural to assume that they have been enduring features of the cultural landscape of the West. But this view is mistaken. To be sure, it is true that in the West from the sixth century BC attempts were made to describe the world systematically, to understand the fundamental principles behind natural phenomena, and to provide naturalistic accounts of the causes operating in the cosmos. Yet, as we shall see, these past practices bear only a remote resemblance to modern science. It is also true that almost from the beginning of recorded history many societies have engaged in acts of worship, set aside sacred spaces and times, and entertained beliefs about transcendental realities and proper conduct. But it is only in recent times that these beliefs and activities have been bounded by a common notion "religion," and have been set apart from the "nonreligious" or secular domains of human existence. In pointing out that "science" and "religion" are concepts of relatively recent coinage, I intend to do more than make a historical claim about the anachronistic application of modern concepts to past eras." (3); "What the history of categories will show is how disparate, or at least significantly distinct, activities have come to be classified

together. In the case of science, "natural history" and "natural philosophy" came together under the rubric "science" for the first time in the nineteenth century." (5); "What follows from these considerations is that we distort the past if we uncritically apply our modern categories to past activities that would have been conceptualized by those who engaged in them in a quite different way. We should not use our present maps to understand their territory. We should not assume natural kinds were there are none." (5); documents a short history of the term religion starting with Thomas Aquinas' views of religion as virtue related to justice - "Aquinas acknowledges that a range of outward behaviors are associated with 'religio' - vows, tithes, offerings, and so on - but he regards these as secondary. As I think is immediately obvious, this notion of religion is rather different from the one which we are now familiar. There is no sense in which 'religio' refers to systems of propositional beliefs, and no sense of different religions (plural). Between Thomas's time and our own, 'religio' has been transformed from a human virtue into a generic something, typically constituted by sets of beliefs and practices. It is also become the most common way of characterizing attitudes, beliefs, and practices concerned with the sacred or the supernatural. Aquinas's understanding of 'religio' was by no means peculiar to him. Before the seventeenth century, the word "religion" and its cognates were used relatively infrequently. Equivalents of the term are virtually nonexistent in the canonical documents of the Western religions - the Hebrew Bible, the New Testament, and the Qur'an. When the term was used in the premodern West, it did not refer to discrete sets of beliefs and practices, but rather to something more like "inner piety," as we have seen in the case of Aquinas, or "worship." As a virtue associated with justice, moreover, 'religio' was understood on the Aristotelian model of the virtues as the ideal middle point between two extremes - in this case, irreligion and superstition." (7-8); the Church Fathers used 'religio' in the context of worship, not doctrines, and in the Middle Ages and up to the Renaissance it was used in a similar way - Augustine talked about "true religion" and even said that it was available even in pagan people outside of Christianity; "It is worth mentioning at this point that, unlike English, Latin has no articles - no "a" or "the." Accordingly, when rendering expressions such as "vera religio" or "christiana religio" into English, translators had to decide on the basis of context whether to add an article or not. As we have seen, such decisions can make a crucial difference, for the connotations of "true religion" and "christian religion" are rather different from those of "the true religion" and "the Christian religion." The former can mean something like "genuine piety" and "Christlike piety" and are thus consistent with the idea of religion as an interior quality. Addition of the definite article is suggestive, however, of a system of belief." (10); "With increasing frequency of the expressions "religion" and "the religions" from the sixteenth century onwards we witness the beginning of the objectification of what once was an interior disposition." (11); "It is instructive at this point to return to Thomas Aquinas, because when we consider what he has to say on the notion of science ('scientia') we find an intriguing parallel to his remarks on 'religio'. In an extended treatment of the virtues in the 'Summa theologiae', Aquinas observed that science ('scientia') is a habit of mind or an "intellectual virtue." The parallel with 'religio', then, lies in the fact that we are now used to thinking of both religion and science as systems of beliefs and practices, rather than conceiving of them primarily as personal qualities. And for us today the question of their relationship is largely determined by their respective doctrinal content and the methods through which that content arrived at. For Aquinas, however, both 'religio' and 'scientia' were, in the first place, personal attributes." (11); Aristotle conceived "knowledge" (or 'scientia' in Latin) to be an intellectual virtue; "One of the great revolutions of Western thought took place in the twelfth and thirteenth centuries, when much Greek learning, including the work of Aristotle, was rediscovered. Aquinas played a pivotal role in this recovery of ancient wisdom, making Aristotle one of his chief conversation partners. He was by no means a slavish adherent of Aristotelian doctrines, but nonetheless accepted the Greek philosopher's premise that the intellectual virtues perfect out intellectual powers. Aquinas identified three such virtues - understanding ('intellectus'), science ('scientia'), and wisdom ('sapientia'). Briefly, understanding was to do with grasping first principles, science with the derivation of truths from those first principles, and wisdom the grasp of the highest causes, including the first cause, God." (12); the understanding of "science" as an attribute of knowledge from first principles by logical demonstration was even used by people like Rene Descartes; Aquinas added a component about morality to the understanding of 'scientia'; "In the canonical divisions of knowledge in the Middle Ages - what we now know as the seven "liberal arts" (grammar, logic, rhetoric, arithmetic, astronomy, music, geometry) - were then known as the liberal sciences...The English word "science" had similar connotations. As was the case with the Latin 'scientia', the English term commonly referred to the subjects making up the seven liberal arts. In catalogs of English books published between 1475 and 1700 we encounter the natural and moral sciences, the sciences of physic (medicine), of surgery, of logic and mathematics. Broader applications of the term include accounting, architecture, geography, sailing surveying, defense, music, and pleading in court. Less familiarly, we also encounter works on the science of angels, the science of flattery, and in one notable instance, the science of drinking, drolly designated by the author the "eighth liberal science." At nineteenth-century Oxford "science" still referred to elements of the philosophy curriculum. The idiosyncrasies of English usage at the University of Oxford notwithstanding, the now familiar meaning of the English expression dates from the nineteenth century, when "science" began to refer almost exclusively to the natural and physical sciences." (14); "In the case of 'scientia', it is the rehearsal of the processes of demonstration that strengthens the relevant mental habit. Crucially, because the primary goal is the augmentation of mental habits, gained through familiarity with systematic

bodies of knowledge ("the sciences"), the emphasis was less on the production of scientific knowledge than on the rehearsal of scientific knowledge that already existed. Again, as noted earlier, this was because the "growth" of science was understood as taking place within the mind of the individual." (15); science was merely an instrument (a means to an end), not an end itself; the concept of the "laws of nature" emerged in the 17th century; questions involving "theology" and "natural philosophy" will be dealt with later on, but here he mentions the term "theology" and noted that Plato and Aristotle, but it was not used much by Christians much until the 13th century². The Cosmos and the Religious Quest

The popular mythical narrative of the history of science is that science began with the Greeks when they supposedly moved towards natural explanations and away from supernatural explanations (starting with Thales), then went in decline in the Middle Ages, then it emerged triumphantly in 17th century with the Scientific Revolution - "While historians of science have largely abandoned much of this narrative, it continues to exercise a tenacious hold on the popular imagination and still informs many non-specialist accounts of science and its history." (24); "Comforting though this narrative may be for some, the reality is rather different. If we focus for now simply on the role ascribed to Greek science, we can say that its putative rejection of myth and supposed incompatibility with religion break down under close scrutiny. No one who has read the extant fragments of the pre-Socratic philosophers can fail to be struck by their ubiquitous references to gods and divine principles. Thales, the purported progenitor of science, declared at "all things are full gods," and on discovering the famous theorem he is said to have sacrificed an ox. These are not the actions of a hard-nosed scientific naturalist. Anaxagoras (ca. 500 BC), like Thales, is often portrayed as exemplifying a scientific naturalism that is essentially incompatible with a theological understanding of the cosmos. This characterization draws some credibility from the claim that Anaxagoras was banished from Athens on account of his skeptical claims that the sun was just a mass of molten metal, that the moon was made of earthlike substance, and that the stars were merely fiery stones. But it was this same Anaxagoras who considered that the whole universe was controlled by a divine causal principle ('nous' - mind or intellect), a view that was to influence, in various ways, Plato, Aristotle, the Stoics, and the Neoplatonists, and which came to underpin much of the subsequent ancient Greek belief in the inherent rationality of the natural world. Indeed, in various ways, other pre-Socratic philosophers had postulated similar principles - Anaximander's 'Apeiron', Heraclitus's 'Logos', Xenophanes "One God" - that imply an ordered, yet divinely animated, cosmos. The notion of distinct and successive mentalities - mythopoeic and rationalist - is also difficult to sustain. It is striking, for example, that the beginnings of (scientific) Hippocratic medicine coincide exactly with the rise of the (religious) cult of Asclepius, and that these apparently incompatible approaches to healing coexist happily in the same geographical regions. Practitioners of these distinct therapies also shared many of the same methods, to say nothing of the fact that the Hippocratic Oath invokes Apollo, Asclepius and "all the gods and goddesses." To dismiss this as a pious window dressing is to fail to understand how the religious perspective then pervaded every area of life." (24-25); the Greeks did not partake in science the way we understand it today because they had "philosophy" (those who studied nature were called "natural philosophers"), which was defined by Greeks including Socrates - as a way to live a good life and reaching happiness (including moral dimension); for some Greeks like Plato, studying the cosmos was a way of seeing harmony and order in the universe as inspiration for us to imitate the ordered ways of reasoning and morality; Zeno of Elea believed that the virtuous life was the "life in agreement with nature" and even Ptolemy defended the study of the heavens on the grounds of moral and religious qualities; for some, the disciplines of study started with empirical disciplines then moved to more transcendent disciplines like logic and math, then they went up even more; the modern concept of religion did not exist in the early part of Christianity - when it was used it referred to "modes of worship"; "A few brief comments on the terminology will reinforce these two points. 'Theosebeia' is a word that appears only once in the New Testament. In translations of this passage, it has been variously rendered in English: "piety," "godliness," "godly piety," "fear of God," and "worship of God." 'Threskeia' we discussed briefly in this chapter. Including variants, it occurs only five times in the New Testament. In its first appearance, Saint Paul makes reference to him having been a Pharisee, belonging to the "strictest sect of our religion," as it is usually translated. This is perhaps the closest to our modern sense of religion, although the context suggests that it is moral discipline that is being referred to. In the second occurrence, the relevant phrase is usually rendered "worship" or "worshipping" of angels, although both Wycliffe and Duoay-Rheims translations speak of the "religion" of angels. By this they mean worship directed toward angels. The other three references occur in the Epistle of James, where it is typically rendered "religion." As we have seen, in this latter context the meaning is that cult or worship that is acceptable to God consists of charitable acts." (35); Christians saw themselves as going beyond race and ethnicity, a unique concept since most people divided themselves by ethnicity or region, but it was not about beliefs or doctrines when they spoke of Paul's "neither Jew or Greek"; early Christianity was understood as a philosophy or way of life in terms of moral and spiritual formation, not doctrine or beliefs; early Christians saw Greek and Hebrew texts as part of their repertoire for growth of knowledge; the epistemologically oriented view of philosophy is a recent invention; "Another way of shedding light on the nexus between belief and practice is to consider the relevant terminology. As is the case with a number of the words that we are accustomed to using in a particular way - "religion," "theology," "science" - the vocabulary of creedal belief is particularly instructive. "Creed" derives from the Latin 'credo', a translation of the Greek 'pisteuo'. These terms

denoted something both more and less than the giving of assent to propositions. 'Pistis' thus originally meant "confidence" or "trust" between persons. In the New Testament, where the term takes on a more specific religious meaning, it has a cognitive component but retains the basic idea of trust, along with connotations of obedience, hope, and faithfulness. The Latin uses both a noun ('fides') and a verb ('credere' - to believe; 'credo' - I believe) to capture the meaning of the Greek, and this is paralleled in the English use of the noun "faith" and the verb "to believe" to render 'pistis' and its cognates. Originally both the Latin and the English retained the noncognitive connotations of the Greek. Thus, 'credo' meant to "to trust to or confide in a person or thing, to have confidence in, to trust...Until well into the Middle Ages, then the declaration "I believe" was neither an assertion of the existence of some being nor lending of assent to propositional truths, but was primarily and expression of trust between persons... The contraction of the scope of "I believe," and the assumption of its more familiar modern meaning - "to believe in the actual existence of some person or thing" - begins in the seventeenth century." (48-49); other researchers agree that "belief" is a modern invention, not a universal concept across time and cultures; "But if doctrine is not the primary object of belief, what is it? Again, attending to the history of the term is illuminating. In antiquity, 'doctrina' meant "teaching" - literally the activity of a doctor - and "the habit produced by instruction," in addition to referring to the knowledge imparted by teaching. 'Doctrina' is thus an activity or a process of training and habituation. Both of these understanding are consistent with the general point that Christianity was understood more as a way of life than a body of doctrines...As for the subject matter of 'doctrina' - its cognitive component, if you will - this was then understood to be scripture itself, rather than "doctrines" in the sense of systematically arranged and logically related theological tenets." (49-50); reading a text was a distinctive feature of Christianity compared to philosophical schools which favored oral teaching instead; Augustine noted that there were 288 philosophical sects in his time; the idea that science was subordinated to theology by the Church Fathers is mistaken because it was Aristotle who placed theology as a speculative science and no consensus existed on the status of theology throughout even the Middle Ages; theological concerns could drive an agenda of naturalism because Christians were more skeptical than pagans on things like astrology, anthropomorphic deities, the world-soul and divinity of the heavens (53)³. Signs and Causes Plato had a religious temperament on the cosmos; the Church Fathers spoke of "book of nature" and "book of scripture" metaphors; scripture has the basis for the metaphor of the book of nature; medieval discourse on the book of nature; the uses of the visible world as a light to restore knowledge that was lost at the fall of man and also how nature points to God; symbolic capacities in animals; "It is important to understand that God was not understood simply as the first in a series of efficient causes. Rather, for each natural effect, both God and the natural agent are involved. God's role in natural causation was understood in terms of both his ongoing conservation of the being of natural things and of his communication to them of a likeness of his own causal capacity. When events take place in nature, it is not that God plays some causal role simply by virtue of his having initiated a chain of causes in the past that eventually brings about a particular outcome. Neither is the present causal activity to be understood as partly attributable to God and partly to nature. Instead, natural events are "wholly done by both, according to a different way." God's causal activity is analogous to natural causation, but cannot be unequivocally identified with it." (68); Thomas Aquinas on natural philosophy and theology; Aquinas distinguished 3 theologies: natural theology, mythical theology (worshiping of Heroes), and civil theology (state-sponsored worship of images); the historical view of allegorical interpretations of scripture diminished when the Protestant Reformation came about and "sola scriptura" was pushed for literal interpretations of scriptures; the Reformation tried to remove the paganism (allegorical understanding) in Catholicism and around this time people like Francis Bacon tried to remove the paganism (allegorical understanding) in science in hopes of purifying studies of nature⁴. Science and the Origins of "Religion" Science and religion become seen from outside in the 16th and 17th centuries, whereas in the ancient and medieval world both were internal habits, not doctrines or propositional beliefs; * Figure 3: shows a graph of uses of the terms "Christian religion" decreasing and "the Christian religion" increasing in publications between 1550-1680 - the definite article "the" was being used by Reformers and expressed that propositional beliefs should be explicit among the common people; having the Bible be available to everyone in their own language and other materials allowed people to make a new understanding of religion; "The sixteenth and seventeenth centuries, it must be said, certainly do not witness the complete disappearance of the interior dimensions of science and religion. But these habits of mind are now often pursued as a means of accomplishing exterior ends. The virtues of religion and science are upheld insofar as they are considered to have a social impact and promote the improvement of human society. Thus, in addition to its contributions to the reification of religion, catechesis was intended to promote a collective discipline aimed at the reformation and transformation of society. It was the external expression of religion evidenced in morally disciplined behavior that would contribute to an ordered community." (94-95); in the Middle Ages there were "sciences", but there were no "religions" (plural); in the 1600s, colonialism, the age of exploration, and internal conflicts in Christian-fragmented Europe all contributed to the making up of the "world religions" concept with initially there being 4 religions: Christianity, Judaism, "Mahometanism", and heathenism (99) and William Turner's comparative religion text called "The History of all Religions in the World" (1695) is an example; "The first recorded use of "Boudhism" was 1801, followed by "Hindooism" (1829), "Taouism" (1838), and "Confucianism" (1862) (see figure 6). By the middle of the nineteenth century these terms had secured their place in the English

lexicon, and the putative objects to which they referred became permanent features of our understanding of the world." (101); dealing with religious competition - "The seventeenth-century religious literature abounds with titles offering to discuss the "grounds and reasons," "evidences," "proofs," and "vindications" of the Christian religion, along with "impartial comparisons" and "surveys" of competing creeds. Robert Boyle, who had so starkly set out to predicament of the seventeenth-century religious believer, thus proposed that one should only choose a religion "having maturely weighed the grounds of it, and compar'd it and the arguments for it, with the plea's that occur on behalf of each of the grand Religions that differ from it." (105); Francis Bacon posited that heresy has 4 necessary conditions: perversion of doctrine, stubborn persistence of error, attempt to attain personal advantage, and presence of malice; science and religion begin to be put in an epistemic basis in the 1600s; Newton as a natural philosopher; natural philosophers like Kepler, Newton, Boyle, Hooke made contributions to Christianity by their works on the nature of the universe; in one sense arguing for the support of doctrines made Christianity susceptible for others like Enlightenment atheists to deny those doctrines; the arbitrary reification of religion has created many problems in understanding what we mean by "religion".

5. Utility and Progress "The idea of historical progress is usually thought to have originated in the seventeenth century. My main argument in this chapter will be that changes to our conceptions of science and religion at this time were intimately related to the emergence of a new understanding of progress." (119); historically progress was seen as pertaining to each individual, but in the modern period progress was reified to be about humanity and nature as a unidirectional and ever growing thing; See comments for rest of Ch. 5 - Epilogue

0 of 0 people found the following review helpful. Good text for anyone debating 'science' vs. 'religion' By Jedi Knight There is a myth of historical contention and antagonism between "science" and "religion," but it really wasn't until the last few centuries that the heated antagonism rose up. Harrison points out that historically these two disciplines coexisted and worked together to increase knowledge and wisdom. While it is not a perfect text, he does make some very good points discussing the history of these disciplines and ideologies. I highly recommend this text to any and all who are involved in discussions and debates in these areas, so that we can better articulate our positions, and maybe be more civil in our discussions.

3 of 3 people found the following review helpful. Much needed and is exceptionally researched. By Rod Lampard Compelling evidence that calls out the mythological conflict between the relatively modern categories of religion and science. Harrison's project is well indexed and thought out. It provides a much needed voice in the ongoing struggle to correct long held false assumptions about the history of Christianity's relationship with science.

The conflict between science and religion seems indelible, even eternal. Surely two such divergent views of the universe have always been in fierce opposition? Actually, that's not the case, says Peter Harrison: our very concepts of science and religion are relatively recent, emerging only in the past three hundred years, and it is those very categories, rather than their underlying concepts, that constrain our understanding of how the formal study of nature relates to the religious life. In *The Territories of Science and Religion*, Harrison dismantles what we think we know about the two categories, then puts it all back together again in a provocative, productive new way. By tracing the history of these concepts for the first time in parallel, he illuminates alternative boundaries and little-known relations between them thereby making it possible for us to learn from their true history, and see other possible ways that scientific study and the religious life might relate to, influence, and mutually enrich each other. A tour de force by a distinguished scholar working at the height of his powers, *The Territories of Science and Religion* promises to forever alter the way we think about these fundamental pillars of human life and experience.

"Harrison's work is an admirable contribution to the history of science and religion. Though it's aimed mainly at an academic audience, general readers will also be interested in this analysis and its challenges to assumptions about both disciplines."