

The Mythical Conflict between Science and Religion

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Introduction

Journalistic writing thrives on cliché. These are not so much hackneyed phrases but rather the useful shorthand for nuggets of popular perception that allow the journalist to immediately tune his readers to the right wavelength. Yesterday's clichés are, of course, today's stereotypes as any perusal of earlier writing will show. The conflict between science and religion is an acceptable cliché which crops up all over the place. In the episode of *The Simpsons* in which the late Stephen J Gould was a guest voice, Lisa found a fossil angel and events led to a court exclusion order being placed on religion to try and sort out the eternal conflict. Articles in magazines and on the internet all assume that this conflict exists, has always existed and that science has been winning. Most popular histories of science view all the evidence through this lens without ever stopping to think that there might be another side to the story. But turn from popular culture to the academy and we would find a rather different picture.

Let's have a look at the comments of a few leading historians of science:

John Hedley Brooke is the Andreas Idreos Professor of Science and Religion at the University of Oxford. He is a leading historian of science in England and the author of *Science and Religion - Some Historical Perspectives* (1991). In this book, he writes of the conflict hypothesis "In its traditional forms, the thesis has been largely discredited". [NOTE] David Lindberg is Hilldale Professor Emeritus of the History of Science at the University of Wisconsin - Madison. He is the author of many books on medieval science and also on religion. With Ronald Numbers, the current Hilldale and William Coleman Professor of the History of Science and Medicine at the same university, he writes "Despite a developing consensus among scholars that science and Christianity have not been at war, the notion of conflict has refused to die". [NOTE] Steven Shapin is Professor of Sociology at the University of California, San Diego. He writes "In the late Victorian period it was common to write about the "warfare between science and religion" and to presume that the two bodies of culture must always have been in conflict. However, it is a very long time since these attitudes have been held by historians of science." [NOTE] Finally, we come to the dean of medieval science, Edward Grant, Professor Emeritus of the History and Philosophy of Science at Indiana University who writes of that most slandered of periods, the Middle Ages, when faith was supposed to have snuffed out all forms of reason "If revolutionary rational thoughts were expressed in the Age of Reason [the 18th century], they were only made possible because of the long medieval tradition that established the use of reason as one of the most important of human activities". [NOTE]

I want to examine two questions in this article. Firstly, if the conflict hypothesis has been rejected by practically every scholar in the field, why is there such a rift between academic opinion and popular perception? And secondly, what is the real picture?

The conflict hypothesis

Science is the triumph of Western civilisation which has made all the other achievements possible. The enormity of this achievement has very often been reflected onto the historiography of science to produce a story akin to a triumphal progress. From Copernicus onwards each generation built on the discoveries of their forerunners to produce a parade of successes with barely a backwards step. This history has been built on two assumptions: that there is something epistemologically unique about science and that reason and rationality are what causes progress in science. Scientists themselves have generally been keen on these ideas and been happy to promote them. Such has been status of science in modern society that this self description, promulgated by writers like Carl Sagan and Jacob Bronowski, has generally been respected by the general public who have been less interested in the more nuanced views of academia.

The myth of conflict first really got going during the Enlightenment (itself a description intended to derogate earlier eras) with the fiercely anti-clerical French *philosophes*. In his *Discours Preliminaire*, D'Alembert paints a picture of men of the Renaissance finally throwing off the shackles of church domination so that rational enquiry can at last begin. This idea, exposed as rubbish by studies of the highly rational scholastic thought of the Middle Ages by the likes of Edward Grant and Alexander Murray, was continued through the nineteenth century with historians like John William Draper.

The most famous and successful exponent was Andrew Dickson White who is commonly quoted at the start of modern books on science and religion as representing the soon-to-be-debunked traditional view. It is worth briefly examining whether White was being entirely honest in his work as no one doubts that Draper was engaged in anything more than polemic. Neither were professional historians and both did seem to sincerely believe in the warfare theory they were expounding. Unfortunately, this meant that they set out to prove what they already believed rather than take their conclusions from the facts. White is quite explicit about this when he writes "I saw that it was the conflict between two epochs in the evolution of human thought -- the theological and the scientific." Any such statement should immediately set off alarm bells which grow louder as we look at his work. His usual tactics are to scour the sources for some stick-in-the-mud reactionary and claim this represents the consensus of religious opinion and then find another thinker (who is usually just as faithful a Christian as the reactionary) who turned out to be right, and claim that they represent reason. Hence using anachronism and claiming obscure figures were in fact influential, he is able to manufacture a conflict where none exists. A detailed critique of his work from Lindberg and Numbers can be [read here](#) but I would like to point out a few errors in the specific area of religious persecution of scientists.

His examples of actual prosecution are few and far between which is not very surprising as the only scientist the Christian Church ever prosecuted for scientific ideas *per se* was Galileo and even here historians doubt that was the major reason he got into trouble. This is an embarrassment for White as he thought that in the Middle Ages especially, the Church was burning freethinkers left, right and centre. The lack of any examples of this at all is a serious problem so he is forced to draft in non-scientists or else to claim that prosecutions on non-scientific matters were scientific persecutions after all. Here are some examples:

- Roger Bacon has been a popular martyr for science since the nineteenth century. He was a scholastic theologian who was keen to claim Aristotle for the Christian faith. He was not a scientist in any way we would recognise and his ideas are not nearly so revolutionary as they are often painted. In chapter 12 of his book, White writes of Roger "the charges on which St. Bonaventura silenced him, and Jerome of Ascoli imprisoned him, and successive popes kept him in prison for fourteen years, were "dangerous novelties" and suspected sorcery." This is untrue. As Lindberg says "his imprisonment, if it occurred at all (which I doubt) probably resulted with his sympathies for the radical "poverty" wing of the Franciscans (a wholly theological matter) rather than from any scientific novelties which he may have proposed." [NOTE]

- In chapter 2, White informs us “In 1327 Cecco d’Ascoli, noted as an astronomer, was for this [the doctrine of antipodes] and other results of thought, which brought him under suspicion of sorcery, driven from his professorship at Bologna and burned alive at Florence.” Cecco D’Ascoli was indeed burnt at the stake in 1327 in Florence. He is the only natural philosopher in the entire Middle Ages to pay this penalty and was executed for breaking parole after a previous trial when he had been convicted of heresy for, apparently, claiming Jesus Christ was subject to the stars. This is not enough for White who claims, entirely without foundation, that Cecco met his fate partly for the scientific view that the antipodes were inhabited as well as dishonestly calling him an ‘astronomer’ rather than an ‘astrologer’ to strengthen his scientific credentials. [NOTE]
- In the same chapter White claims “In 1316 Peter of Abano, famous as a physician, having promulgated this [the habitation of the antipodes] with other obnoxious doctrines in science, only escaped the Inquisition by death.” We have no good evidence that d’Abano was under investigation from the inquisition at his death. However, he did gain a posthumous reputation as a sorcerer when spurious works were attributed to him. This may have led to the reports of his bones being dug up and burnt after his death. There is again, no evidence whatsoever that the antipodes debate or science had anything to do with the matter. [NOTE]
- It is hard to confirm some of White’s victims existed at all. “The chemist John Barrillon was thrown into prison,” he says in chapter 12 “and it was only by the greatest effort that his life was saved.” The great historian of science, George Sarton, with a better knowledge of the sources of anyone before or since, says this episode is ‘completely unknown’ to him. [NOTE] Needless to say, White gives no reference.
- Vesalius, the founder of modern anatomy, is also held up as a martyr to science. White explains in chapter 13 “Vesalius was charged with dissecting a living man, and, either from direct persecution, as the great majority of authors assert, or from indirect influences, as the recent apologists for Philip II admit, he became a wanderer: on a pilgrimage to the Holy Land, apparently undertaken to atone for his sin, he was shipwrecked, and in the prime of his life and strength he was lost to the world.... His death was hastened, if not caused, by men who conscientiously supposed that he was injuring religion.” The trouble is that hardly a word of this has any basis in historical fact. Vesalius did go on a pilgrimage and was drowned on the way back. But there is no hint he was ever prosecuted and the idea his death was hastened by those who supposed he was injuring religion is simply wrong. [NOTE]
- Discussing the heliocentric system, White goes on “Many minds had received it [the doctrine of Copernicus], but within the hearing of the papacy only one tongue appears to have dared to utter it clearly. This new warrior was that strange mortal, Giordano Bruno. He was hunted from land to land, until at last he turned on his pursuers with fearful invectives. For this he was entrapped at Venice, imprisoned during six years in the dungeons of the Inquisition at Rome, then burned alive, and his ashes scattered to the winds.” In fact, we do not know the exact reasons Bruno was prosecuted but modern scholars like Frances Yates suggest it was because he was a magus who was trying to start a new neo-Platonic religion. He did believe the earth revolved around the sun but this was purely for religious reasons as he effectively worshipped it. In any case, it was incidental to his fate as were his other pseudo-scientific ideas.

One would like to take the charitable view that White really believed his theory and was not making up evidence to support a position he knew to be false. Instead, he skews the evidence by accepting that which agrees with his hypothesis while being sceptical of what does not. This means that he has included falsehoods that he would have noticed if he had taken a properly objective attitude towards all his evidence. The points given above together with Numbers and Lindberg's criticisms noted in their article are sufficient, however, to prove White's work as utterly worthless as history. Draper, with no footnotes or references cannot even claim to give an illusion of scholarship. Colin Russell, in a recent summary of the historiography of the alleged warfare sums up the views of modern scholarship, saying "Draper takes such liberty with history, perpetuating legends as fact that he is rightly avoided today in serious historical study. The same is nearly as true of White, though his prominent apparatus of prolific footnotes may create a misleading impression of meticulous scholarship". [NOTE] But even today, historians who should know better, like Daniel Boorstin, Charles Freeman and William Manchester, have produced popular books that wheel out all the old misconceptions and prejudices.

Another reason for the myth of conflict continuing is because at the moment there is undoubtedly a conflict between one wing of Christianity and modern science over evolution. Although the Catholic Church and mainline protestants have long ago reconciled themselves to Darwin's theory and modified their theology accordingly, many conservative Christians remain deeply suspicious about evolution and its alleged metaphysical implications. Unfortunately the reaction of many who are defending evolution is to try and widen the gap between religion and science by using it to push non-scientific but anti-religious philosophical agendas. This can be seen clearly in the work of Richard Dawkins and many writers on the internet. Some observers would claim that now science holds the whip hand it is being not much less intolerant of dissent as the church once supposedly was. This would not be an accurate view as instead the argument over evolution is carried on vehemently by a small number of extremists on both sides while the rest of the community looks on rather bemused. Occasionally, it spills over in a public arena such as when pressure groups gain control of previously obscure bodies that set school curricula, but in general it does not have the slightest effect. Most of the occasions when there have been conflicts between science and religion, have been caused by someone seeking publicity and fame when the problem could much more easily be sorted by patient discussion. This is the case both of Galileo publishing his inflammatory popular tracts that provoked the church and John Scopes volunteering to be charged with teaching evolution. Even so, Galileo himself blamed jealous scientific rivals and professional spite for his predicament. [NOTE]

The reasons for the continuing popular belief in the historical conflict can probably be summed up as follows:

- the writings of an earlier generation of historians have yet to be eclipsed by modern scholarship;
- some popular writers of today continue to recycle the old myths rather than using up to date research;
- a few famous events have given a misleading impression to people unfamiliar with their context;
- the idea of a conflict makes for a better story than more multi-faceted truth.

The real historical relationship between science and religion

The situation is complicated and changeable and it has not proven possible, and nor is it ever likely to, for a single theory to cover all forms of science and all forms of religion throughout history. It is certainly true that certain science (say, neo-Darwinist theory) is in conflict with certain kinds of religion (say, literalist Christianity) but even in an environment where both are present the effect is pretty negligible. For all the sound and fury over the teaching of evolution it is difficult to make any sort of case that science in the US has been adversely effected by creationism. If it means that scientists need to explain the theory of evolution better to suspicious laymen (which is something they usually poor at doing), creationism could even serve an occasionally useful purpose.

Conversely, cosmology has found itself agreeing with religion rather more than some anti-religious thinkers would like. A hundred years ago nearly all non-religious thinkers took it for granted that the

universe had always existed and always would. Despite the opposition of theologians claiming a real infinite in time was logically impossible (sometime called the Kalam cosmological argument), atheists seemed quite happy with an uncreated, eternal universe. When the Big Bang model was first suggested by the Jesuit priest Georges Le Maître it was greeted with a certain amount of scepticism and the atheist Fred Hoyle coined the phrase 'Big Bang' intending to be derogatory. His atheism also blinded him to the inadequacies of his steady state theory which one suspects he only came up with to avoid the uncomfortable metaphysical implications of a universe with a beginning. Atheist scientists have now come to terms with the big bang and adjusted their metaphysics accordingly, much like most Christians, after some debate, accepted evolution and twiddled their theology. However, it is interesting to hear today's atheists declaring that God must have a creator when their predecessors were quite happy for the universe not to have one. All this seems to demonstrate that when it comes to science, both sides find things they do not like and both sides argue against them until the evidence becomes impossible to deny.

Today popular histories do try and recognise this variety and the fact that the people they want to eulogise as the great heroes of science rarely had such clear cut views as was once thought. This has led to what I call the examination school of historical writing that can sometimes read like a series of end of term report cards where the figures of the past are praised or scolded according to how much the modern writer thinks they got right. A good example of this approach is John Gribbin's recent *Science: a History 1543 - 2000* which is really just an entertaining collection of anecdotes covered in a positivist gloss. But at least he largely avoids the conflict myth and admits that neither Giordano Bruno nor the anti-Trinitarian Michael Servetus can be described as martyrs for science.

Full on confrontations between science and religion are reasonably rare. Even when such encounters occur, they are usually arguments between co-religionists with shared concerns about how new discoveries effect faith. We find this during the debate that followed the publication of Darwin's *Origin of Species* where Christians such as Asa Gray defended both the theory of evolution and Christianity's accommodation with it. Another cause of confusion is when people seeking to attack religion seek to co-opt science onto their side. For instance, whether one is pro-life or not has nothing to do with science, but is often portrayed as such. Concerns about experiments on stem cells also arise from ethics.

This leads us straight to the real conflict which is between religion and naturalism. And here the warfare is real enough. Science is partly characterised by methodological naturalism which was used by natural philosophers of the Middle Ages and fully approved by the Church. They realised, as modern naturalists do not, that it is an error of logic to assume that because science assumes naturalism to simplify and explain, it follows that science shows naturalism is true. It is not the purpose of this article to attack the naturalistic fallacy, merely to observe that many of the alleged battles between science and religion are actually being fought by proxy between naturalism and religion, with science as the weapon of both. And, as the defeats of naturalism over the big bang and spontaneous generation showed, the traffic is by no means all one way.

Most academic historians, while rejecting outright conflict, would refuse to be drawn on whether or not the contribution of religion to science was broadly positive or negative citing the enormous amount of data that would have to be assimilated to give a sensible answer. Most are happy to say that the relationship has been positive in some ways and negative in others with an overall effect that is probably too subtle to be measured. While I respect that cautious view, I believe it is wrong and that a very strong case can be made for the Christian religion be a specific factor in the rise of modern science in Western Europe. But attempting to prove this is likely to be rather more difficult.

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