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Essay review

Complexity in practice

Thomas Dixon, Geoffrey Cantor and Stephen Pumphrey (eds.), *Science and Religion: New Historical Perspectives*. Cambridge: Cambridge University Press, 2010. Pp. xiv + 317. ISBN 978-0-521-76027-0. £55.00 (hardback).

Peter Harrison (ed.), *The Cambridge Companion to Science and Religion*. Cambridge: Cambridge University Press, 2010. Pp. xii + 307. ISBN 978-0-521-88538-6. £50.00 (hardback).

Here we have two books by Cambridge University Press on the ever-fascinating topic of the relationship between science and religion, but they are aimed at different readerships and operate at different academic levels. *The Cambridge Companion to Science and Religion* adds to a well-established series of books intended to introduce general readers to key issues in a wide range of academic fields. *Science and Religion: New Historical Perspectives* presents a collection of articles aimed at specialists and offering some genuinely challenging new approaches. In a sense, then, the books should not be compared directly, a caution reinforced by the fact that the *Companion* is not a purely historical survey but also contains articles on current debates.

The *Companion* is, in fact, split almost evenly between its historical and contemporary sections (counting Ron Numbers's chapter on creationism as recent history more than as a contribution to the current debate). The historical chapters in general provide good overviews for readers new to the field, but will probably offer little new to most *BJHS* readers. They range from David Lindberg's survey of patristic and medieval issues to Jon H. Roberts on Darwinism and John Hedley Brooke on secularization. In this section the book suffers a little from comparison with the much more extensive *History of Science and Religion in the Western Tradition* edited by Garry Ferngren (published originally in 2000 and reissued in a reduced form two years later under the title *Science and Religion: A Historical Introduction*).

The later parts of the book, covering contemporary science and philosophical issues, are more problematic because several of the authors write from a very obvious position of wanting to promote a reconciliation between science and religion. Simon Conway Morris offers his interesting but very debatable take on evolution, while several essays on cosmology and concepts such as emergence are similarly supportive of the view that studying nature reveals theologically meaningful results. There are more balanced analyses from Michael Ruse on naturalism, John H. Evans on bioethics and Mikael

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Stenmark on different ways of relating science and religion. The most interesting is Fraser Watts's chapter on psychology, which focuses on emotional issues such as guilt, where religion actually has something to offer to the scientists. His insistence that religion is better seen as practice, not belief, links to the most challenging innovation in the other book under review here.

The *New Historical Perspectives* volume presents some of the papers delivered at the conference held in July 2007 to mark the retirement of John Hedley Brooke, and its quality reflects the extent of the influence he has had on the field and the respect in which he is held. It is innovative in areas relating not only to the history of science, but also to the history of religion, a field which may be less familiar to *BJHS* readers. Many of the chapters develop a key theme of Brooke's approach, which Ron Numbers dubbed the 'complexity thesis' – an insistence that there can be no simple one-to-one relationship between science and religion, because each area of science and each branch of religion (and often each localized group within either area) will react to the interaction in different ways at different times. Examples where this complexity is demonstrated include Jon Topham's study of the roles played by authorship and publication at different times in the debate, Sujit Sivasundaram's account of the different ways non-Western cultures reacted to the science conveyed by Christian missionaries, and several chapters on the Muslim world. Western science could either be welcomed as an agent of modernity, rejected as an arm of imperialism, or simply ignored as irrelevant. Here I am prompted to reflect on my own reaction to a conference organized recently in Beijing by Jim Secord and Haiyan Yang, which demonstrated not only that Chinese culture absorbed Darwinism on its own terms, but also that it started from Darwinism as it was perceived in the West at the time the interaction began – thirty years or more after what we see as the 'Darwinian revolution'.

The complexity thesis has taught historians of science to be aware of the localized nature of the groups involved in the relationship between the sciences and the religions. For this reviewer, though, the most challenging aspects of the *New Historical Perspectives* volume are the chapters that argue for a different way of perceiving religions, shifting our perception of them as systems of beliefs and focusing instead on religious practices. Peter Harrison notes how the model of religion which defines it as belief in certain propositions (about God, the human soul, redemption and so on) was created by Enlightenment scholars grappling with the fragmentation of Christendom in the Reformation. Previously, he argues, religion was seen more as a set of practices intended to generate spirituality. The shift of focus to belief was actually intended to model religion on the newly emerging sciences, which were increasingly recognized as having a methodology based on providing evidence to support theories, i.e. propositions about the world. Not surprisingly, religion defined in these terms began to look like an inferior or immature version of science rather than a spiritual exercise. Recognizing that for most religious people their faith is really a set of practices helps us to understand how religion actually works – it explains, for instance, how Chinese culture can integrate what to the West looks like three incompatible belief systems – Buddhism, Daoism and Confucianism (something which always puzzled this reviewer when teaching in Malaysia many years ago).

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A chapter by B. Harun Küçük offers a parallel reassessment of Western perceptions of Islam. Originally seen by Western scholars as the purest form of Semitic faith, Islam came in the nineteenth century to be portrayed as an anti-Aryan and hence anti-intellectual mindset. The first model was adopted by J.W. Draper as part of his campaign against the dogmatism of Roman Catholicism, which he contrasted with the open-minded attitude of the early Islamic thinkers and of later Christian Protestants. The latter interpretation has increasingly driven modern perceptions of Islam as intrinsically hostile to all forms of critical thinking, including science.

The suggestion that religions are better seen as spiritualizing practices rather than as belief systems is intended to challenge the way we have viewed their relationship with science. If we have adopted an artificial definition of religion modelled on science, it is easy to see why the two areas have come to be depicted as mutually hostile to one another – science is simply replacing an out-of-date version of its own programme. The implication seems to be that if we switch our definition of religion to focus on its practices, the arena for conflict simply disappears because we are no longer looking at rival systems based on assent to propositions about the world. Just as the Chinese can integrate practices from diverse religious traditions, it will be easier for scientific and religious practices to work together. This suggestion holds all the more potential given the trend among historians and sociologists to view science itself as practice-based rather than theory-based.

But just how far can this approach take us in the area of science and religion? Can we really pretend that religions never focus seriously on beliefs, or that science never works through the proposing of new theoretical models? This problem is highlighted here in a chapter by Jan Golinski on Bruno Latour's religion. Latour has done more than anyone else to shift our focus from science as knowledge to technoscience as practice, but it is not widely known outside France that he is a practising Catholic who nevertheless insists that his religion is also non-propositional. As Golinski points out, however, if this were true of all religion, it is hard to see why there were all those heresy trials in the past. Why, one might add – to link with the chapters on Islam – were there crusades to regain the Holy Land, and why did Newton have to hide his Arianism? Here I begin to wonder about the wider validity of the Chinese example, partly because the religions involved there are not 'religions of the book' in the Western sense. Once a text is defined as sacred, the possibility of treating it as inerrant on even incidental points is there, and on a central issue such as the redemptive power of Christ the beliefs embodied in the text are surely important even to those who engage in practices intended to bring their lives into harmony with his mission in the world. Newton's practices involved both his science and his religion, but he could reveal only the scientific aspects of his researches without risk to his career.

Here I am reminded of Stephen Jay Gould's assertion that science and religion are 'non-overlapping magisteria'. He was able to make this distinction work only by defining religion in terms of morality (i.e. practice) and arguing that it became aberrant when it made knowledge claims about the world. If it stuck to its own job, he claimed, there could be no room for conflict. Pointing out that there is a dimension of practice to religion is a useful reminder that many religious people do not want to get caught up in

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debates about science, and that many aspects of both science and religion simply bypass one another. I am reminded of my own childhood experiences among working-class nonconformists, attending chapels where the hymns rang with evangelical fervour, including 'All Things Bright and Beautiful' sung without any apparent awareness of a threat from Darwinism. And these were Leicestershire coalmining families, certainly not ignorant of the impact of modern technology on everyday life.

But Gould simply missed the point of much religious belief (and experience, I suspect) when he insisted that it did not imply knowledge claims about the way the world should be expected to work. As Topham's account of the publishing industry reminds us, many writers actively wanted to relate the two domains, if only to convince readers that traditional design arguments were still valid in a world being explained by science. Geoffrey Cantor also shows how the old conflict thesis can be reconfigured if we concentrate on what happened within the minds of individual religious believers grappling with new scientific discoveries – his example is an eighteenth-century Dublin Quaker, John Rutty. The conflicts within institutions follow a similar model and surely depend to some extent on changing patterns of belief. Two scholars whose recent deaths are a great blow to the field have left us with valuable insights here, Margaret Osler's survey of the complex events of the Scientific Revolution and Frank Turner's important analysis of the debates generated by Darwinism. Turner points out that there were really two debates, one on the radicalization of the Enlightenment heritage represented by William Paley and one in which the scientific community was ranged against new religious forces including a resurgent evangelicalism.

There may be times when evangelical religion can get on with its everyday practices without reference to the impact of scientific ideas, but there are other times when the beliefs come to the fore and conflict ensues. The aggressive American-style evangelism now spreading around the world has chosen evolutionism as a symbol of the modernizing social trends it abhors. Of course there are practical issues involved too, illustrated beautifully here by Adam R. Shapiro's demonstration that the Scopes 'Monkey Trial' of 1925 was made possible only by political decisions concerning the buying of new high-school textbooks in Tennessee. But in the modern age of Young Earth creationism there are clearly disputes going on about how we interpret the evidence of the rocks and fossils, and great efforts are being made to convince the public that the orthodox scientific view is a systematic delusion. Somewhat paradoxically, as Salman Hameed describes, much of the creationism making waves in the Islamic world is simply imported from the Christian variety, although here the Young Earth element is ignored.

The role of practice is still important, though, because at this level the opponents of certain scientific theories can pick and mix which bits of technoscience they choose to use. The creationists' efforts to reach the public involve a heavy engagement with the products of new technologies, most notably electronic means of communication and the Internet. Similarly, the Muslim world is moving strongly into the field of biomedical research. The focus on practice helps us to understand how it is possible for people to use and develop technologies which (from the opposite, belief-centred viewpoint) depend on theories that grade seamlessly into areas which ought to ring alarm bells, including the

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physics which supports carbon dating, Big Bang cosmology and population genetics. The interesting point here is that religion functions at both levels and those involved can choose which level they will invoke according to circumstances. In a sense, then, practice is central, even when the practical choice is to focus on belief/theory in order to gain an advantage. Maybe the Chinese model is not so far off the mark, after all.

All this means that, as Thomas Dixon points out in his introduction, the varied chapters of the *New Historical Perspectives* volume extend the range of the complexity thesis to wider levels. We have to work out in which circumstances religion does create, or choose to focus on, belief. Clearly it has done this from time to time, and not just since the eighteenth century, although this aspect of its function may have become more visible at that point (especially to its opponents). This adds a new layer of analysis to the ones we already use, such as determining the circumstances in which beliefs do impinge on the 'knowledge' created by scientific practices. The question of when such critical practices have emerged is also important, though mentioned only peripherally here. In some cultures nothing resembling an objective study of nature ever emerged from the everyday practices of farming, hunting and so on and we can hardly follow the older generation of scholars who simply dismissed this lack as characteristic of the non-Aryan mind. Once something resembling science emerges, it has tended to make theoretical propositions which can be tested by experiment and observation. We tend to assume that it is the theories which intersect with religious beliefs, but the practices of science and religion may also sometimes intersect, whether it be in the refined studies of scholars like Newton or in the hurly-burly of modern biomedical research. But equally they may not, and for all the efforts of the mass media many people will remain ignorant of science and its potentially disturbing implications, or may choose to focus only on selected products that suit their practical needs.

Working out when and why these intersections occur offers a way out of the dilemma confronted by most of the authors in these volumes: how to prevent the complexity thesis from degenerating into a welter of case studies of interest only to specialists. Simply becoming aware of the variety of different interactions has helped to create what John Brooke called 'the creation of critical perspectives' on the field. But non-academics have tended to find the very basis of the complexity thesis distracting since they often prefer a simple-minded model such as that embodied in the old thesis of an inevitable conflict between science and religion. If modern scholarship has achieved anything of wider cultural value in this area, it is the partial debunking of that particular myth. But we ourselves need the search for what Ron Numbers calls the 'mid-scale patterns' among the case studies if we are to hold the field together. Given that religions do operate in most people's lives via practice, can we work out in what circumstances they do tend to generate belief claims which are vulnerable to a critique based on the study of nature? Given that most religions have sacred texts relating historical events, can we understand why those texts sometimes come to be taken so literally that such conflicts are almost inevitable? Answers to this type of question would constitute those mid-scale patterns we need to give the field coherence as well as a critical perspective. The *New Historical Perspectives* volume has widened the scope of our vision, yet it has also offered the hope of structure if not of synthesis for future research. Noah Efron's very personal tribute to

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the influence of John Brooke in the volume's concluding section highlights the debt that all of the authors owe to him and his work, but in the end it is the collective insights of all those involved which offers the best indication of the strength of the field he has inspired so much.

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