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The Cognitive Science of the History of Science

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*An Unnatural History of Religions*¹ is a profoundly frustrating book. The reason why it is so frustrating is that the important work done in it throws into sharp relief the far greater amount of work that desperately needs to be done – an amount of work that exceeds not just the abilities of a single talented researcher but, I think, those of the existing research community.

Ambasciano scrutinises the systematic failure of history of religion as a scientific discipline, tracing the dead-ends that the field ended up in during the twentieth century. He also considers some of the reasons why those paths were taken while others were left untaken. As such, he is exploring territory that lies on the mostly uninhabited borderlands of philosophy of science, sociologies of science and religion, and the cognitive sciences of science and religion. That he fails to map out this area is in no way to be considered worthy of reproach. Until recently some of those fields have been considered to be in opposition to each other – as was the case with the unrealistically rational view of science presented by philosophers and the unrealistically irrational view put forward by sociologists.² Other fields – such as cognitive approaches to science and religion – have only appeared of late. What is unfortunate, perhaps, is that Ambasciano does not make more use of the few other researchers who have been reconnoitring this area. I am primarily thinking of Robert McCauley, whose work on the fundamental cognitive difference between science and reli-

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1 Leonardo Ambasciano, *An Unnatural History of Religions: Academia, Post-truth and the Quest for Scientific Knowledge*, London – New York: Bloomsbury 2019.

2 For a discussion, see Helen Longino, “The Social Dimensions of Scientific Knowledge” [online], in: Edward N. Zalta (ed.), *The Stanford Encyclopedia of Philosophy: Summer 2019 Edition*, <<https://plato.stanford.edu/archives/sum2019/entries/scientific-knowledge-social/>>, 27 May 2019 [2 March 2020].



gion could have been of much greater use to Ambasciano than he puts it to.³ It is, therefore, my aim here to sketch out something of the shape of the territory that combining those accounts reveals.

Science and religion are both human social endeavours. While studies reveal certain regularities in the differences between the cognitive mechanisms of people who are engaged in science and those engaged in religion, those differences are relatively small. Indeed, in many cases, the very same people who engage in science at one time are those who engage in religion at another. Also, secularisation involves massive changes in patterns of religiosity without analogous changes in the cognitive mechanisms of individuals. Clearly, individual cognitive differences are not sufficient to explain the differences between science and religion. For that, it is necessary to look at the social institutions that are essential for those endeavours, to see how they manage cognition in such a way as to produce such different results. Doing that, however, pulls us in two seemingly incompatible directions.

On the one hand, it is important that the distinction between religion and science be made. The two make very different use of human cognitive abilities and play very different roles in human societies. Robert McCauley frames the distinction in terms of religion being natural and science being unnatural. As McCauley notes, supernatural belief systems (and the systems of practices connected to them) have arisen spontaneously and repeatedly throughout human societies, providing support for religious institutions. Science, however, has only appeared once in human history and scientific beliefs are so counterintuitive that scientific institutions are necessary to maintain them, else they turn into pseudoscientific caricatures. Yet, McCauley's picture is incomplete. World religions such as Christianity are very far from the practices and beliefs that arise spontaneously, and the related theology undergoes much the same apocryphal re-interpretation as scientific claims, as shown by the phenomenon of theological incorrectness. At the same time, science draws upon and organises natural cognitive abilities of humans in order to investigate aspects of reality far beyond everyday human experience. In this sense, cathedrals are every bit as much cultural elaborations upon natural human abilities as are research institutes.⁴ Both science and religion modify and make use of patterns of human cognition to serve their ends. But this does not undermine the point that there are fundamental differences between religion and science – it just elaborates it.

3 Robert N. McCauley, *Why Religion Is Natural and Science Is Not*, New York: Oxford University Press 2011.

4 Much the same point is made by Dimitris Xygalatas, "What Is Natural and Unnatural about Religion and Science", *Religion, Brain, and Behavior* 3/2, 2013, 161-164.

On the other hand, however, when one turns to historical examples the picture becomes greatly muddled. Ambasciano's book presents a very good case. The scientific discipline of the history of religion has been as much (if not more) shaped by religious considerations as it has by scientific ones – Ambasciano carefully follows the history of the approaches that have and have not been pursued within the discipline of history of religion. As he makes clear, this has been an ongoing struggle within disciplines that focus on religion. At the same time, one could look at the history of the Jesuits who – even though they were created as an order to defend Papal orthodoxy – went on to play an important driving role in a number of scientific developments, or consider the way that many recent theologians have been led by intellectual considerations to put forward positions inconsistent with the official Church stance. A tepid accommodationism is often seen as following from such examples, but it is hardly insightful as it relies upon not asking the important questions – much as one can maintain civility by not talking about politics around the Christmas table. The alternative, however, is far more intellectually demanding.

Religion and science are important analytical concepts in that they identify significantly different ways in which human social life can be organised, with the difference traceable to whether the accuracy of the claims being made is relevant to their function.⁵ Yet, that distinction tells us nothing of the means by which those claims come to be accepted. Understanding that requires the meticulous study of human cognition in the wild, which should range from recognising general relationships, through identifying concrete cognitive and cultural mechanisms, all the way to tracing the detailed causal story behind particular historical cases.

Thanks in part to McCauley, we have something of a grasp of the basic relations between science and religion as social institutions that make use of existing structures of human cognition. Ambasciano's book tells us much about the intellectual history of a scientific failure on the borderlands with religion. Yet both those face general shortcomings due to the lack of a detailed understanding of the mechanisms that ensure that human cognition comes to be used within the scientific and religious contexts in ways that suit the needs of those endeavours. Without an understanding of the cognitive and cultural mechanisms, science and religion remain analytical categories whose significance for complex real-life examples remains intuitively obvious but, in detail, less than clear. At the same time, while Ambasciano can trace how certain ideas came to be accepted in history of religion, he is unable to say how the scientific study of religion

5 Konrad Talmont-Kaminski, "For God and Country, Not Necessarily for Truth", *Monist* 96/3, 2013, 447-461.

could potentially be organised in the future to ensure that such study not be side-tracked by religious considerations into what are scientific dead-ends. Looking at the historical examples he considers, he is unable to present the mechanisms at play in the discipline of the history of religion that allowed the ideas of Eliade to flourish where more scientific approaches did not take root. Once again, this is not a criticism of Ambasciano but an attempt to identify the extent of the gargantuan task at hand. Much the same point could be made about any intellectual history, or indeed any history, where going beyond the facts forces one into generalities. We are only starting to uncover the relevant cognitive and cultural mechanisms that will allow us to fill in the blanks.

One relevant line of thought that can be pursued is to consider how scientific and religious institutions modify our natural capacity to exhibit epistemic vigilance regarding claims made by others. Drawing on the work of Hugo Mercier, Dan Sperber and colleagues,⁶ this approach argues that the fundamental difference between science and religion should be understood in terms of scientific institutions promoting content vigilance over source vigilance, while religious institutions do the opposite, and common-sense reasoning normally relies upon both source and content vigilance.⁷ This difference, in turn, is connected to the difference in the function of the beliefs produced by these two kinds of social endeavour. The implication is that, for the proper functioning of science, it is essential that scientific reasoning avoids relying upon arguments which seek to justify beliefs by reference to authority. Correspondingly, for the proper functioning of religion, it is essential that religious reasoning should rely upon arguments from authority. While this distinction in how science and religion work has often been noted in some fashion, it is fundamental. Many other differences in how religion and science are organised follow from this distinction and the failures of disciplines such as history of religion can be better understood in its context.

Approaching the history of religion armed with an understanding of the significance of these considerations helps us in a couple of ways. Firstly, it helps us to see why attempts to pursue the scientific study of religion so often fail to maintain scientific standards. The conflict between religion and science that becomes manifest in such contexts is, at its heart, an issue of the epistemic standards which science and religion require (the differ-

6 Hugo Mercier – Dan Sperber, “Why Do Humans Reason? Arguments for an Argumentative Theory”, *Behavioral and Brain Sciences* 34/2, 2011, 57-74; Dan Sperber – Fabrice Clement – Christophe Heintz et al., “Epistemic Vigilance”, *Mind and Language* 25/4, 2010, 359-393.

7 Konrad Talmont-Kaminski, “Epistemic Vigilance and the Science/Religion Distinction”, *Journal of Cognition and Culture* 20/1-2, 2020, 88-99.

ences in the content of the respective beliefs are primarily the result of these differing standards). Of course, to a certain degree it is possible for people to maintain different epistemic standards towards different beliefs. However, a discipline such as history of religion makes the clash particularly direct – it is impossible to treat religious claims in a way that is simultaneously in accord with scientific and religious standards, so the understandable effort to treat religious beliefs “with the respect they require” must undermine the study of religion. Secondly, understanding the role of religious and scientific institutions in shaping what kind of epistemic vigilance is applied in a particular context allows us to focus our attention upon the mechanisms that are likely to have played a role in making history of religion as problematic a discipline as it has been. In particular, we should focus upon comparing how the relevant institutions functioned to modify patterns of epistemic vigilance within the history of religion as compared to other scientific disciplines. The conditions which made it possible for Eliade to become an unassailable epistemic authority would seem to be potentially a rich source of examples of this kind.

Cognitive science of religion has been trying to identify the mechanisms that allow certain kinds of beliefs to flourish under particular conditions. As explained above, it is starting to provide us with examples of how culture and cognition interact. Yet these are early days. As Ann Taves has observed, there is nothing special about religion that might justify limiting the insights gained by this research.⁸ This means, in particular, that the research carried out will also cast light on questions of how it is that culture and cognition have been able to interact to produce scientific knowledge. Ambasciano – by looking at an example of a scientific discipline that sought to understand religion but, in the process, came to be overly influenced by religious considerations – presents us with an excellent case study. Somewhere in the future there may be a mature cognitive social science. So long as it does not end up getting side-tracked.

8 Ann Taves, *Religious Experience Reconsidered: A Building-Block Approach to the Study of Religion and Other Special Things*, Princeton: Princeton University Press 2009.



SUMMARY

The Cognitive Science of the History of Science

By looking at the case where science and religion come into direct contact, Leonardo Ambasciano's book *An Unnatural History of Religions: Academia, Post-truth and the Quest for Scientific Knowledge* (2019) provides a way into the tangle of issues involved in understanding the cultural and cognitive mechanisms that underlie science and religion. In doing so, it lays bare how much there is to do in order to understand real-world interactions between the variety of social institutions that make differing uses of the pre-existing cognitive mechanisms that humans possess. Something of that picture can be understood in terms of the differing ways in which scientific and religious institutions alter patterns of epistemic vigilance. Scientific institutions have a tendency to put the focus upon content vigilance, while religious ones favour source vigilance. The difference is not coincidental. A focus on source vigilance makes maintaining traditions of belief independent of the accuracy of those beliefs – a task that is vital in the case of religious beliefs because their capacity to maintain prosocial behaviour is not connected to their truth.

Keywords: epistemic vigilance; culture and cognition; science and religion; source and content; prosocial function.

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