

ARE EVOLUTIONARY/COGNITIVE THEORIES OF RELIGION RELEVANT FOR PHILOSOPHY OF RELIGION?

by Gregory R. Peterson

Abstract. Biological theories of religious belief are sometimes understood to undermine the very beliefs they are describing, proposing an alternative explanation for the causes of belief different from that given by religious believers themselves. This article surveys three categories of biological theorizing derived from evolutionary biology, cognitive science of religion, and neuroscience. Although each field raises important issues and in some cases potential challenges to the legitimacy of religious belief, in most cases the significance of these theories for the holding of religious beliefs is not very great.

Keywords: Pascal Boyer; cognitive science of religion; evolution of religion; moral cognition; theory of religion

The past two decades have seen a resurgence of theorizing about religion in the natural and social sciences. Of particular influence has been biologically related theorizing, including evolutionary theory, neuroscience, and the relatively new field of cognitive science of religion. Some of this work has made its way into the popular press, and these theories have received prominent discussion, if not necessarily endorsement, by leading proponents of the “new atheism,” notably Richard Dawkins, Daniel Dennett, and Sam Harris. The proposal sometimes made is that the research coming out of these fields poses a threat to the basis of religious belief and that if one takes the result of this research seriously, one can only conclude that the basis of religious belief has been undermined.

The goal of this essay is to suggest otherwise, and to do so by examining three kinds of potential arguments: the argument that religious belief is explained by the existence of evolutionarily formed cognitive modules that under normal circumstances prime for religious belief, the argument that

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religious experiences can be explained in terms of brain activity, and arguments based on evolutionary theories of moral behavior. In considering these arguments, I have modern varieties of theism in mind, although the scope of the arguments considered often have broader implications. I conclude that although in each of these cases there may be challenges for philosophical accounts of theism, they are not insurmountable and in most cases not very serious.

FIELDS OF CONSIDERATION

These three lines of argumentation do not all come from the same fields of inquiry. Although there has been a long history of interest in the study of religion in sociology, anthropology, and psychology, this interest typically has been on what may be called the more humanistic and culturally oriented end of these disciplines, resulting in a wide range of conflicting theories as to the nature and origin of religion, as well as conflicting theories as to what even counts as religion (see Pals 2006 for a standard account).

Only recently has such theorizing become prevalent in more biologically informed accounts, both within the social sciences and in related fields of biology and neuroscience. Indeed, much of the new scientific research into religion seems to fall into three broad forms of inquiry. The first, and in some respects oldest, derives from evolutionary biology, in particular the early agenda of sociobiology, prominently identified with the work of E. O. Wilson (1975; 1978) and Dawkins (2006). The subject of religion was taken up by Wilson in the textbook that birthed the field and has remained of interest to Wilson and to other scholars influenced by sociobiology intermittently up through the present. For these researchers, a primary quest has been to explain the existence of altruism biologically, and questions of the origin and nature of religion have been seen primarily in light of attempts to explain the unusual propensity to altruistic behavior in human beings (Qirko 2004).

Representing a second line of inquiry is the relatively new field of cognitive science of religion (CSR). The motivations of CSR, at least as represented by most of the major theorists, have been quite different, for CSR proposes that there are underlying psychological mechanisms that explain how and why religious beliefs and practices arise. Unsurprisingly, biologically and evolutionary oriented approaches to religion have been pursued by practicing biologists. CSR, however, draws from a range of disciplines, including religious studies, anthropology, and cognitive psychology. CSR is at least tacitly informed by paradigms within cognitive science and what has come to be called the cognitive revolution (Gardner 1987; Tremlin 2006). A virtue of CSR is a reasonably strong empirical emphasis: It has an experimental agenda, and it has produced results in peer-reviewed journals.

The third line of inquiry stems from neuroscience and seeks to explain religious belief and behavior in terms of localized brain activity, with an aim of finding neural correlates. To date, these efforts have been somewhat disparate, but they at least have indicated the kinds of research questions that may be interesting to pursue. (For overviews with sharply differing perspectives, see Peterson 2002; Pyysiäinen 2003; Atran 2002.)

This disparity is relevant, because there are sometimes sharp tensions between disciplinary approaches. Some CSR scholars have been critical of the approach and data produced by neuroscientists. Criticisms by neuroscientists have been levied against CSR and evolutionary approaches. At the same time, there are sometimes strong commonalities in goals and strategy. Many scholars working in CSR presume an evolutionary framework, particularly in the form put forth by evolutionary psychology. Also, some of the more prominent researchers, including Pascal Boyer and Scott Atran, have a common goal to explain religion exhaustively that is driven by a shared conviction that religion is nonsense—and dangerous nonsense at that—and that scientific explanation can play a vital role in addressing the problems that religion creates. Thus, although the research undertaken in each of these fields may be understood to be merely descriptive in character, and is understood as such by some practitioners, there is a potential prescriptive and deflationary application that is indeed being drawn upon both by those in the field and by critics of religion outside of it.

THE CSR ARGUMENT

The first argument comes primarily from CSR. For the critic of religion, the relevance of CSR for critiquing religious belief and commitment seems obvious: CSR claims to provide an explanation for why people hold religious beliefs, and this explanation differs from the reasons that individuals give for why they participate in a particular religious tradition. CSR can be understood to be giving the real reason people subscribe to religious beliefs. On this account, CSR is explicitly reductive, providing an explanation of religious belief and commitment that is contrary and superior to those given by the practitioner. More strongly put, CSR shows that all religious beliefs are false. Religion is a sham, even if psychologically motivated and therefore difficult to eradicate. CSR is consequently seen as an inheritor of the Feuerbachian project to reduce religion to something else, whether it be psychology, class struggle, or will-to-power.

By itself, CSR demonstrates no such thing. When the argument is put forward naively, CSR is easily understood as a form of the genetic fallacy. To explain the origin of a belief tells us nothing about whether that belief is true; that one is motivated to hold a certain belief does not make that belief false. By analogy, one might investigate the psychological underpinnings that underlie scientific investigation or mathematics, and a researcher

might further explore psychological factors (an innate curiosity, a desire to manipulate the environment) that, hypothetically, may motivate pursuit of science and mathematics. But the fact that there might be psychological underpinnings and motivations tells us nothing about whether a given scientific hypothesis or mathematical conjecture is true.

CSR may be relevant in a different way, however—not by directly disconfirming whether or not God exists or whether or not there are states of enlightenment (to take two examples) but by providing evidence to make religious believers doubt that their reasoning processes are functioning properly. In other contexts this is referred to as a hermeneutics of suspicion: We are led to doubt the veracity or honesty of an account because of conflicting motivational factors, including race, sex, and power. For CSR, the conflicting motivational factors stem from realities of our psychological and biological makeup. In the neuropsychological literature, the term *confabulation* often is used to describe this state of affairs, the classic example being split-brain patients who are prone to give rationales for their actions that are at clear variance with evidence available to the researchers. Similarly, the results of CSR may lead us to suspect that our reason-giving with respect to religion is a form of confabulation, that the reasons we find to be convincing are so not because they are really convincing but because we are motivated by psychological mechanisms to find them such. Does CSR in fact do this?

For purposes of analysis, I take Pascal Boyer's *Religion Explained* (2001) as a paradigm case of claims currently being made in the field. Although a number of similar and competing works are currently available, I select Boyer's account because it seems to have been particularly important, it puts forth a clear theory, and it incorporates some of the most influential research in the field at the time of its publication. Furthermore, although other researchers in CSR disagree with Boyer on specific points, there is considerable overlap, in both tone and content, between Boyer's account and that of, for instance, Scott Atran, Ilkka Pyysiäinen, and Todd Tremlin.

Boyer argues that religions are a byproduct of the normal functioning of the human mind and its evolutionary adaptation to environmental needs. Two of his basic premises derive from the field of evolutionary psychology: that human beings share a universal nature produced by the selective pressures of evolution and that this universal nature includes a mind with a modular architecture, constructed by evolution to adaptively solve problems in the environment in which it was formed—the Pleistocene. Along with others in the field, Boyer takes religion to be centrally about supernatural agents, interpreted broadly to include gods both polytheistic and monotheistic as well as ghosts, angels, djinn, and pixies. Following a proposal from Justin Barrett, Boyer suggests that human beings possess an agency detector module and that this module is hyperactive—human beings are prone to infer the presence of intentional agents and interpret

events as the result of such agents even when they are not there. Such a hyperactive agency detector would potentially have great adaptive value because it would enable human beings to quickly identify predators and react accordingly. From an evolutionary perspective, that such an agency detector be hyperactive is a good thing, because false positives are relatively harmless, whereas false negatives can be deadly.

Boyer posits that, alongside a hyperactive agency detector, human beings have a modular architecture for interpreting the natural world and that all humans possess instincts for creating biological categories, including categories for agents. One can therefore speak of an intuitive or folk concept of organism and an intuitive or folk concept of agency. A concept is said to be counterintuitive precisely to the extent that it violates our innately driven expectations of organism and agency. Thus, once we learn that an organism is classed as an animal, we naturally infer a host of characteristics, such as that it has flesh-and-blood innards rather than mechanical ones and that it is capable of movement. An animal that grew leaves and extended roots in the ground would be counterintuitive in this technical sense. Similarly, agents are counterintuitive if they violate our innately driven intuitions about agency, which Boyer takes to be those characteristics that all normal human beings share. By this definition, supernatural agents are automatically counterintuitive because they possess characteristics that violate such innately driven intuitions. Gods are agents without bodies and capable of doing sorts of things that human beings cannot do. Humans are mortal, the gods are not; humans have limited knowledge, the gods have perfect knowledge, and so on.

So, humans detect agents that are not there, and some of these agents, for whatever reason, are posited to be biologically counterintuitive. Once such agents are invented, they tend to persist in our minds preferentially. Boyer cites studies he has conducted suggesting that we are more likely to remember counterintuitive concepts than intuitive ones.¹ How do these counterintuitive agents come to be associated with the kinds of things we associate with religion? For Boyer, a key point is that supernatural agents can be easily understood to have strategic information, and holding this strategic information makes them relevant and important for human beings when actions are being considered.

This brief account, versions of which may be found in other and more recent forays on the subject within CSR, admittedly is theologically thin. The primary concern is to define what supernatural agents are psychologically and to provide some etiology as to how they may have become fixed in what we call religion. All supernatural agents are treated more or less the same, and there is little effort to distinguish monotheistic conceptions of God from polytheistic ones or indeed God and gods from other kinds of supernatural beings. Nor is there much in the way of explanation of how and why in some traditions the gods become associated with creation and

salvation, and some not. Presumably, either these are questions yet to be answered, or they are deemed largely irrelevant because the prime focus is on the connection of the gods to human action, especially ritual.

I leave aside the question of how well supported these claims are. Although Boyer's hypothesis is based in part on experimental research, there is a necessarily conjectural element to its claims both that the origins of religion are in these psychological factors and that all religions can be explained by such psychological mechanisms. The sweeping claims sometimes made by CSR will likely strike most philosophers of religion and religious studies scholars as problematic because they seem to leave so much out. It is one thing to appeal to supernatural agents who might be strategically useful just as one might appeal to the local banker, as Boyer's theory implies, and another to devote one's whole life to a religious vision of selfhood and community, even at personal cost.

But let us suppose that CSR is correct that human beings possess a hyperactive agency detector and that the origin of religious traditions lies in the psychology of counterintuitive agency. How significant are these claims to the philosophy of religion? Not very, it would seem. The first religions had to come from somewhere, and the conjecture that they originated in the psychology of counterintuitive agency is as good a possibility as many already on the table and indeed better than some. If it were revealed to members of these first religions that the initial impetus came from the psychology of counterintuitive agency, this might threaten religious belief, and it probably should, but only if it necessarily excluded other forms of reason-giving for the people in the religious community or served to invalidate other forms. But these comments are speculations. The first religions no longer exist, and even the current religions of aboriginal peoples are not the first religions.

CSR is not simply about the origin of religion, however. It is also about the perpetuation of religion. On the CSR account, religions are perpetuated because we have an innate psychology of counterintuitive agency. Humans have an inborn susceptibility to belief in supernatural agents, so when we are exposed to particular claims about supernatural agents we are likely to pass them on. Here the two ways the skeptical argument may be put forth matter. How a belief is transmitted to me tells me little about whether a belief is true, although it would be relevant to the warrant for my personally holding the belief if I had no other reasons for holding the belief in question. Thus, the naive form of the argument is simply a form of the genetic fallacy. The better argument is to suggest that propensity to counterintuitive agent beliefs provides a hermeneutic of suspicion—it forces the believer to consider that the reasons one holds for being committed to a particular religious tradition are not the real reasons and that when the reasons are properly examined they may come up short. This seems to me to be a legitimate argument, but its power depends on the kinds of reli-

gious belief in question. Here, I would argue, the differences between religious traditions and within religious traditions, differences that CSR glosses over, do matter. Some concepts of God or gods are more plausible and some less so, and even within individual monotheistic traditions there are competing conceptualizations of God. Some accounts of God in the Christian tradition (for instance) are more intellectually satisfactory than others, and there is a long tradition of being quite cautious of agential and overly anthropomorphic language. It is interesting that both Boyer and Atran put forth “anti-theologian” clauses in their work, the claim being that theology is irrelevant because there are vanishingly few theologians in the world and most religious believers do not display such theological sophistication. This point is perhaps true, but overemphasized; clergy in developed countries typically do go through extensive training and have significant exposure to sophisticated theology, some of which they transmit to their parishioners. But to the extent that it is true, it is largely irrelevant to the philosophical task, because it is precisely the sophisticated claims that merit attention, not the unsophisticated ones.

THE NEUROSCIENCE ARGUMENT

The second line of argument draws on neuroscience. It claims that findings in neuroscience can and do discredit claims of religious and mystical experience and, to the extent that religious and mystical experiences are understood to underpin religious claims, discredit religion as well. The research that has garnered the most attention has sought to find a place in the brain responsible for such religious experiences. Michael Persinger and V. S. Ramachandran, taking different approaches, have made claims that associate religious experience with the temporal lobe, which in turn is implicated in forms of increased religiosity found in temporal-lobe epileptics (Persinger 1987; Ramachandran and Blakeslee 1998). Andrew Newberg and Eugene d’Aquili, by contrast, have pointed to decreased activity in the parietal lobes during meditation and prayer as providing keys to understanding the neural underpinnings of mystical experiences (Newberg, d’Aquili, and Rause 2002). On the side of philosophy of religion and religious studies, there has been much discussion of whether the categories of religious experience and mystical experience are intelligible (Proudfoot 1985; Taves 1999). I assume here, for the sake of argument, that they are, but this says nothing about their centrality to justifying religion in general. Although John Hick (2006) and others have argued that religious experience is indeed the basis of religion, this claim is not universally accepted among either theologians or scholars of religion. But, if religious experience does play a contributing role in the justification of religious belief, neuroscientific research that undermines confidence in religious experience would do to that extent undermine religious belief as well. Might neuroscience do this?

It is noteworthy that Persinger and Newberg, the two researchers most prominently associated with this work, take diametrically different approaches. Persinger argues for a deflationary account; Newberg argues, or at least suggests, that such research may be understood to support the claims made by religious practitioners. Certainly, the research may be taken to verify the claim that something is going on during meditation or prayer, and that this “something” is different in kind from other sorts of experiences. This is a very modest kind of confirmation, however, because it tells us nothing about the content or the character of such experiences. For the believer there seem to be two primary concerns, one of content and the other of causality. On the side of content, for the experience to be truly religious or mystical would require that it be in some sense revelatory—that it give some glimpse of a kind of truth or reality that is not normally available within the confines of the empirical. On the side of causality, it may be important that the experience, to be considered as real, be understood to have a nonnatural cause. I emphasize the word *may*, because it is not obvious to me that this causal claim is necessary. But it is important for at least some claims of religious and mystical experience, and certainly in theistic religions this would seem to be important for at least some forms of religious and mystical experience, because to truly be such an experience would require that God be understood as the ultimate cause of the experience.

The claim that there exist neural correlates for the content of religious experiences does not seem particularly threatening unless one is beholden to a full mind/body dualism. There are neural correlates for all sorts of experiences, so we may expect it to be the same for religious experiences. The causality claim may be more challenging, and, once neural correlates are found, the causal question is raised, especially if it could be shown that religious experiences can be induced—something that Persinger has claimed to be able to do but that other researchers have been unable to replicate (Granqvist et al. 2005). If such research or something like it in the future turns out to be confirmed, it seems that the theist would have to concede that, at best, the human mind is primed for such religious experiences but that it can be manipulated to produce false positives. Admitting this would cast doubt on the veracity of religious experiences generally, so some further account must be given for distinguishing genuine from false religious experiences. This, of course, is a familiar issue for philosophers of religion, with William James’s pragmatist proposal being probably the best known solution. As such, it is not clear that the advent of neuroscience alters ongoing debates about religious experience as much as it slightly changes the parameters of such debates.

EVOLUTIONARY THEORY AND THE MORAL ARGUMENT

A third line of argument deals with the relation of religion and morality. In the popular mind, religion provides the justification for morality, and this kind of claim has sometimes received academic expression. C. S. Lewis put forth a famous version of the argument (2001), and the claim finds support among divine-command theorists such as John Hare (1997), who argues for a “moral gap” that cannot be bridged by naturalistic accounts of ethics. That this is so has not been obvious to most moral philosophers, and the history of modern philosophy has been in no small part an effort to ground ethical norms on something other than God. Scientific accounts of ethics with roots in evolutionary theory are taken by some to support the separation. On these accounts, what we count as our moral behavior is put in place by our biology, and as such religion’s role is irrelevant, tangential, or derivative.

The view that religion is irrelevant can be found in the work of Jonathan Haidt (2001) and Marc Hauser (2006), both active in the new scientific field of moral cognition. For both, our moral compass is in an important sense innate and formed by the process of evolution. Hauser in particular draws on the framework of evolutionary biology and its categories of kin selection, reciprocal altruism, and more recent theories of group selection to justify the claim that our moral preferences are part of our innate make-up. For both Haidt and Hauser, a key feature of moral judgment is that it is typically characterized by snap decisions that many subjects have difficulty providing consistent rationales for, leading the researchers to suspect that the rationales are post-hoc rationalizations. Both attempt to give proximate mechanisms grounded in an innate psychology. Haidt, following David Hume’s emphasis on the sentiments, hypothesizes that our moral judgments are primarily the result of an emotional response, a gut feeling of what is right and wrong, while Hauser suggests that there is a moral module that first modulates our response and that categorizes actions into the categories of permitted, obligatory, and forbidden. In either case, religion, indeed even moral philosophy, is deemed largely irrelevant to what we decide is right and wrong; the central features of our moral compass are for the most part already set. In Hauser’s case, justification for this claim lies largely in surveys and response data, the largest being an open Web survey that appears to show that on many kinds of moral dilemmas most individuals respond similarly, irrespective of culture, race, class, and religious belief or lack thereof.

The evaluation of the relevance of religion for morality by CSR theorists has been similar to that of Hauser and Haidt, although CSR theorists seem to be more inclined to describe religion as having a tangential relation to morality. Boyer’s account is quite clear on this. For him, gods just are counterintuitive agents that get lodged in our memory and then are

conjectured to have strategic knowledge, suddenly making the gods of interest. One form of such strategic knowledge is knowledge of our moral actions and of guilt when we do something that we feel is wrong. Because our moral emotions and intuitions are innate, a hypothesis that CSR shares with Haidt and Hauser, the reason why we feel that some course of action is right or wrong is not cognitively available to us. But the gods are, and Boyer suggests that it is a small cognitive step to hypothesize that the gods are interested in our moral activities and may even be the source of our moral intuitions. Boyer concludes that religion is parasitic on ethics, a turn of phrase Pyysiäinen uses as well (Boyer 2001, 191; Pyysiäinen 2003, 194).

In contrast to CSR, Hauser, and Haidt, David Sloan Wilson (2003) envisions a quite different relation. Drawing on earlier work on group selection, Wilson proposes that religion is tied to an ethics of group selection. The innovation of newer forms of group selection theory in biology is that it provides a biologically sound basis for nonreciprocated acts of altruism to nonkin. On Wilson's account, religion fosters group cohesiveness, which is crucial for group selection to emerge as relevant factor. For Wilson, religion is crucial to the maintenance of at least some of our moral behavior—that devoted to the group we identify with—although religion's role in this scheme might be described as derivative, because it doesn't matter much which religion or what kind of religion is in place as long as it supports the cohesiveness of the group. Proneness to religiosity is itself part of our evolutionary makeup and a product thereof. Furthermore, its tie to group selection implies a dark side to religion, because part of being committed to one's group implies opposition to those in the out-group. For Wilson, group selection provides an explanation not only of the connection between religion and morality but also of the connection between religion and intergroup violence.

As with both CSR and the neuroscience of religious experience, there are potential issues with quality and interpretation. One very notable problem with Wilson's group-selection hypothesis is that he, unlike the CSR theorists, is not very clear on what religion is, or why, from a biological/evolutionary perspective, religion should be connected to ethics rather than something else. With respect to the work of Hauser, Haidt, and CSR, the claim that our moral nature is innate admits of some complexity, because the moral nature of which they are predominantly speaking is the willingness to make certain kinds of judgments in response to certain kinds of moral dilemmas, typically ones requiring a stated preference between two undesirable outcomes or on some principle of fairness. Whether statements of moral judgment correlate with moral action is another matter. In addition, this emphasis on core moral values does not mean that religion and culture play no role at all. Hauser, at least, is clear on this and speaks of principles and parameters, arguing that evolution has set innate principles that we all share but that cultural parameters can exist that modulate these

principles to varying degrees. One such parameter may deal with the way we define in-group and out-group and how to treat members of each. Even in Hauser's case, however, the language of parameters tends to be minimized—the biologically innate principles are what really count.

Does any of this matter for philosophy of religion? The situation here is complex. The critic of religion may argue that the findings of CSR directly undermine religious claims—a view that I have suggested is problematic. The case of morality is perhaps more like that of religious and mystical experience, where the perceived threat to religion relies on a prior claim that religious belief and commitment do depend on the veracity of religious experiences. Similarly, the scientific claims of a biologically innate morality would be threatening only if the philosopher of religion were committed to claiming that religious belief is required in order to be motivated to make moral judgments and that our willingness to make such judgments is somehow evidence for the veracity of religious truth claims.

How threatening would biological theories be in such a case? It is not obvious that they would be very threatening at all. In fact, such a claim would be very familiar to natural-law theorists, who have long posited such natural inclinations, and it is unsurprising that some contemporary advocates of natural-law theory have incorporated some biologically informed theories of cooperation into the work (Pope 1995; Boyd 2007). On such accounts, that we have a moral nature would be consonant and perhaps supportive of a theological outlook, whether such a moral nature be a product of special or general providence.

Difficulties remain, however. It is not clear that what the scientist and the theologian and philosopher mean by *moral* is the same thing. For the biologist, a key question is how to understand the possibility of altruism, and the biologist's definition is not necessarily identical to the philosopher's, for whom altruism may not even be a primary category. In addition, some of our behaviors that the biologist may describe as innate, such as out-group hostility, are quite immoral by standard philosophical and theological accounts. Indeed, the claim that we have a biologically innate morality is somewhat tendentious. Is this a good nature to have? Is it good enough? Can we do better? What would better look like?

To the extent that religion plays a role in thinking about morality, these are the sorts of questions that are most relevant. The claim that we have a biologically given nature may indeed be important for how we answer these questions, but biology by itself cannot determine the answers.

CONCLUSION

Despite claims made by critics of religious belief, the data and theories coming out of the biological sciences do not seem to have great bearing on theological and philosophical accounts of religious belief and commitment.

On the whole, the arguments that I have put forward have been deflationary, seeking to show that although developments in CSR, the neuroscience of religious experience and mysticism, and the science of moral cognition may provide some challenges to a philosophy of religion, these can be met and incorporated. It is therefore tempting to draw the conclusion that these scientific enterprises are irrelevant for philosophy of religion and theology. But I think that this conclusion is unwarranted as well. Science cannot tell us whether or not we should believe in God, but it can tell us a good many things about our propensities and our failings. In this respect, the range and diversity of religions are no different, embodying our capacity both for great warmth and love and for much that is vile and poisonous. Understanding the human motivations that lead us in both directions is crucial. Although theology and philosophy cannot just be anthropology in another form, they do need to provide some understanding of what it is to be human—and it is here that the sciences can and will continue to play a crucial role.

NOTES

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1. Boyer's data has been challenged by Atran (2002), but Atran suggests that the effect holds for stories that include minimal counterintuitive elements.

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