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The cognitive science of religion: a modified theist response

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Abstract: Critics of religion have recently claimed that the natural explanation of religious-belief formation offered by the Cognitive Science of Religion (CSR) is incompatible with theism. Defenders of theism have in turn responded to these claims by arguing for the compatibility of the CSR account with theism. In this paper we propose a modified defence of the compatibility of the CSR account with theism which supplements extant theistic arguments by drawing out the implications of certain points about the nature of CSR explanation which have so far been left relatively unexploited. In developing this defence, we argue that extant atheistic and theistic readings of the CSR can be understood as accepting certain presuppositions, especially about the relative centrality of the CSR account in explaining religious belief, which, we argue, would be detrimental to the theist case were they actually intended, and which should be clearly rejected. We suggest that the theist should argue explicitly from the nature of CSR explanation to its compatibility with theism.

Critics of religion have recently claimed that the natural explanation of religious-belief formation offered by the Cognitive Science of Religion [hereafter CSR] is incompatible with theism.¹ Defenders of theism have in turn responded to these claims by arguing for the compatibility of the CSR account with theism.² In this paper we argue for a modified theist strategy which incorporates certain additional points, especially concerning the nature of CSR explanation.

In the first section we outline relevant features of the CSR account of religious-belief formation. The second section summarizes the arguments that have been given for the incompatibility of the standard CSR account of religious-belief

formation and theism, and classifies these arguments and recent theist counter-arguments into two types. In the third section we consider some potential rejoinders to which these counter-arguments might in turn be vulnerable if read a certain way, and introduce a modified defence of the compatibility of CSR and theism incorporating additional points concerning the explanatory scope of CSR. The fourth section sums up our argument and includes some concluding remarks.

The CSR account of religious belief

The CSR proposes the following basic account of the natural origins and maintenance of religious beliefs and behaviours (let us call this the standard model). Starting from the assumption that human cognitive architectures are modular in structure and their modular components were selected for in humans' (Pleistocene) environment of evolutionary adaptedness (EEA), CSR researchers suppose that minds contain a set of cognitive mechanisms that collaborate to generate religious belief and behaviour cross-culturally as a by-product of their normal functioning. (In other words, religious beliefs and behaviours are evolutionary spandrels, not adaptations.) Religious beliefs so produced are regarded by their holders as being true and important. More specifically, religious beliefs are held to arise and persist for the following reasons:³

- (1) They are *counter-intuitive* in ways that make them optimally suited for recall and transmission.

Since religions are communal, in order for religious ideas to spread beyond individuals to become believed by whole communities, they must have properties that make them memorable and which make them transmit successfully from one mind to another. The minimal counter-intuitiveness hypothesis states that human minds are such that some ideas are more 'catching' than others. In particular, human minds find strange or counter-intuitive ideas very memorable and interesting. But this hypothesis predicts that only certain sorts of counter-intuitive ideas will have high memorability and transmit well, namely those which involve only a few rather than many violations of humans' innate 'ontological categories' (Pascal Boyer).

- (2) They spring from cognitive mechanisms that generate beliefs about *agents* and *agency*.

Religious beliefs arise in the first place with the help of an intuitive cognitive mechanism called a 'hypersensitive agency detection device' (HADD). HADD is based on the observation that humans tend to interpret ambiguous stimuli as having been produced by agents, and that this perceptual bias would be adaptive,

since it made humans more wary in their interactions with the environment and therefore reduced the risk of unexpected encounters with predatory others. HADD hypothesizes the existence of agency when it detects certain sorts of stimuli in the environment. Overdetection of agency seems a reasonable strategy for human minds because they are presumed to have evolved to maximize relevant information about their environments. But where no natural embodied agents can be discerned, invisible minimally counter-intuitive supernatural agents (1) become good candidates for explaining unusual events.

- (3) They typically represent the religious entities as *minded agents* who, because of their counter-intuitive character, stand to benefit us in our attempt to maintain stable relationships in large interacting groups.

Since we also have a cognitive mechanism – sometimes called theory of mind (ToM) – to attribute mindedness to agents and to explain behaviours by appeal to hypothesized beliefs and desires, it is argued that events which trigger HADD are likely to serve as occasions to form beliefs of this sort about those agents which are thought to cause these unusual stimuli.

- (4) They are also *inference-rich* and thus allow us to generate narratives about them that enhance their memorability, make them attractive as objects of ritual, and increase our affective reaction towards them.

While none of these factors just on their own explain the cross-cultural salience of religious beliefs, it is proposed that their combination adds up to a powerful explanation of the origin and prevalence of the diverse religious beliefs in the world and the ease with which they transmit across cultures.

Incompatibility arguments and counter-arguments

There are several incompatibility construals of the standard model. Those who have made such construals have not generally made their precise arguments for its incompatibility with theism explicit, but theists have sought to reconstruct these.⁴ There seems to be basically two different types of incompatibility arguments: (A) arguments from the availability of naturalistic explanations to the redundancy of theistic explanations and (B) arguments to the unreliability of the mechanisms that bring about theistic beliefs.

Natural versus theistic explanations (A)

The arguments of the first type aim to show that theistic explanations of religious beliefs are redundant, impossible, or unnecessary. The basic idea is that from the existence of a non-theistic and naturalistic explanation of theistic belief

we can infer that ‘theistic explanations’ of theistic beliefs are unnecessary. In other words, naturalistic explanations of theistic belief can be used as evidence for the non-existence of the target of theistic beliefs, that is, God.⁵

Theists have pointed out in reply that such arguments pit supernatural and natural explanations against each other needlessly. For the theist there is no reason to deny the possibility that God could use natural processes to execute His will in the world and – as in our case – produce theistic belief.⁶ The most common way of cashing out this view is to distinguish personal (or teleological) explanation from natural (or physical) explanation.⁷ Personal explanations, in this view, refer to intentional states of rational agents, and natural explanations to physical causal processes, and these two modes of explanation are not mutually exclusive. Since theistic explanation can be understood in terms of the former, it can be argued that there is no contradiction in giving the same event two kinds of explanations, one supernatural and one natural.

Unreliability arguments (B)

Suppose the theist response to the type-A argument is satisfactory. This does not yet secure the compatibility of the standard model and theism because theistic beliefs may yet be irrational or unjustified because the ways in which they come about are unreliable.⁸ We will call the diverse arguments of this kind ‘unreliability arguments’. The aim of these arguments is to show that regardless of whether theism is true or not, the standard model shows that the theist is not rational in believing in God since the mechanisms and pathways through which our theistic beliefs come about are unreliable. In the literature, one can find at least the following arguments that all endorse this basic strategy:

- (1) The argument from the fact that HADD and ToM were not selected to produce theistic belief but arose as by-products to the fact that HADD and ToM are unreliable sources of theistic belief.
[The argument from spandrelism]
- (2) The argument from the existence of a naturalistic explanation of theistic belief to the lack of proper causal connection between theistic belief and its targets.
[The argument from the lack of proper causal connection]
- (3) The argument from the easiness of theistic belief to its irrationality. [The argument from naturalness of theism]
- (4) The argument from the fact that HADD produces so many false beliefs to the unreliability of HADD. [The argument from false positives]
- (5) The argument from the diversity of religious beliefs produced by HADD and ToM to their unreliability.
[The argument from the diversity of religious belief]

Consider CSR's assumption that religious beliefs are by-products of psychological mechanisms that are selected by natural selection for other than religious purposes. This claim seems to imply that, as religious beliefs are products of mechanisms that are not selected to deal with religious information, they are *prima facie* suspicious. The argument can be put as follows:⁹

- (1) If a belief about God is a product of mechanisms of the human mind that have not been selected to produce beliefs about God (a by-product, *spandrel*), then beliefs about God are irrational.
- (2) Natural selection has led to the emergence of cognitive mechanisms (e.g. HADD and ToM) because they provide a survival advantage, not because they produce beliefs about god.
- (3) Therefore, beliefs about God are irrational.

Theists have put the following counter-argument: we have no reason to think that beliefs that are evolutionary by-products, that is, products of mechanisms that have been originally selected to produce beliefs about other things, are unreliable. We can see quite clearly what is wrong with this argument if we substitute the word 'God' in the argument with, e.g. 'quantum mechanics' or 'calculus'. What we see is that most of our beliefs, including beliefs about all sorts of scientific things and everyday beliefs, are also 'accidental' by-products of our cognitive systems in exactly the same way as beliefs about God are: natural selection did not favour individuals who were able to do quantum mechanics or calculus. We are able to form beliefs about quantum mechanics and calculus – as well as many other things – because our cognitive mechanisms, that originally evolved to do something else, are flexible enough to process different inputs.¹⁰ We cannot infer from the fact that a cognitive system has been naturally selected to perform a certain function to the conclusion that the system in question is unreliable when it is performing some other function for which it was not selected.

According to the theist, the reason why the argument *looks* convincing is that it plays with two different meanings of the notions of 'by-product' and 'evolutionary accident'. Usually these notions are used to refer to traits that have not been selected by natural selection, that is, traits that are not adaptations. But what they are made to imply in the argument is that if a belief is a product of mechanisms that are by-products of natural selection, the belief in question is randomly generated, that is, it does not track the truth. But, it is argued, there is no necessary connection between these two meanings. So, what the claim 'theistic beliefs are evolutionary by-products or evolutionary accidents' comes down to is that when producing theistic beliefs cognitive mechanisms operate outside the domains in which they were selected to work in.

Type-2 arguments purport to show that in order for a belief that *p* be justified (to be a proper candidate for being true), the belief that *p* must be causally connected to the reality which it represents. So if religious beliefs

are not caused by any actual state of affairs in reality but by the cognitive mechanisms themselves, then they do not seem to be proper candidates for being true.¹¹

One way of rebutting the argument is to argue that, although causal analyses of knowledge and justification are quite popular, some other theory of justification should be selected. Not every theory of justification requires a causal connection between the object of a belief and the belief itself. Secondly, even if theists grant for the sake of the argument that a causal analysis should be accepted, they can still claim that there is a proper causal connection between theistic belief and God. The theist can claim that God has set up our cognitive systems in such a way that they produce true beliefs about Him in certain environments. The causal connection would be there, but it would be relatively indirect.¹²

Suppose the theist rejoinders to the above arguments are successful: there is still the issue of the CSR claim that religious beliefs are easy to form and transmit (type-3 arguments). The basic idea of such an argument is that we know now why people find theistic beliefs plausible: not because there is a God, but because of our psychology. From this we can conclude that it is irrational to have theistic beliefs.

In reply to this, the theist can grant that CSR results strongly support the idea that human beings are in fact credulous recipients of theistic belief and that human cognitive faculties are largely responsible for this fact. The theist, however, will want to claim that the plausibility of theistic belief cannot be used as evidence for its irrationality. The theist can maintain that God does not have to be the cause of people's credulity for theistic belief to be rational. In other words, there must be a mistake somewhere if we take the plausibility of theistic belief as evidence for its irrationality. One possible response to this is to claim that the one and only reason for the plausibility of theistic belief is the existence of unconscious cognitive mechanisms (HADD and ToM). If this were the case, then the argument would look more reasonable. The theist, however, would counter this claim by saying that it assumes an implausible view of human psychology: one would need to show that conscious deliberations, other cognitive systems and other causal factors would not come into play at all. In other words, one would be committed to some sort of implausible 'cognitive determinism' which does not seem to be the case.¹³

A further type of unreliability argument (type-4) is based on the idea that cognitive mechanisms – usually HADD – which, according to the standard view, play a relatively large role in the generation of religious beliefs, are known to be unreliable because in normal circumstances they produce largely false beliefs. The amount of 'false positives', that is, the amount of false beliefs produced by HADD, is supposed to show that trusting the products of HADD is irrational.¹⁴

First of all, the theist could claim in response to this that HADD's role in generating theistic belief is relatively small. Later in this article we suggest that this is in fact a viable way to go, but for the time being, we will let the assumption stand and proceed in the confines of the standard model. Second, the theist can argue that there is no evidence that HADD is unreliable in *all* contexts or in a *religious* context in particular. The theist response is, therefore, based on the idea that the reliability of HADD is context-sensitive.

According to the standard story, HADD's triggering is related to events such as movement and noises in the bushes, creaking floorboards or such like, and most of the time it turns out that agents have nothing to do with such events. But this does not mean that HADD is always unreliable, since it also triggers when we hear footsteps or someone whistling downstairs. In such cases we are right in our attributing agency. As Murray points out, most of our belief-forming mechanisms are like this anyway: they are reliable in one context and unreliable in others.¹⁵ This, the theist can argue, is enough to suspend judgement on whether HADD produces mostly false beliefs. Furthermore, if the atheist wants to make the argument work against the theist, he would need to show that HADD is unreliable in a religious context, and showing this is quite difficult without first assuming that theism is false.

Finally, type-5 arguments argue from the diversity and incompatibility of religious beliefs to the unreliability of the mechanisms that produce them. The argument would go as follows:¹⁶

- (1) Belief-producing mechanisms of a certain kind are not reliable and we are irrational to hold their products true if they constantly produce mutually incompatible and diverse beliefs.
- (2) Mechanisms that produce religious beliefs produce mutually incompatible and diverse beliefs.
- (3) Therefore, mechanisms that produce religious beliefs are unreliable and we are irrational to hold their products true.

The theist can respond to the argument by rejecting premise (2) and arguing that the diversity of religious beliefs (which is a fact) does not result from the cognitive systems that uphold them. The mechanisms that the standard model posits to explain religious belief (HADD, ToM) produce beliefs that are very non-specific. HADD, for instance, can be operating reliably when it ascribes agency when I hear whistling downstairs. It is the differences in background knowledge that leads you to think that it is the spaghetti monster who is whistling and me that it is my friend. So, the theist argues, diverse religious beliefs do not result from the cognitive mechanisms specified by the standard model, but rather from different interpretations of the outputs of these mechanisms under different background conditions.

Possible problems and a revised theistic defence

In the previous section, we extracted the basic structures of several arguments for the incompatibility of the standard model and theism and their theist rejoinders and classified them into two basic types. In this section we suggest that the existing theist defences might be read (or misread?) as vulnerable to certain critical rejoinders on account of their apparent assumption of a set of missing premises, themselves apparently assumed by the extant atheist arguments, and that the explicit rejection of these premises makes the compatibility of the standard model with theism clearer.

We will first list these premises and illustrate how extant theist compatibility arguments might be thought to be vulnerable to critical rejoinders if they are read as presupposing them. In a second section we will outline a modified theistic reading built upon a clear rejection of these premises.

Some missing premises and ensuing difficulties

The missing premises can be divided into two types: (a) concerning the nature and relevance of the standard model for explaining religious belief; and (b) concerning what a theist can acceptably believe about the relationship between God and heterodox or non-theist religious beliefs. Firstly, (1a) the standard model might be assumed to offer an explanation of content-specific religious beliefs, and (2a) either exclusively or overwhelmingly account for the origin and persistence of particular religious beliefs. Secondly, (3b) the idea that God might at any time make himself known inchoately to humans through non-theistic supernatural representations might be assumed (by atheists, or by certain theists) to be unacceptable to the theist.

Consider, for example, possible critical responses to the following recent proposal according to which natural cognitive biases (as outlined in the standard model) might be God's way of making sure that belief in the supernatural becomes a human universal:¹⁷

- (1) God wants humans to survive and reproduce.
- (2) Therefore God orchestrates evolution in such a way that humans would be equipped with a cognitive architecture as described in the standard account that will be conducive to (1).
- (3) God also wants supernaturalistic belief to be a human universal.
- (4) God knows that (3) will be a natural consequence of (2) in humans' environment of evolutionary adaptedness (EEA).
- (5) Therefore, God also allows (2) to be a cause of (3).

In the case that both critics of religion and theists were presupposing the abovementioned missing premises – or the former at least *supposed* that theists must be presupposing them, where the latter have not stated their

presuppositions – the critic might argue in the following way against this kind of account.¹⁸

She might concede that it may not be irrational for the theist to persist in their theistic beliefs if this scenario were the case (an omnipotent God could, after all, arrange for religious beliefs to come about this way). However, she might note that supernatural beliefs becoming a human universal in the above-mentioned circumstances (4) is only probable, not inevitable on (2),¹⁹ if ‘God orchestrates evolution’ in (2) is taken to imply a position on divine providence which takes a modest view on the extent of God’s control over His creation and assumes that He leaves a great deal to chance. If God orchestrates His creation by setting up the initial conditions and physical laws but does not tinker with creation (including the evolutionary process) thereafter, this seems to allow for the possibility that God’s intentions for humanity, including that it comes to know and believe in Him, may – even if highly improbably – fail to be realized.

In this case, the critic will suppose that the theist must either qualify (3) to:

- (3a) God also wants supernaturalistic belief *probably* to become a human universal (but doesn’t determine it),

or concede that God must be guiding evolution in some stronger sense than simply setting up the initial conditions, then letting living things evolve naturally,²⁰ or insist on the epistemic distance between what humans know and what God knows. (God’s knowledge of the initial conditions and physical/biological laws may be superior to and more complete than ours in such a way that He knows that (3) will follow from (2) by nomic necessity.) Since it seems natural for the theist to assume that the God who creates humans, loves them, and desires that they know and love Him, would guarantee (rather than merely render likely) that humans did indeed come to form supernaturalistic beliefs, on this scenario most theists would probably choose one of the latter options.

Secondly, the critic might object that on such a theist construal, God resembles a *deus deceptor*. The argument could be stated as follows:

- (1) God (exclusively) allows supernatural belief to become a human universal as a purely natural by-product of human cognitive architectures operating in their EEA.
- (2) God is therefore never involved proximally in the formation of (any) supernatural beliefs, but only as their ultimate cause.
- (3) But humans (theists and religionists generally) are generally under the impression that they are directly in relationship with a supernatural agent or agents.
- (4) Therefore God deceives them with respect to their belief that they are in direct personal relationship with supernatural agency.

- (5) But this is inconsistent with the putative character of the God of classical theism.
- (6) Therefore the God of classical theism does not exist.

On the assumption of missing premises (1a) and (2a), it would appear to be the case that while God, by allowing religious beliefs to become implanted in the minds of humans, had not deceived them about the actual existence of supernatural agency, He had deceived them about their enjoying some sort of direct (as opposed to ultimate) causal relationship with supernatural agency.

Further, on the assumption of missing premises (1a), (2a), and (3b), the critic of religion might object that it is inconsistent for any theist both to claim that the God of classical theism wishes all humans to be in relationship with Him, and that He would have allowed the vast majority of humanity to entertain crucially false supernatural beliefs.²¹ The argument can be stated as follows:

- (1) God (exclusively) allows supernatural belief to become a human universal as a purely natural by-product of human cognitive architectures operating in their EEA.
- (2) HADD (and ToM) produce a great variety of religious representations, not all of which are theistic.
- (3) Prior to the historical period – i.e. for 99 per cent of human history – humans presumably had crucially false supernatural representations from the perspective of theism, but God did not provide them with revealed knowledge of Himself as a corrective.
- (4) God does not enter into relationship with humans entertaining false supernatural representations, or humans in this condition cannot enter into relationship with Him.
- (5) Therefore the God of classical theism does not wish to be in relationship with humans in general.

Theists can of course meet objections of these sorts in various ways. However, if theists were, in fact, presupposing the abovementioned missing premises (or did not point out that they are not presupposing them, if they weren't), critics could show that their options on issues of divine providence and the divine-human relationship are compromised, by raising difficulties of the abovementioned sort. We are not suggesting that extant theist arguments are powerless to respond to these potential difficulties, but rather than they do not have to in the first place if they make it clear that they reject these missing premises.

Rejecting the premises and the revised defence

If the abovementioned missing premises (1a), (2a), and (3b) are rejected, the theist case for its compatibility with the standard model can be made more

efficiently. The general strategy of theists hitherto in answering the unreliability arguments could easily be read by a critic as having been to show that the causal pathways and mechanisms (HADD, ToM) through which theistic beliefs come about are not unreliable in a religious context or at least cannot be shown to be unreliable without the a priori assumption that there is no God. However, in the case that missing premises (1a) and (2a) are presumed to be accepted by both parties, the critic of religion can suppose that the theist also subscribes to the idea that CSR theories reveal most (or all) the mechanisms and causal pathways through which theistic beliefs come about, i.e. that HADD and ToM are all there is in terms of mechanisms of theistic belief. But we suggest that these premises can and should be rejected.

Firstly, the theist is not obliged to accept (3b). The theist can muster internally respectable reasons for rejecting it, whether by appeal to a doctrine of God's 'cosmic covenant' with humanity, or to a patristically inspired *logos* theology, according to which earlier peoples had at least partial access to the divine *logos*, which reading could be extended to prehistorical generations.²²

The theist can therefore claim with internal plausibility that prehistorical peoples prior to the historical revelations entertained religious beliefs which were superficially false but sufficiently true in the sense of giving them at bottom an inchoate sense of the true God, and this was what God intended. The basic idea would be that just as in the case of the diversity of historical and contemporary religious belief, the presumed massive diversity of prehistoric religious belief would not undermine belief in God, but would rather suggest how God was in relationship with prehistoric humanity (as well as those portions of humanity which were not privy to special revelation) through their underlying inchoate sense of Him. Working out the details of this theistic construal, which might take the form of arguing that God intended humans to progressively acquire a more accurate conception of Himself, would constitute a future task for theists, but not a challenge to the consistency of theism as such.

Moving on to our more major point, we claim that (1a) and (2a) should be clearly rejected because it is not, in fact, the case that the standard model gives us a complete account of the existence and persistence of *particular and content-specific* theistic beliefs. In other words, the content of particular theistic beliefs comes far short of being determined by universal cognitive mechanisms since there are far more mechanisms²³ involved in particular belief formation than are specified by the standard model. Even if it turns out that the cognitive mechanisms that the standard model posits are unreliable, the irrationality of theism does not follow. In other words, if the standard model catches only some causal pathways through which the theist's beliefs come about, then it is perfectly possible that the other pathways are rational. This is enough, we claim, to dismantle the unreliability arguments as they stand now.

Our argument rests on the idea that the standard model gives answers only to questions of a certain sort and not others. This fact, we claim, has not been properly acknowledged in the extant discussions concerning the theological implications of CSR theories. To see this point, consider the following example.

Suppose that John is a professing Christian and has particular and specific beliefs about God's nature and actions in his life. He has Christian parents, lives in a Christian community, and has had little or no exposure to atheism or other religions. We want to explain why John has the beliefs he has and why he behaves religiously in his community. Would an explanation given in terms of the standard model answer our question? It would appear not. There are a plethora of causal factors that might be invoked to explain John's theistic beliefs and we need a way to pick out just those ones which give us an answer to our question.²⁴ The standard model would predict that since John is a human being and has a normal human cognitive architecture he will probably have some sort of supernatural beliefs. Therefore, the standard model gives us a reason to expect John to be somehow religious rather than atheistic.

As we have seen, normal human cognitive architecture, which includes HADD, ToM, and other cognitive mechanisms make John favourably disposed to religious belief *in general*. Having this cognitive architecture does not, however, determine the specific content of John's beliefs, nor his Christianity. It is true that if John did not have a normal human cognitive architecture, he would not have the beliefs that he has. However, various factors that are not included in the standard model must account for the specific beliefs John has. In other words, HADD, ToM, and other ordinary cognitive mechanisms seem to be the difference-making factors between John being in some way religious or his being in some way atheist. They are not difference-making factors between John being a Muslim or a Christian or between John being a Baptist or a Catholic.

It is helpful to make a distinction between ultimate and proximate explanations regarding John's situation. The answer given by the standard model would qualify as an ultimate explanation of John's religiosity. But if we are to explain John's beliefs in more detail, we need to bring in factors that are much more proximate, i.e. non-universal. The facts that John has Christian parents and lives in a Christian community would constitute an excellent explanation of John's particular Christian beliefs, or the fact that John had an unusual, strong religious experience two years ago. This experience would also be a good candidate for the cause of John's particular beliefs about God's nature and actions. It is relatively easy to come up with stories of this kind. The chief point, however, is that CSR explanations based on the standard model have nothing to say about causal factors of this kind, although appeal to these is required to explain the particularities of John's case. When stated in this way the point seems obvious, but it has not been made clear in discussions so far, and it is not trivial.²⁵

Consider the following questions:

- (a) Why is it that people in general tend to have supernaturalistic beliefs? [Ultimate]
- (b) Why is it that this given individual has *these* beliefs about God's nature, actions, etc.? [Proximate]

When answering ultimate questions like (a), most proximate causal factors, such as individual experiences, histories, and the like, cannot be the difference-making factors we are seeking. If the purpose is to explain why religious beliefs of some sort are more or less human universals rather than particular to one culture or individual, pan-human cognitive mechanisms seem good candidates for explaining such things. In answering question (a), therefore, HADD and ToM seem to be possible explanatorily relevant causes. HADD and ToM create *biases* in the acquisition and transmission of information.²⁶

The reason why the ultimate nature of standard-model explanations is fatal to the unreliability arguments is that the unreliability arguments are based on the unreliability of the *proximate* mechanism, not the *ultimate* ones. CSR explanations of theistic belief deal with causal factors that make religious beliefs of some sort or other become prevalent in human populations (this is because of certain regularities in the operations of our belief-forming mechanisms), but not with those which give rise to particular, content-specific beliefs. Therefore, individual theists cannot be judged to be irrational in trusting their theistic beliefs even if it were to be the case that the reliability of cognitive systems posited by the standard model would be found wanting.²⁷

We conclude, therefore, that premises (1a) and (2a) should be rejected, since beyond being able to specify general constraints on the nature of religious concepts if they are likely to transmit successfully, CSR must seemingly remain agnostic about the specific causal histories of *particular beliefs* (historical or contemporary). This is because CSR can only say that HADD and ToM are present in individual minds; it cannot say that HADD and ToM are the sole causes of individual theistic beliefs. It seems plausible to suppose that HADD and ToM play a causally relevant role when we consider relatively large populations of individuals, but not when we consider the religious beliefs of specific individuals. Furthermore, premise (3b) can plausibly be rejected by the theist, since she is not required to accept it, and many fellow theists do not.

Conclusion

We have provided some reasons to think that there is something wrong with missing premises (1a), (2a), and (3b). The theist is under no particular obligation to accept (3b), and therefore can remain unperturbed by the presumed diversity of religious belief in prehistory. Moreover, if HADD and ToM are just one

slice of the causal nexus which brings about theistic belief, and their causal influence with respect to religious belief can only be observed at the level of populations, then it can hardly be claimed that they are causally responsible for all or mostly all individual theistic belief. Therefore, even if it could be shown that HADD and ToM are unreliable, the standard model would not be incompatible with theism (presumably some of the theist defenders of the compatibility of CSR with theism think this anyway, but they do not explicitly argue it). And, as the theist responses show, we have some reasons to think that it is very difficult to show the unreliability of HADD and ToM (and other cognitive systems) in religious contexts without first assuming that theism is not the case. If what is being argued here is correct, then there seems to be no reason to think that the standard model is incompatible with theism in any strong or interesting way.²⁸

Notes

1. Most prominently Richard Dawkins *The God Delusion* (London: Bantam Press, 2006), and Daniel Dennett *Breaking the Spell: Religion as a Natural Phenomenon* (New York NY: Viking, 2006). See also, Paul Bloom *Descartes' Baby: How the Science of Child Development Explains What Makes Us Human* (New York NY: Basic Books, 2005); *idem* 'Religion is natural', *Developmental Science*, 10 (2007), 147–151; and *idem* 'Religious belief as an evolutionary accident', in Michael Murray & Jeffrey Schloss (eds) *The Believing Primate: Scientific, Philosophical and Theological Reflection on the Origin of Religion* (Oxford: Oxford University Press, 2009), 118–127.
2. Justin Barrett spells out basic theist responses in his 'Is the spell really broken? Biopsychological explanations of religion and theistic beliefs', *Theology and Science*, 5 (2007), 57–72. Some of Barrett's responses are also developed by Michael Murray in his 'Four arguments that the cognitive psychology of religion undermines the justification of religious belief', in Joseph Bulbulia *et al.* (eds) *The Evolution of Religion: Studies, Theories, and Critiques* (Santa Margarita CA: Collins Foundation Press, 2007), 365–370. The most updated versions of theist arguments can be found in Michael Murray 'Scientific explanations of religion and the justification of religious belief', in Michael Murray & Jeffrey Schloss (eds) *The Believing Primate: Scientific, Philosophical and Theological Reflection on the Origin of Religion* (Oxford: Oxford University Press, 2009), 168–177. See also a currently unpublished paper by Kelly James Clark & Justin Barrett 'Reidian religious epistemology and the cognitive science of religion' (2010).
3. The following account of the standard model is adapted from Michael Murray & Andrew Goldberg 'Evolutionary accounts of religion: explaining and explaining away', in Murray & Schloss *The Believing Primate*, 179–199.
4. Since those authors who have asserted the incompatibility of the standard model with theism have not explicitly argued for it, we will follow the theistic reconstructions. Thus far, the accusation of incompatibility has come from atheist authors, but theist authors might also have reasons to doubt the compatibility of the standard model with theism as it is currently construed.
5. In the case of atheists, such arguments usually emerge from a certain set of background ideas. Usually, these ideas include claims such as: (a) scientific methods have priority over all other ways of obtaining knowledge, (b) the ultimate description of the world is given by physics, and (c) there can be no irreducible intentional explanations. Dennett, for instance, seems to adhere to all these claims in his way of understanding Darwinism, consciousness, and religion. See Daniel Dennett *Consciousness Explained* (London: Penguin Books, 1993), *idem Darwin's Dangerous Idea* (London: Penguin Books, 1995), and *idem Breaking the Spell*. For critical comments on Dennett's view on religion, see, e.g. Charles Taliaferro 'Explaining religious experience', in Murray & Schloss *The Believing Primate*, 200–214.
6. This is the response of Clark & Barrett in 'Reidian religious epistemology'.

7. The most famous account of two types of explanations is Richard Swinburne's *The Existence of God*, 2nd edn (Oxford: Clarendon Press, 2004).
8. As aforementioned, in the literature arguments from unreliability are mostly implied rather than explicitly stated. Take Paul Bloom, for instance, who writes that 'plainly, no finding from the cognitive science of religion can refute either the existence of god or a theistic account of the origins of religious belief. But, even so, psychological inquiry can still tell us something about the rationality, or lack thereof, of religious believers, in the same sense that it can tell us about the mental status of those who believe in life on other planets'; Bloom 'Religious belief as an evolutionary accident', 126.
9. A slightly different formulation of the argument can be found in Barrett 'Is the spell really broken?', 62–63.
10. This standard response can be found in *ibid.*
11. For a detailed formulation and discussion of this argument, see Murray 'Four arguments'.
12. This position is developed in Murray 'Scientific explanations of religion', and Murray & Goldberg 'Evolutionary accounts of religion'.
13. This response is given by Barrett 'Is the spell really broken?', 65–66. Barrett's defence entails that beliefs are always produced by many collaborating factors: conscious reasoning, unconscious biases, and available information all contribute to the formation of individual beliefs.
14. Our treatment of this argument mirrors Murray 'Scientific explanations of religion', 169–171.
15. *Ibid.*, 171.
16. *Ibid.*, 172–173.
17. This is a summary of Peter van Inwagen in his 'Explaining belief in the supernatural – some thoughts on Paul Bloom's "Religious belief as an evolutionary accident"', in Murray & Schloss *The Believing Primate*, 128–138. Others, e.g. Niels Henrik Gregersen, have argued in this fashion. See Gregersen 'What theology might learn (and not learn) from evolutionary psychology: a postliberal theologian in conversation with Pascal Boyer', in F. LeRon Shults (ed.) *Evolution of Rationality: Interdisciplinary Essays in Honor of J. Wentzel Van Huyssteen* (Grand Rapids MI: Wm. B. Eerdmans, 2006).
18. Do any of the extant readings – atheistic or theistic – make these presuppositions? Although we have the impression that they often do, the discussion hitherto has been conducted at too general a level, and the starting assumptions left too unspecific, to decide with confidence. If, however, atheists want to imply, as they appear to, that the unreliability of these mechanisms leads to the irrationality of theism, they would seem to require premises like (1a) and (2a), as we argue below. Theists may also be making these presuppositions, either because they take them over uncritically from the atheist presentations, or perhaps more likely because they tacitly grant them for the sake of the argument with the atheists (for example, Murray 'Scientific explanations of religion'). The reason for this lack of specificity can probably be traced to the self-presentational style of the CSR community itself. Certain CSR publications, especially by Pascal Boyer, may give the impression that CSR regards the cognitive mechanisms of the standard model as offering a very comprehensive account of religion approximating to completeness. See Pascal Boyer *Religion Explained: The Evolutionary Origins of Religious Thought* (London: Basic Books, 2001). Indeed, critics of CSR have accused it of making unjustified completeness claims. See e.g. James Laidlaw 'A well disposed anthropologist's problems with "the cognitive science of religion"', in James Laidlaw & Harvey Whitehouse (eds) *Religion, Anthropology and Cognitive Science* (Durham NC: Carolina Academic Press, 2007), 211–246, and Michael Day 'Let's be realistic: evolutionary complexity, epistemic probabilism and the cognitive science of religion', *Harvard Theological Review*, 100 (2007), 47–64. In fact, as a deeper acquaintance with the CSR literature makes plain, the CSR community does not claim to have a complete explanation of religion, but their occasional rhetorical exaggerations have been influential on the broader discussion.
19. Murray 'Scientific explanations of religion', 193, also anticipates this as a *prima facie* problem.
20. The theist can still of course appeal to a spectrum of positions on divine providence, from Molinism to stronger positions on divine sovereignty, depending on the extent to which she is prepared to swallow the bitter pill of compatibilism.
21. This kind of argument is made by those who argue from the hiddenness of a loving God to the nonexistence of a loving God. See e.g. J. L. Schellenberg *Divine Hiddenness and Human Reason* (Ithaca NY: Cornell University Press, 1993). For a more detailed discussion, see Daniel Howard-Snyder & Paul Moser *Divine Hiddenness: New Essays* (Cambridge: Cambridge University Press, 2002).

22. These theological doctrines are, of course, not uncontested, but neither are they marginal, either within classical or contemporary theism. In at least some traditions of theistic reflection they have been or are mainstream. See Veli-Matti Kärkkäinen *Introduction to the Theology of Religions: Biblical, Historical and Contemporary Perspectives* (Downers Grove IL: InterVarsity Press Academic, 2003).
23. We are understanding 'mechanisms' here in a liberal sense which can also encompass 'reasons', etc.
24. We take it that explanations in general give answers to questions by specifying the causes that make a difference between two incompatible cases. In this sense, explanations are not just descriptions of all causal factors that bring about the *explanandum*, but rather they pick out the causes that are relevant for answering the question being asked. An account of explanation along these lines is James Woodward's contrastive (or interventionist) theory of causal explanation. See James Woodward *Making Things Happen: A Theory of Causal Explanation* (Oxford: Oxford University Press, 2003). For a fuller discussion of these issues in relation to the CSR, see Aku Visala *Religion Explained? A Philosophical Appraisal of the Cognitive Science of Religion* (Dissertation, Faculty of Theology, University of Helsinki, 2009).
25. Take Bloom 'Religious belief as an evolutionary accident' for instance, which states quite clearly (120) that the standard model explains only universal types of beliefs, not culture-specific beliefs. However, he does not seem to realize the significance of this fact for his claims concerning the irrationality of theism.
26. This generality is a result of the (Sperberian) cultural epidemiology commitment of CSR theory. See Dan Sperber *Explaining Culture: A Naturalistic Approach* (Oxford: Oxford University Press, 1996).
27. One could question whether it even makes sense to talk about the 'rationality' of ultimate mechanisms of human religiosity.
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