

Cognitive Science of Religion: Explaining Religion Away?

with Daniel Lim, "Cognitive Science of Religion and Folk Theistic Belief"; and Hans van Eyghen, "Two Types of 'Explaining Away' Arguments in the Cognitive Science of Religion."

COGNITIVE SCIENCE OF RELIGION AND FOLK THEISTIC BELIEF

by Daniel Lim

Abstract. Cognitive scientists of religion promise to lay bare the cognitive mechanisms that generate religious beliefs in human beings. Defenders of the debunking argument believe that the cognitive mechanisms studied in this field pose a threat to folk theism. A number of influential responses to the debunking argument rely on making two sets of distinctions: (1) proximate/ultimate explanations and (2) specific/general religious beliefs. I argue, however, that such responses have drawbacks and do not make room for folk theism. I suggest that a detour through the literature in the philosophy of mind regarding the problem of mental causation regarding nonreductive physicalism can provide a way for preserving folk theism without doing violence to the way cognitive science of religion is being practiced today. More specifically, I believe there is a way of responding to the debunking argument that does not require a rejection of the causal premise.

Keywords: causal exclusion; cognitive science of religion; debunking; folk theism

DEBUNKING ARGUMENTS

In recent years, with the growing influence of the cognitive sciences, naturalistic explanations for human belief formation have gained much currency. Evolutionary psychologists, cognitive neuroscientists, and philosophers have all chimed in and, it is safe to say, there has been a renewal of interest in laying out the natural etiology of beliefs in various domains. It is no secret that many of those involved in these projects have been led to the conclusion that such naturalistic explanations ultimately debunk the beliefs that they set out to explain. Consider, for example,

Daniel Lim is Associate Professor of Philosophy at Renmin University of China, 59 Zhongguancun Street Beijing 100872, People's Republic of China; e-mail: daniel.f.lim@gmail.com.

what it might mean to explain the natural etiology of our *moral* beliefs. If, according to some evolutionary accounts, moral beliefs simply helped our ancestors increase their reproductive fitness then does not this show that the trustworthiness or justificatory foundation of our moral beliefs have been undermined? What if, as Michael Ruse suggested, “morality is a collective illusion foisted upon us by our genes?” (Ruse 2013, 253).

The rhetorical force of Ruse’s remark is plain and it seems to pose a *prima facie* threat to some forms of moral realism. The intuition behind this threat, following Guy Kahane (2011), can be regimented into an argument as follows:

- (1) *S*’s belief that *p* is explained by *X* (causal premise).
- (2) *X* is an off-track process (epistemic premise).
- (3) *S*’s belief that *p* is unjustified (conclusion).

There are, of course, other ways of formulating Ruse’s intuition but I will stick with Kahane’s formulation because of its general appeal and clarity.

Let me make two brief comments about this argument. First, the term “off-track” is meant to describe a belief-forming process that does not *track* the truth. It is not sensitive to the truth. The idea is that if *S*’s belief that *p* is produced by an off-track process, *S* would form a belief that *p* regardless of the truth or falsity of *p* and this counts against *S*’s justification for *p*. Second, it is clear from Kahane’s conclusion that this argument is not designed to undermine the *truth* of *p*. Rather it is designed to undermine the *justification* for *p*. Consequently, it does not suffer from any obvious form of the genetic fallacy regarding *p*’s truth. The argument does not claim that the etiology of a belief contributes, in any way, to the truth or falsity of that belief.

As stated, Kahane’s argument is a *generalized* debunking argument. The belief under scrutiny, namely *p*, can be a belief in any domain. Though Kahane focused his discussion of debunking arguments on moral beliefs, I hope it is evident that the argument above can be applied in almost any domain. And, importantly for my purposes, it can easily be adapted to undermine *religious* beliefs. Consider beliefs in statements like “God is present” or “I met God.” Some scholars working in the cognitive science of religion claim to have unearthed the belief-producing mechanisms shaped by evolution that are causally responsible for these kinds of religious beliefs. They go on to argue that these belief-producing mechanisms are off-track and therefore insensitive to religious facts (if they exist). So, they conclude that religious beliefs are unjustified.

COGNITIVE SCIENCE OF RELIGION

Many interesting naturalistic accounts (e.g., Persinger 1987; Atran 2002; Barrett 2004; Boyer 2008; Joyce 2006) of the cognitive foundations of

religious beliefs have been offered (and developed) over the past couple of decades, and while each nuanced explanation (for overviews, see Leech and Visala 2011a and Peterson 1997) is interesting in its own right, I will simply sketch the broad contours of what some (Boyer 2005; Powell and Clark 2012) have called the “standard model” in cognitive science of religion. It may be controversial to call what follows the *standard* model since there is disagreement on what such a model should look like. The point is not to provide a definitive standard that all involved agree on, but to showcase a reasonably popular view in hopes of showing that a plausible framework for naturalistically explaining religious belief is available. According to this model, religious beliefs are an evolutionary by-product of a suite of cognitive adaptations. Here is how the story might go.

All humans are equipped with a cognitive mechanism that detects agents in the environment. We might call this an agency detection device (ADD). An ADD that maximizes the *accuracy* of agent detection, however, may not be optimal from an evolutionary perspective because of the asymmetrical fitness costs associated with two types of detection errors. Type I errors are false positives and Type II errors are false negatives. Type II errors are far more costly than Type I errors. Here is how Robert Nola summarizes this idea:

A Type I error arises when *x* evades (or *x* believes that a predator is present) when there is no predator present. A Type II error arises when *x* does not evade (or does not believe that a predator is present) when there is a predator present . . . often the costs of these errors are asymmetric; as far as *x* is concerned it would be better to make the least costly [Type I] error and avoid the more costly, even fatal, [Type II] error. (Nola 2013, 174)

So, it would be evolutionarily advantageous to err on the side of Type I errors since false positives may result in minor losses (energy, time, and opportunities) but false negatives may result in major losses (health and life). So it is argued, natural selection would therefore turn ADDs into *hypersensitive* ADDs (HADDs). HADDs will decrease the number of Type II errors by increasing the number of Type I errors.

When considered in this light, it is evident that HADDs were not “designed” by evolution for the express purpose of tracking truth—instead they were tweaked for survival. HADDs are “trigger-happy” and abet survival but they are, consequently, prone to error. Consider, for example, a man walking through an unfamiliar part of town who suddenly hears something in an alley. His HADD immediately registers that an agent is in the vicinity even though, as it turns out, the wind (and not an agent) caused the sound. According to Justin Barrett:

It is HADD that makes us non-reflectively believe that our computers deliberately try to frustrate us, that strange sounds in a house mean an

intruder, and that light patterns on a television screen are [agents]. (Barrett 2009, 86)

Applied to religious belief formation, HADDs will dispose humans to easily posit the presence of agents in their environments. When no agents are subsequently observed, humans may posit that there are *unobservable* agents in their environments. And this seems to be a nice recipe for explaining human beliefs in supernatural agents.

There is, of course, much more to be said concerning the other cognitive mechanisms involved in the standard model. These include mechanisms that: readily attribute mental states (like beliefs and desires) to agents, make it easy to remember minimally counterintuitive beliefs, and “promiscuously” project teleology. This has been done, however, in many other places with far more expertise and clarity than I can offer here. What is of interest to me is how the standard model fits into the generalized debunking argument introduced above. It seems the standard model is a plausible candidate for mechanism *X*. It not only provides a causal explanation for why we have the religious beliefs we have but it is also put forward as an off-track process—one that was winnowed for survival and not for sensitivity to *religious* truth.

In what follows I will use Clark and Barrett’s (2011) response to this type of debunking argument as a foil for my discussion. Not only is their exposition clear, I take their response to be representative of the way a number of others have responded to the putative threat posed by the standard model in particular and the cognitive science of religion in general.

THE EPISTEMIC PREMISE

Clark and Barrett’s response to the debunking argument against religious belief can be *interpreted* as an attack on the epistemic premise. That is, assuming the causal premise is true (and that the standard model provides a naturalistic explanation of our religious beliefs), they argue that the standard model may not be off-track with regard to religious truth. Their response turns on a distinction between proximate and ultimate explanations. Even if the standard model provides a complete causal explanation for our religious beliefs, it only provides a (relatively) *proximate* explanation, not an *ultimate* explanation, of our religious beliefs. Clark and Barrett write:

While God himself may not have been the [*proximate*] cause of God beliefs, God may nonetheless be the *ultimate* cause of those beliefs. If God is the first and originating cause of the universe (including all natural laws) and if God were to guide or direct the natural evolutionary processes so that they produced a god-faculty so that people could and would come to form

true beliefs about God, then God would be the ultimate cause of our God beliefs. (Clark and Barrett 2011, 660)

So long as God remains the *ultimate* explanation for the generation of these religious beliefs via the standard model, we can no longer say that the standard model is an off-track cognitive process. This is because, in an indirect way, God is behind the formation of the relevant religious beliefs. If this is true, then, one could argue that the standard model is comprised of a suite of cognitive processes that indeed track religious truth. Cognitive mechanism *X* may not be off-track.

Here is a sampling of this kind of response in the writings of other authors.

Perhaps God set up our environment and the course of evolutionary history in such a way that we come to have cognitive tools that lead us to form beliefs in a supernatural reality. If that is the way things work, then my beliefs would have a connection, albeit an *indirect* one, to the target of the belief, and a connection of that sort would not undermine the justification of the belief. (Murray 2008, 396)

First, God could have instantiated this world out of all the possible worlds because in this world natural selection brought about the kind of creatures capable of a loving relationship with Him. Second, God could have guided natural selection to develop the sorts of minds humans have. Perhaps the “random mutations” from which natural selection selected were not random after all. (Barrett 2009, 97)

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. (Leech and Visala 2011b, 306)

Theistic evolutionist theories, on the other hand, occur at a more ultimate level and purportedly account for why life on earth evolved as it has. Indeed, theistic conceptions of God in the Western philosophical tradition imply that theists are, or ought to be, much more concerned with theistic ultimate explanations than theistic proximate explanations. (Jong 2013, 528)

Certainly this is a sensible way of responding to the debunking argument. It would show, ultimately speaking, that the standard model is not an off-track process. The potential problem with this move, if one were to accept the causal premise of the debunking argument, is that it precludes God from being the *direct* cause of any religious beliefs.

FOLK THEISM

Many theists, I think, would be unhappy with this result. Consequently this way of undermining the debunking argument, though possible, may

not be acceptable. Many believe, after all, that God and other supernatural agents can, and often do, interact *directly* with human beings. Consider, for example, the Biblical account of Moses' supernatural encounter on Mount Horeb:

There the angel of the Lord appeared to him in flames of fire from within a bush. Moses saw that though the bush was on fire it did not burn up . . . when the Lord saw that he had gone over to look, God called to him from within the bush, "Moses! Moses!" (Exodus 3:2-4)

A theist who takes this account at face value will claim that supernatural agents literally encountered Moses (in some form) and spoke to Moses. At the very least, a theist of this sort would claim that Moses *believed* that supernatural agents were present and spoke to him. It is hard to deny, after all, that Moses would have thought that supernatural agents, in this encounter, were the direct causal origin of his occurrent religious beliefs. A theist who accepts such an account will claim, among other things, that supernatural agents causally interact with the world and that supernatural agents can be, at least in certain circumstances, the direct (and most proximate) cause of a human being's forming certain religious beliefs. Robert Nola summarizes this position nicely:

Why do people hold religious beliefs about the existence of divinities, spiritual entities or God(s)? One time-honored commonly adopted "folk" explanation, given by believers themselves and aided and abetted by theologians, takes at face value the existence and causal efficacy of divinities and gods in bringing about beliefs in them. (Nola 2013, 162)

Following Nola, let us call this view about the direct causal impact supernatural agents can have on the formation of human religious beliefs *folk* theism.

It seems then that using the proximate/ultimate distinction to undermine the epistemic premise of the debunking argument may not be enough to vindicate folk theism. Let us call this the Incompatibility Thesis.

Incompatibility Thesis: If cognitive science provides a sufficient causal explanation for the formation of religious beliefs in humans (while leaving open the possibility that God may be the first cause) then cognitive science is incompatible with folk theism—the claim that a supernatural agent can be the *direct* (or proximate) cause of the formation of religious beliefs.

This worry has not gone unnoticed. Leech and Visala (2011b), for example, are aware of this issue and use the Incompatibility Thesis (or something very much like it) to support their so-called *deus deceptor* argument that purports to show that God, traditionally conceived, does not exist. The argument can be regimented as follows:

- (1) God allows religious beliefs about supernatural agents to become a human universal as a purely natural by-product of human cognitive architectures operating in the relevant environments.
- (2) God is, therefore, never directly involved in the formation of religious beliefs about supernatural agents, but only as their indirect cause.
- (3) But humans are generally under the impression that they are directly in relationship with a supernatural agent.
- (4) God deceives them with respect to their religious belief that they are in direct relationship with a supernatural agent.
- (5) God is a *deus deceptor*.
- (6) Therefore, God (traditionally conceived) does not exist.

What this argument purports to show is that a theist who accepts the Incompatibility Thesis must also accept an unpalatable consequence. Such a theist would be forced to deny the existence of a nondeceptive God.

THE CAUSAL PREMISE

A natural way of responding to these worries is to go back to the debunking argument and, instead of attacking the epistemic premise, attack the causal premise. One might argue that the standard model does not provide a *sufficient* causal explanation for the formation of religious beliefs. Clark and Barrett, in further defending the reliability of the standard model regarding religious beliefs, suggest a way of doing this by making a distinction between the general and specific contents of religious beliefs. They write:

But perhaps HADD and ToM [theory of mind] are not spiritually unreliable; they are simply spiritually imprecise or coarse-grained. Perhaps the function of the god-faculty is simply to make humans aware of the broad divine/moral dimension of reality. The function would be then to secure, by and large, belief, in a supreme transcendent, moral, and morally provident being. So, while the god-faculty may be unreliable in securing rational belief in, say, Yahweh and Yahweh alone, the god-faculty is reliable in producing true beliefs about a divinity, that is, some kind of supernatural agency. (Clark and Barrett 2011, 667)

They suggest that the standard model may be able to explain why normal humans have a strong predisposition to form *general* religious beliefs but the standard model is inadequate in explaining the *specific* religious beliefs that individual people hold.

As before, I offer a sampling of this kind of response here.

When environmental conditions stimulate the various mental tools that are taken to be involved in religious cognition. . . . [T]he outputs of these tools

are still *highly non-specific*. HADD tells me there is “an agent.” (Murray 2009, 172, my emphasis)

Suppose that John is a professing Christian and has particular and specific beliefs about God’s nature and actions in his life. . . . [W]ould an explanation given in terms of the standard model answer our question? It would appear not . . . normal human cognitive architecture, which includes HADD, . . . make John favorably disposed to religious belief *in general*. Having this cognitive architecture does not, however, determine the *specific* content of John’s beliefs, nor his Christianity. (Leech and Visala 2011b, 312)

HADD certainly disposes us to look for agents, even when there aren’t agents, and it is appealing to explain various strange events by appeal to gods in virtue of the minimal-counterintuitiveness of god concepts. But, why do believers choose the *particular* god concept that they do? (Thurrow 2013, 94)

So, one might reject the causal premise by arguing that the standard model is *unable* to provide a causally sufficient account of the formation of content-specific religious beliefs that individual believers actually hold.

It must be conceded, technically speaking, that the responses cited above do highlight certain limitations of the standard model. As it stands the standard model, in and of itself, is not sufficient to explain the content-specific religious beliefs of individual people. So, the debunking argument cannot be used to undermine the justification a person might have for her content-specific religious beliefs. Clearly there are other factors (besides the ones cited in the standard model) involved.

But what are the other factors involved in the formation of such content-specific religious beliefs? Clark and Barrett make the following suggestion:

A cloudy and imperfect sense of divinity could find a variety of cultural manifestations as, say, fairies and elves. Yet such imprecise spiritual/moral awareness may be sufficiently true to begin the process of human moral and spiritual development within the context of cooperative communities. It may, however, take *further reflection*, genuine *religious experience*, and even *revelation* to refine these unformed inklings of the divine. (Clark and Barrett 2011, 668, my emphasis)

In addition to these factors, Murray suggests cultural traditions. Leech and Visala suggest upbringing and involvement in religious communities. Thurrow suggests testimony, miracles, answered prayers, and the apparent design in the world among others. There is no doubt that these considerations are important, and in fact vital, to the formation of content-specific religious beliefs.

There are, however, at least two reasons to be wary of citing additional factors like the ones listed above to highlight what is missing in the standard model. First, these factors can either be fully explained by other natural causes or be explained by the standard model itself. To see this, let us

divide the various “other” factors listed above into two categories. Factors involving cultural traditions, upbringing, religious communities, and testimony can be categorized as *natural* factors. Factors involving religious experiences, miracles, answered prayers, and apparent design in the world can be categorized as *supernatural* factors (at least they purport to have etiologies that include the supernatural).

Let us consider the supernatural factors first: religious experiences, miracles, answered prayers, and the apparent design in the world. The problem with citing these factors is that they are all susceptible of being explained by the standard model. Consequently, citing these factors would, in an important way, beg the question against defenders of the debunking argument based on the standard model.

Barrett himself has suggested that the HADD realizes a variety of functions that include: (1) “registering an event as being caused by agency” and (2) “recognizing an object or pattern as being caused by intentional agency” (Barrett 2009, 86). Religious experiences fall into the first category. Miracles and answered prayers fall into the second category.

Regarding the apparent design in the world Deborah Kelemen, among others, has argued that among the suite of cognitive mechanisms involved in generating religious beliefs is our innate disposition to engage in teleological thinking. She writes:

A review of recent cognitive developmental research reveals that by around 5 years of age, children understand natural objects as not humanly caused, can reason about non-natural agents’ mental states, and demonstrate the capacity to view objects in terms of *design* . . . these research findings tentatively suggest that children’s explanatory approach may be accurately characterized as intuitive theism. (Kelemen 2004, 299)

Given the plausible cognitive psychological stories that can be told in terms of the standard model for religious experiences, miracles, answered prayers, and the apparent design in the world, it seems that an attack on the causal premise based on these factors would be dialectically unhelpful.

But, one might continue to press the point, what about the other factors (the natural ones) that, at least for now, escape the standard model? Disciplines including cultural anthropology and neuroscience among others must be brought on board in order to give a *complete* account of the etiology of religious beliefs (for more information, see Peterson 2010). Though technically right, these responses seem to miss the overall spirit of the cognitive scientific program. Cultural anthropology and neuroscience, after all, are also disciplines included under the cognitive scientific umbrella. The broader point is not simply whether or not the standard model, in and of itself, can explain all the various aspects of content-specific religious beliefs. The goal of the overall cognitive scientific program is to weave

together a powerful framework, one where the standard model occupies its particular role, which provides a natural theory of religious beliefs.

More importantly, these factors are all uncontroversially susceptible to *purely* natural explanations since they are, after all, “natural.” Cultural traditions, upbringing, religious communities, and testimony are all paradigm cases of naturally occurring phenomena. So, even if the standard model cannot account for these factors, it does not seem that these factors cut any ice regarding the present debate. If these are the factors that are used to undermine the causal premise then this is cold comfort for folk theists since these factors do not seem to leave any room for God to enter the sea of *proximate* causal transactions that contribute to the formation of content-specific religious beliefs. These can all be accounted for without any recourse to the supernatural.

Besides, cognitive scientists working in this area are already well aware of the standard model’s shortcomings. In offering the standard model they do not pretend, after all, to give an account of the content-specific religious beliefs of individual people. Pascal Boyer, for example, writes:

[The evolutionary and cognitive study of religion] asks what in the human make-up renders religion possible and successful. Religious thought and behavior can be considered part of natural human capacities, like music, political systems, family relations, or ethnic coalitions. (Boyer 2008, 1038)

Boyer’s piece of the overall cognitive scientific project is clear. It is to explain the conditions that give rise to religious beliefs and why it is so natural for human beings to embrace such beliefs. He analogizes religious thought and behavior to other natural human capacities like music. If a cognitive scientist provided a model that explained why humans have a natural tendency to produce music, it would be silly for us to expect such a model to account also for a person’s *particular* musical tastes and styles. Such an account would involve other natural causal factors, like those studied by cultural anthropologists and neuroscientists among others.

It is important to distinguish, therefore, the more specific projects within the overall cognitive scientific program and the cognitive scientific program itself. The standard model addresses a general issue in the formation of religious beliefs in populations of human beings. It provides an account of the cognitive mechanisms that dispose human beings to posit and accept religious beliefs about supernatural agents. Cultural anthropology and neuroscience provide accounts of the social and biological mechanisms involved in the production of content-specific religious beliefs. As the various cognitive scientific projects mature and ultimately get pieced together into a single and cohesive framework, the explanatory power and depth of the cognitive scientific program will increase dramatically.

Second, it is not clear to me that attacking the causal premise is the best strategy for defenders of folk theism to use. This way of defending

folk theism encourages one to search for holes in the ever-evolving cognitive scientific story of religion. Defending folk theism could become, to grossly oversimplify, a variety of the God-of-the-gaps approach to scientific progress. Salvaging folk theism by undermining the causal premise is to adopt an overall worldview that posits holes in the causal structure of the natural world. Ultimately it is to claim that there are gaps in the web of natural causal interactions, gaps that make room for God (or other supernatural agents) to *directly* impact the natural world.

This may simply be a preference of mine, but I do not think this God-of-the-gaps style approach of defending folk theism is the right way to go. Moreover, this seems to do violence to the way cognitive scientists of religion (including ones with strong commitments to folk theism) actually go about doing their work. Barrett himself, being a cognitive scientist of religion, adopts a kind of methodological naturalism in his work. Clark and Barrett write:

We concede that there is no reason to appeal to a god to explain the data of cognitive and evolutionary psychology of religion. The scientific practice of cognitive and evolutionary psychology of religion, following Occam's razor, should not countenance the existence of God in their scientific theories concerning the god-faculty. Agreed. Science should proceed by the principle of simplicity, and so *scientific* appeals to the supernatural are not necessary. (Clark and Barrett 2011, 663)

They go on to argue that God was never meant to be a *hypothesis* anyway. So, it should not be seen as a competitor to cognitive scientific hypotheses like the standard model. While I agree with this sentiment, I am not clear that this sort of move, unaided by further argumentation, will be able to vindicate folk theism. When a believer thinks, for example, that God directly causally acted in the world in response to prayer, her religious beliefs about God's causal involvement in the world seem to be at odds with the cognitive scientific story.

PHILOSOPHY OF MIND

If what I have said so far is on the right track then rejecting the causal premise, as a means of securing folk theism, may be too costly. In this section, I want to consider the possibility of securing folk theism without having to pay this price. A bit of reflection on these matters, I believe, pushes us to probe the more pressing issues at stake. How do the natural and supernatural domains causally interact with each other? Are there interdomain causal relations here and now (and not just at the beginning of creation)? Do causal relations only exist within their respective domains? Whatever cognitive scientists believe about the possible causal relations in the supernatural domain, it is fairly clear that they carry out their work under the assumption that there are no holes in the causal structure of the

natural domain. We, including all our cognitive capacities and religious beliefs, are part of a seamless causal web of natural events.

Is there a way to secure folk theism without rejecting the causal premise? I think that there is and I take my cue from a comment made by Leech and Visala in their brief discussion of the compatibility of theistic and cognitive scientific explanations. They write:

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. The most common way of cashing out this view is to distinguish personal (or teleological) explanation from natural (or physical) explanation. 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. (Leech and Visala 2011b, 304)

Here, Leech and Visala make an interesting claim. They say that “personal explanations” based on intentional states and “natural explanations” based on physical causal processes are not mutually exclusive.

I find their claims puzzling, at least in the present context, for at least two reasons. First, if these kinds of personal explanations and natural explanations are not mutually exclusive then why all the fuss over the alleged incompatibility of the cognitive science of religion and folk theism? Does not the compatibility of personal and natural explanations settle the matter? Why go on and write an entire article (Leech and Visala 2011b) to show how to harmonize natural explanations derived from cognitive science of religion and supernatural explanations derived from theism? Second, they seem to take the alleged compatibility of personal and natural explanations for granted; yet the debates over this issue are far from settled. The purported incompatibility of these kinds of explanations, for example, remains a central issue in contemporary philosophy of mind (e.g., Heil and Mele 1993; Papineau 2002; Kim 2005; Hohwy and Kellestrup 2008), so it is surprising that Leech and Visala would baldly assert that the two kinds of explanations are not mutually exclusive.

Nevertheless, I have great sympathy with the idea that these two kinds of explanations can peacefully coexist and believe that this claim can be defended in the present context by probing the intersection of the philosophy of mind (regarding mental causation) and the philosophy of religion (regarding divine action). If the relationship between supernatural and cognitive scientific explanations is to be understood as the relationship between “personal” and “natural” explanations then God, so it seems, would *not* have to be relegated to being an indirect cause in the formation of religious beliefs. After all, when I reach for a glass of water I believe that my intentional mental states were direct causes of my subsequent behavior

despite the fact that there is a seamless physical causal history to my behavior. Similarly, perhaps I can say that when I form a belief concerning God's presence that God was a direct cause of my supernatural belief despite the fact that there is a seamless physical causal history of the formation of my belief.

It is one thing, however, to lay claim to this possibility and quite another thing to provide a compelling defense. To see how this might be done I take an all-too-brief detour into the philosophy of mind. Jaegwon Kim (1993, 1998, 2005) has done significant work on the problems associated with mental causation. One of his contributions to this area of research is via the so-called Causal Exclusion Argument, which is formulated as an attack against nonreductive physicalist theories of mind. His worry is that nonreductive physicalists, because they are committed to (1) the causal efficacy of mental properties, (2) the distinctness of mental and physical properties, and (3) the causal closure of the physical domain, are forced to accept an unstable picture of mental causation.

Let me take things a bit more slowly. Consider mental event M_1 , say my instantiating the property of having a desire to drink water and believing that the glass in front of me is filled with water. We might cite M_1 as the cause for physical event E_1 , say my reaching out for a glass of water. It is natural to then say that M_1 is a cause of E_1 . This demonstrates the nonreductive physicalist's commitment to (1). So far so good. The problem arises because nonreductive physicalists, *qua* committed physicalists, also endorse (3)—the causal closure of the physical domain. This is the claim that every caused physical event at time t has a sufficient physical cause at t . What this means is that E_1 , being a caused physical event, must have a sufficient physical cause as well. Let us call this P_1 . What we seem to have, then, are two sufficient causes of E_1 . This generates a tension, according to Kim, because of the so-called Exclusion Principle.

Exclusion Principle: If an event e has a sufficient cause c at t , no event at t distinct from c can be a cause of e (unless this is a genuine case of causal overdetermination). (Kim 2005, 17)

According to this principle, M_1 and P_1 cannot both be causes of E_1 unless M_1 and P_1 causally overdetermine E_1 . Assuming that overdetermination is not an option, we might say that the two causes "compete" for the right to be the *real* cause of E_1 . A simple way of resolving this tension is to reduce M_1 to P_1 . That is, we might simply identify M_1 with P_1 . This move, however, is unavailable to the nonreductive physicalist since she is committed to (2)—the distinctness of mental and physical properties. So, there is a tension here and, it seems, one (or more) of these premises must be discarded. This, in a nutshell, is Kim's Causal Exclusion Argument.

While the Causal Exclusion Argument raises a specific worry in the context of the philosophy of mind regarding mental causation, Kim is well aware that the underlying issue is quite general. He writes:

[T]he kind of situation [described], namely one in which two events C and C* are seen to be nomologically necessary and sufficient for each other, and in which each of them is thought to constitute an explanans for one and the same event E, is an *inherently unstable situation*. (Kim 1993, 85)

The general issue is that when we have two distinct events that are each supposed to serve as explanations of one and the same resulting event, we are faced with an “unstable situation.” I hope it is evident how these considerations parallel the relevant considerations regarding the debunking argument and the formation of religious beliefs. The defender of folk theism who refrains from rejecting the causal premise is in a position similar to that of the nonreductive physicalist. This defender of folk theism is committed to (1) the direct causal efficacy of supernatural agents, (2) the distinctness of supernatural agents and natural mechanisms, and (3) the causal closure of the natural domain. Returning to Moses’ acquisition of religious belief B_1 on Mount Horeb, it is natural for the folk theist to claim that the literal presence of a supernatural agent causes Moses to acquire B_1 . Let us call this cause C_{GOD} . Since Moses’ acquisition of B_1 is a caused natural event, it follows from the causal closure of the natural domain (based, perhaps, on the standard model) that Moses’ acquisition of B_1 must have a sufficient natural cause. The cognitive scientist tells us that this natural cause involves the evolutionarily selected cognitive mechanisms working in tandem with the relevant natural environmental stimuli. Let us call this cause C_{CS} . We now have an unstable situation similar to the situation facing the nonreductive physicalist. Both C_{GOD} and C_{CS} are purported to causally explain Moses’ acquiring B_1 but the Exclusion Principle tells us that one of the causes must be eliminated (unless C_{GOD} and C_{CS} causally overdetermine Moses’ acquiring B_1).

Evidently, there are important structural similarities between the problem posed by Kim for nonreductive physicalists and the problem posed by cognitive science for folk theists. Given these similarities, my suggestion is that fans of folk theism should engage nonreductive physicalist solutions (e.g., Bennett 2003, 2008) to Kim’s Causal Exclusion Argument and adapt the most promising ones as ways of developing a response to the debunking argument that avoids rejecting the causal premise.

Any satisfactory nonreductive physicalist solution to Kim’s Causal Exclusion Argument will have to say something about the way mental and physical states causally interact with and give rise to each other. Moreover, any nonreductive physicalist solution will have to satisfy, among other requirements, the causal closure of the physical domain. Such a solution will have to respect the claim that there are no holes in the causal structure

of the physical world. Mental states, though being distinct from physical states, will nevertheless be involved in causal interactions with entities in the physical world. This kind of nonreductive physicalist solution to Kim's Causal Exclusion Argument is perfectly suited to be used as a way of defending folk theism. This would enable the folk theist to endorse a picture of the world that does not pit supernatural and natural causes against each other. They could wholeheartedly embrace the work being done in the cognitive science of religion (even if it were pursued under methodological naturalism). I believe this is a promising strategy and some of the groundwork necessary for developing this strategy has been carried out. The aim of this article, however, is not to engage this idea any further but simply to suggest a way forward that has not yet been fully explored thus far in the cognitive science of religion literature.

The critical point in all this is to show that the defender of folk theism who preserves the causal premise while responding to the debunking argument promises a radically different picture of the way natural and supernatural phenomena causally interact with each other from the picture that emerges from the defender of folk theism who rejects the causal premise. The picture that emerges from the preservation of the causal premise is one where cognitive scientific mechanisms, though they are causally sufficient for the formation of religious beliefs, do not exclude supernatural agents from also being directly causally relevant for the formation of the very same religious beliefs. Returning to the Moses example yet again, this would enable us to say that *both* the cognitive scientific mechanisms (in conjunction with the natural environmental stimuli) and the relevant supernatural agents (like the ones referenced in Moses' beliefs) are each causes of Moses' acquiring religious beliefs. That is, we can say that both C_{GOD} and C_{CS} are causes for Moses' acquiring B_1 (possible ways forward: Visala 2011; Lim 2015). Whether or not this is theologically orthodox or whether or not it becomes especially difficult to respond to the problem of evil are beyond the scope of this essay.

CONCLUDING OBSERVATIONS

The cognitive science of religion is a fascinating field of inquiry that promises to lay bare the cognitive mechanisms that, coupled with the relevant environmental stimuli, generate religious beliefs in human beings. Defenders of the debunking argument believe that the cognitive mechanisms studied in this field pose a threat to folk theism—they undermine the epistemic credentials of religious beliefs. A number of influential responses to the debunking argument rely on making two sets of distinctions: (1) proximate/ultimate explanations and (2) specific/general religious beliefs. I argue, however, that such responses have drawbacks and do not make room for folk theism. I suggest that a detour through the literature in

the philosophy of mind regarding the problem of mental causation regarding nonreductive physicalism can provide a way for preserving folk theism without doing violence to the way cognitive science of religion is being practiced today. More specifically, I believe there is a way of responding to the debunking argument that does not require a rejection of the causal premise.

REFERENCES

- Atran, Scott. 2002. *In Gods We Trust: The Evolutionary Landscape of Religion, Evolution, and Cognition*. Oxford, England: Oxford University Press.
- Barrett, Justin. 2004. *Why Would Anyone Believe in God?* Lanham, MD: Altamira Press.
- . 2009. "Science, Religion, and Theology." In *The Believing Primate: Scientific, Philosophical, and Theological Reflections on the Origin of Religion*, edited by Jeffrey Schloss and Michael Murray, 76–99. New York, NY: Oxford University Press.
- Bennett, Karen. 2003. "Why the Exclusion Problem Seems Intractable and How, Just Maybe, to Tract It." *Noûs* 37:471–97.
- . 2008. "Exclusion Again." In *Being Reduced: New Essays on Reduction, Explanation, and Causation*, edited by Jakob Hohwy and Jesper Kallestrup, 280–306. Oxford, England: Oxford University Press.
- Boyer, Pascal. 2005. "A Reductionist Model of Distinct Modes of Religious Transmission." In *Mind and Religion: Psychological and Cognitive Foundations of Religiosity*, edited by Harvey Whitehouse and Robert N. McCauley, 3–30. Lanham, MD: Altamira Press.
- . 2008. "Being Human: Religion: Bound to Believe?" *Nature* 455:1038–39.
- Clark, Kelly, and Justin Barrett. 2011. "Reidian Religious Epistemology and the Cognitive Science of Religion." *Journal of the American Academy of Religion* 79:639–75.
- Heil, John, and Alfred Mele. 1993. *Mental Causation*. Oxford, England: Clarendon Press.
- Hohwy, Jakob, and Jesper Kallestrup. 2008. *Being Reduced: New Essays on Reduction, Explanation, and Causation*. Oxford, England: Oxford University Press.
- Jong, Jonathan. 2013. "Explaining Religion (Away?)" *Sophia* 52:521–33.
- Joyce, Richard. 2006. *The Evolution of Morality*. Cambridge, MA: MIT Press.
- Kahane, Guy. 2011. "Evolutionary Debunking Arguments." *Noûs* 45:103–25.
- Kelemen, Deborah. 2004. "Are Children 'Intuitive Theists'?" *Psychological Science* 15:295–301.
- Kim, Jaegwon. 1993. *Supervenience and Mind*. Cambridge, England: Cambridge University Press.
- . 1998. *Mind in a Physical World*. Cambridge, MA: MIT Press.
- . 2005. *Physicalism or Something Near Enough*. Princeton, NJ: Princeton University Press.
- Leech, David, and Aku Visala. 2011a. "Naturalistic Explanation for Religious Belief." *Philosophy Compass* 6:552–63.
- , and ———. 2011b. "The Cognitive Science of Religion: A Modified Theist Response." *Religious Studies* 47:301–16.
- Lim, Daniel. 2015. *God and Mental Causation*. Heidelberg, Germany: Springer.
- Murray, Michael. 2008. "Four Arguments that the Cognitive Psychology of Religion Undermines the Justification of Religious Belief." In *The Evolution of Religion: Studies, Theories, and Critiques*, edited by Joseph Bulbulia, Richard Sosis, Erica Harris, Russell Genet, Cheryl Genet, and Karen Wyman, 393–98. Santa Margarita, CA: Collins Foundation Press.
- . 2009. "Scientific Explanations of Religion and the Justification of Religion Belief." In *The Believing Primate: Scientific, Philosophical, and Theological Reflections on the Origin of Religion*, edited by Jeffrey Schloss and Michael Murray, 168–77. New York, NY: Oxford University Press.
- Nola, Robert. 2013. "Do Naturalistic Explanations of Religious Beliefs Debunk Religion?" In *A New Science of Religion*, edited by Greg Dawes and James Mclaurin, 162–88. New York, NY: Routledge.
- Papineau, David. 2002. *Thinking About Consciousness*. Oxford, England: Oxford University Press.
- Persinger, Michael. 1987. *Neurophysiological Bases of God Beliefs*. New York, NY: Praeger.

- Peterson, Greg. 1997. "Cognitive Science: What One Needs to Know." *Zygon: Journal of Religion and Science* 32:615–27.
- . 2010. "Are Evolutionary/Cognitive Theories of Religion Relevant for Philosophy of Religion?" *Zygon: Journal of Religion and Science* 45:545–57.
- Powell, Russell, and Steve Clarke. 2012. "Religion as Evolutionary Byproduct: A Critique of the Standard Model." *British Journal for Philosophy of Science* 63:457–86.
- Ruse, Michael. 2013. *Taking Darwin Seriously*. Oxford, England: Basil Blackwell.
- Thurow, Joshua. 2013. "Does Cognitive Science Show Belief in God to be Irrational?" *International Journal for Philosophy of Religion* 74:77–98.
- Visala, Aku. 2011. *Naturalism, Theism, and the Cognitive Study of Religion*. Aldershot, England: Ashgate.