DEBUNKING ARGUMENTS GAIN LITTLE FROM COGNITIVE SCIENCE OF RELIGION

by Lari Launonen

Abstract. Cognitive science of religion (CSR) has inspired a number of debunking arguments against god-belief. They aim to show that the belief-forming processes that underlie belief in god(s) are unreliable. The debate surrounding these arguments gives the impression that CSR offers new scientific evidence that threatens the rationality of religious belief. This impression, however, is partly misleading. A close look at a few widely discussed debunking arguments shows, first, that CSR theories as such are far from providing sufficient empirical evidence that the belief-forming processes behind god-belief are unreliable. Thus, appealing solely to CSR theories makes a debunking argument weak. Second, there are strong arguments that also invoke CSR, but these gain their strength primarily from more familiar claims about evolutionary epistemology and religious diversity. What CSR actually does in these arguments is providing an explanation of why people might believe in gods even if gods did not exist. But explaining is not debunking.

Keywords: Big Gods; cognitive science of religion; cultural evolution; evolution of religion; evolutionary debunking arguments; evolutionary epistemology; HADD; religious diversity

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Toward the end of his book *The Evolution of Morality*, Richard Joyce has a chapter on the evolutionary debunking of morality. He looks at arguments claiming that while our moral beliefs and behavior have evolutionary roots, moral intuitions may nevertheless be grounded on moral facts. Joyce is skeptical regarding the existence of such facts. Even if moral facts existed, he argues, it is unlikely they would somehow influence the development of our moral intuitions. Hence, moral nihilism rears its ugly head. Now, the reader might be led to think that this conclusion is based on the previous parts of the book. However, Joyce points out that his account of the evolution of morality has no role in his debunking argument against moral realism: "[R]eferences […] to the genealogy of the human moral

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faculty will have played no part in establishing any such moral nihilism, except, perhaps, for providing an explanation of why we all have been so systematically misguided in believing in morality for all this time" (Joyce 2006, 209).

This article makes a similar claim regarding recent debunking arguments against religious belief.[1] During the last 30 years or so, genealogies of religious belief have been offered under the label of cognitive science of religion (CSR).[2] CSR has inspired a number of debunking arguments (sometimes dubbed as evolutionary debunking arguments; EDAs) claiming that the belief-forming processes that underlie belief in supernatural agents (gods, angels, ancestor spirits, and so on) are unreliable (or "off-track"). There is a growing literature defending and attacking such arguments (e.g., Bloom 2009; Murray 2009; Griffiths and Wilkins 2013; Nola 2013; Baker-Hytch 2014; Jong and Visala 2014; Shults 2014; Braddock 2016; van Eyghen 2020). This gives a strong impression that CSR offers new scientific evidence that shows god-belief to be irrational. As John Teehan (2016, 40) puts it, "CSR may pose the most serious empirical challenge to religious belief to date." However, a close look at a few widely discussed debunking arguments shows two things. First, CSR theories as such are far from providing sufficient empirical evidence that the belief-forming processes behind god-belief are unreliable. Appealing solely to CSR theories tends to make a debunking argument weak. Second, there are strong arguments that also invoke CSR, but these gain their strength primarily from more familiar claims about evolutionary epistemology and religious diversity. What CSR actually does in the these arguments is providing an explanation of why we all have been so systematically misguided in believing in gods for all this time. But explaining is not debunking. Outside of this explanatory function, CSR does little to strengthen debunking arguments.

In what follows, I will discuss four debunking arguments against god-belief.[3] After a short explanation of how such arguments function, I first discuss Robert Nola's (2013) EDA that builds primarily on the theory of a *hypersensitive agency detection device* (HADD). Nola's argument is an example of a weak debunking argument. In banking solely on CSR, it is unable to produce good evidence of unreliability. The following three debunking arguments are all strong ones in that they are not so easily refuted. First, John Wilkins and Paul Griffiths (2013) have argued that in order to avoid evolutionary skepticism, the truth-value of any class of beliefs (such as scientific or moral beliefs) must be linked to their reproductive value (as when true beliefs about predators help one to stay alive better than false beliefs). Without such a link we cannot trust that the beliefs in question result from a truth-tracking process. God-beliefs fail the test, because evolutionary explanations of religion are independent of the truth-value of religious claims. Second, Matthew Braddock (2016) has argued that the

mechanisms unearthed by CSR have produced a vast array of false god-beliefs in the past. Since the mechanisms are clearly unreliable, we are not justified in believe in gods. Third, a recent EDA by Taylor Davis (2020) that draws from the Big Gods theory puts a new twist on Wilkins' and Griffiths' argument. He argues that the belief-transmission process behind the cultural evolution of religion is insensitive to truth. Each of the three strong arguments invokes CSR in one of its premises. However, they are largely independent of any particular theoretical claims of CSR, and the unreliability claim rests primarily on other factors.

The Hypersensitivity Argument

A debunking argument is one that provides an *undercutting defeater* against a belief. While a *rebutting defeater* is one that provides evidence against the truth of a belief, an undercutting defeater provides evidence that the belief is based on shaky grounds. Consider a belief "Trump has been to outer space" that one forms by reading news online. Afterward one reads another news website stating that, in fact, Trump has never been to outer space. This latter piece of information casts doubt on the belief about Trump's space travels by contradicting the first piece of information. Thus, it provides a rebutting defeater for the original belief. Alternatively, imagine that one does not run into any claims denying Trump's space travels. Instead one reads from Wikipedia that the website claiming that Trump has been to outer space is a well-known satirical news website (such as *the Onion*). In this case, the belief is undercut by evidence for the unreliability of the first source. The belief "Trump has been to outer space" is unjustified. Kahane (2011) presents the basic structure of a debunking argument like this:

> *Causal premise*. S's belief that p is explained by X.
>
> *Epistemic premise*. X is an off-track [= unreliable] process.
>
> Therefore,
>
> S's belief that p is unjustified.

Debunking arguments focus not so much on the unreliability of the information sources external to us (e.g., websites, books, epistemic authorities). Rather, they focus on cognitive processes such as memory, perception, and intuition. A debunking argument is an evolutionary one (an EDA) if it presents evolutionary reasons for thinking that we cannot rely on some cognitive belief-forming process to track truth. EDAs have been targeted against religious, moral, mathematical, perceptual, and even common-sense beliefs (e.g., de Cruz et al. 2011). So what kinds of evolutionary reasons does CSR provide for doubting the grounds of god-belief? The theory that most often features in debunking arguments is that of the

HADD (Guthrie 1993; Barrett 2004). This mechanism makes us good at detecting agents (goal-directed, self-propelled beings such as humans and animals) or just cues of agency. With little conscious attention, we easily notice visual, auditory, or sensory cues that make us think of an agent. We see faces in clouds and toasts, we hear voices in the wind and steps in the attic, we feel someone watching us or something crawling on our skin. Of course, such hair-triggering experiences are unlikely to produce belief in the God of Abrahamic monotheism. Justin Barrett, the main architect of the HADD theory, explains how it relates to common religious beliefs:

> It might be that HADD rarely generates specific beliefs in ghosts, spirits, and gods by itself, and hence does not serve as the origin of these concepts. Nevertheless, HADD likely plays a critical role in spreading such beliefs and rejuvenating them. Christians devoted to their faith often refer to answered prayer, special communications, and other events they attribute to God's activity thanks to HADD at work. (Barrett 2009, 88)

Due to HADD, the idea of a god actively engaged in human affairs seems intuitively more credible. Supernatural agents help us to make sense of the world around us. For instance, Nordic people apparently used to explain the strange positioning of glacial erratic (big rocks left behind by the ice age) in the middle of a flat landscape as the work of demons or giants. Now, such intuitions of supernatural agency are clearly often off-track. This is because HADD is a better-safe-than-sorry mechanism. Like a smoke detector that often goes off even when there is no fire, HADD errs on the side of caution. For our ancestors, detecting predators and prey was a question of life and death. If the bushes were rustled by the wind instead, no harm was caused. For this reason, HADD produces false positives. As a by-product, it also reinforces ideas of invisible, supernatural agents. Such beings come to mind especially in environments where we feel unsafe (e.g., a graveyard or a dark forest) or when one faces something awe striking or extraordinary (e.g., a shooting star right after praying) (Barrett 2012, 209). This way, HADD makes god feel real. Robert Nola (2013) is one who takes this as evidence that god-belief is irrational:[4]

> Explanatory hypothesis: Hypothesis H about how causal belief-forming process C explains person x's belief that p.
>
> Epistemic premise 1: C is not a "truth-tracking" process; it is "off-track."
>
> Epistemic premise 2: "Off-track" processes do not provide any justification.
>
> Conclusion 1: So, x's belief that p is unjustified.
>
> Conclusion 2: So, x' belief that p is debunked.

Explanatory hypothesis H includes also two other CSR theories in addition to HADD. First, god-beliefs are partly explained by our capacity

for mentalizing or "mindreading" (e.g., Bering 2002). The Theory of Mind (ToM) mechanism collaborates with HADD in helping us perceive intentionality. It also produces inferences about the mental states of other agents. We easily perceive others' emotions, beliefs, and desires simply on the basis of their tone of voice, facial expression (or emoticon in a text message), or traces they leave behind (e.g., cave paintings, tire traces). The ability to think of god's mental states possibly adds intuitive appeal to the idea of a personal deity. According to the second theory, our minds are attracted to ideas that violate ontological categories (Boyer 2001). Such minimally counterintuitive (MCI) ideas include persons without physical bodies (e.g., angels, demons, ancestor spirits), purely physical objects with mental qualities (e.g., a statue that listens to prayers), and persons without minds (zombies).

According to Nola, however, it is specifically the way HADD operates that makes the belief-forming process off-track (Epistemic premise 1). Think again how smoke detectors operate. They are designed to be hypersensitive. That is why false alarms are much more frequent than real fires. Upon hearing a fire alarm we seldom jump out the window. Although we may remain open to the possibility that something is burning, we will not form a fire-belief before checking the house. Along similar lines, Nola argues that HADD produces false positives more frequently than it detects real agents. Hence, intuitions of supernatural agency produced by HADD cannot be trusted (whether supernatural agents exist or not). Since god-belief is caused by HADD, we should suspend judgment as to whether god(s) exist(s). Now, independent evidence for god's existence (such as natural theological arguments) can justify our belief. But Nola thinks few people have such evidence. Even for those aware of such arguments, he claims, theology and philosophy "only bolster what we believe on other grounds" (Nola 2013, 183).

Nola's argument is clearly based on CSR in general, and on HADD in particular. However, it is is vulnerable to several counterarguments. First of all, contrary to Nola's first epistemic premise, it seems that the agency-intuitions HADD spits out are often on track. To some level, HADD is at work throughout the day, making us aware of people and animals around us. In our everyday environments, false positives are the exception, not the rule. As Michael Murray explains, HADD's reliability depends largely on the context:

> HADD might be unreliable when I hear creaking noises in the abandoned house down the block, but might be quite reliable when I hear a whistled tune in the hall. Is HADD more like the former or the latter when it comes to religious belief? Merely asking the question makes it plain that the reliability of HADD can only be assessed with reference to the contexts in which it is activated … HADD is quite reliable as a belief-forming mechanism in some conditions and not in others. (Murray 2009, 171)

Hence, it is hard to pass judgment on just how reliable HADD is and what is the exact frequency of false and true positives. Importantly, it cannot be argued that intuitions of supernatural agency are instances of HADD misfiring unless we already assume that no supernatural agents exist or that they cannot be detected in appropriate circumstances.[5] Now, most people, theists included, probably believe that a good number of such intuitions are in fact false positives (at least those outside of one's own religion). Few Christians, for instance, give credit to experiences of Krishna or forest spirits. This would seem to indicate that there is a wide agreement that HADD is largely off-track. However, notice that here we have gone beyond Nola's argument. He does not appeal to evidence provided by the diversity of religious experiences, but argues that the HADD theory in itself suggests that god-belief is based on intuitions that are largely off-track.

Second, we are not slaves to our HADDs. Once you hear a smoke detector, you go see if anything is burning. Similarly, if HADD produces an agency-intuition, we use reason and other cognitive faculties to assess whether we should take the intuition seriously (Murray 2009). This way, other mental tools help us to evaluate whether HADD is on the right track or not. Now, one may object that supernatural agents escape critical scrutiny because, unlike house fires, their existence cannot be empirically (dis)confirmed. However, people generally are not hopelessly uncritical of their intuitions of extraordinary agency. In many situations where our initial reaction is to think of such an agent we quickly find a more mundane explanation ("oh, it was just the …"). Granted, things may be different in religious contexts where certain experiences are socially encouraged and expected (Shults 2014). Still, the fact that the unreliability of HADD is often balanced out by other cognitive faculties suggests that it does not render people hopelessly gullible.

Third, cognitive mechanisms such as HADD, or the compilation HADD + ToM + MCI, hardly make up a causally sufficient explanation for god-belief (Leech and Visala 2011). The testimony of parents and pastors, contemplation on the existence of the world and oneself, the moral character of virtuous believers and various other factors often contribute to belief-formation. Even if HADD was unreliable, we would have to consider the reliability of the overall belief-forming process to assess whether one's god-belief is dubiously formed.

Finally, the empirical evidence for HADD is scarce. For instance, in a recent study, participants were subjected to ambiguous stimuli such as point-lights, geometrical figures, and white noise (Maij, Schie and van Elk 2019). In all six experiments, the participants did occasionally detect false agents. However, when the participants were presented with stimuli indicating human agency, they generally had a response bias toward assuming that agents were not present. This speaks against hypersensitivity (the "H"

in the HADD) and makes suspect the claim that HADD is highly prone to false positives. Moreover, even if people in general were sensitive to cues of agency, it is unclear how this relates to the tendency to form supernatural beliefs. In the study, supernatural beliefs did not affect participants' tendency to detect agency. Another study also found that a high tendency to detect agency does not predict religious belief (van Leeuwen and van Elk 2019). These results suggest that there is no clear correlation between agency-sensitivity and god-belief, although this is what the HADD theory would seem to imply.

Hence, there are serious empirical and logical shortcomings in Nola's argument. Now, if HADD is not the debunker's best bet, could other CSR theories do a better job? For instance, the existence of a ToM mechanism seems to be well established. It has also been suggested that ToM causes false positives in making us postulate a divine mind (Bering 2011, 37).[6] Another plausible theory concerns teleological reasoning, that is, our tendency to perceive purpose and design in nature and behind important life events (e.g., Kelemen and DiYanni 2005; Banerjee and Bloom 2014). However, even if teleological reasoning or ToM reinforces god-beliefs, it does not provide a solid basis for debunking. One reason is that these theories do not usually include the claim that the mechanisms in question are error-prone in the way HADD is (in the better-safe-than-sorry sense). Moreover, CSR scholars nowadays are largely in agreement that while cognitive theories are necessary, they are hardly sufficient for explaining the phenomena of religion (McCauley 2018). To summarize, then, developing a successful CSR-based debunking argument is difficult, for CSR theories as such do not provide sufficient evidence that the belief-forming processes behind god-belief tend to be unreliable. Of course, this is not to say that CSR does not cast any doubt on the rationality of religious belief. It just means that debunking arguments that rely solely on CSR theories are not very good ones.

The Milvian Bridge Argument

Griffiths and Wilkins (2013) have offered probably the most widely discussed EDA in the debunking debate.[7] It aims to undermine moral and religious beliefs while vindicating common-sense and scientific beliefs. Griffiths and Wilkins begin by laying out the logic of full-blown evolutionary skepticism. Skeptics point out that our belief-forming faculties are products of the blind forces evolution. "Natural selection does not care about truth; it cares only about reproductive success" (Stich 1990, 62). Moreover, studies on cognitive heuristics and biases suggest that in some cases evolution has favored error-prone cognitive systems instead of truth-tracking ones. For instance, psychologically healthy humans seem to have unrealistically positive views of themselves and of their prospects to life (e.g., McKay and Dennett 2009).

Therefore, all our beliefs are guilty—but only until proven innocent. Griffiths and Wilkins move on to offer an evolutionary vindication of common-sense beliefs. Given how much energy the brain consumes, cognitive mechanisms must be adaptations, for "it is hard to see what the basic evolutionary function of cognition could be other than tracking truth" (Griffiths and Wilkins 2013, 137). Some level of truth-tracking is necessary for adaptive behavior; for feeding, fleeing, fighting, and reproducing. You need to know which foods to eat and which to avoid, how to track prey, how many mouths you have to feed, and so on. Natural selection does not care about truth as such, but only to the extent it contributes to reproductive success. However, Griffiths and Wilkins agree with evolutionary skeptics that the mind operates under constraints. Evolution has favored economic solutions in sculpting the human mind. Prehistorical philosophers too focused on truth did not spread their genome as efficiently as their cousins who were more into hunting and fighting over fertile partners. The outcome of such cognitive evolution was that "an optimally designed cognitive mechanism will represent the world in such a way that the actions resulting from those beliefs have the highest expected value" (Griffiths and Wilkins 2013, 138). In other words, our view of the world is not the God's-eye-view, but it is not completely arbitrary either. Our belief-forming faculties are constrained by reality to a fair degree,

Not all types of true beliefs contribute to survival, however. Beliefs that do so include those about the location of our bodies and about objects in our immediate environment. Such common-sense beliefs cannot be off-track if one hopes to survive. Following this reasoning, Griffiths and Wilkins present an evolutionary litmus test for truth-tracking belief: "To defeat evolutionary skepticism, true belief must be linked to evolutionary success in such a way that selection will favor organisms which have true beliefs" (Griffiths and Wilkins 2013, 134). They call this principle a Milvian Bridge (in reference to Emperor Constantine's historical victory in 312 CE that was ascribed to his Christian beliefs) and define it as follows:

> Milvian Bridge: X facts are related to the evolutionary success of X beliefs in such a way that it is reasonable to accept and act on X beliefs produced by our evolved cognitive faculties. (Griffiths and Wilkins 2013, 134)

Common-sense beliefs are directly linked to adaptive behavior. Griffiths and Wilkins also argue that scientific beliefs are *indirectly* linked to adaptive behavior. The thrust of their argument seems to be that scientific beliefs are ultimately built on basic cognitive skills and common-sense beliefs, and on experimenting and logical reasoning (epistemic practices that seem to carry reproductive value). Therefore, also scientific beliefs are constrained by reality. Although science may not represent the world exactly as it is, it is not arbitrary, either. What about religious or moral beliefs? Here no Milvian Bridge, direct or indirect, is available. There seems to be

no reason to think that natural selection has favored organisms whose religious or moral beliefs are true instead of organisms with false beliefs. As Griffiths and Wilkins point out, evolutionary explanations of religion and morality make no reference to the truth of moral or religious beliefs. The reason why is especially clear in the case of by-product theories such as the HADD theory. For if this theory is correct, "people believe in supernatural agents which do not exist for the same reason that birds sometimes mistake harmless birds passing overhead for raptors" (Griffiths and Wilkins 2013, 142–43).

Wilkins' and Griffiths' debunking argument seems like a strong one once we take evolutionary skepticism seriously. Importantly, it is independent of any particular theory of religion. As the authors indicate, it works with both adaptationist and by-product accounts. In fact, it seems that not only any evolutionary explanation, but any naturalistic explanation of religion with equal plausibility would do. What Griffiths and Wilkins are saying is that facts about gods are not related to the evolutionary success of beliefs about gods. Consider some of the traditional explanations listed by Pascal Boyer: religion provides comfort (e.g., in the face of death), it provides social order, or it helps to make sense of the world (of puzzling experiences and natural phenomena, the origins of things, and evil) (Boyer 2001, 5). None of these theories suggests that the success of god-beliefs is related to facts about gods. A CSR theory is not necessary.

To be sure, an evolutionary explanation is needed to clearly demonstrate how the evolution of god-beliefs may be independent of god-facts. CSR theories are also scientifically superior to the ones listed by Boyer. But even if all CSR theories were falsified tomorrow, this would not damage the argument much as long as we accept (1) the methodological naturalism of evolutionary science and (2) the truth of the Milvian Bridge. The conclusion (religious beliefs are off-track) follows unavoidably. Regarding methodological naturalism, notice that Griffiths and Wilkins assume that our minds are adapted to track truths only about *natural* agents such as predators and prey. Indeed, no sensible evolutionary scientist would suggest that *supernatural* agents number among the selective pressures that drive cognitive evolution. It follows that an evolutionary account of religion simply cannot take supernatural beliefs to be truth-tracking. Small wonder, then, why "none of the leading accounts of the evolution of religious belief makes any reference to the truth or falsity of those beliefs when explaining their effects on reproductive fitness" (Griffiths and Wilkins 2013, 144). The possibility of finding a direct Milvian Bridge for religious belief is excluded from the outset.[8] This shows that CSR provides nothing special to the argument outside of offering a viable naturalistic explanation of religion.

An Argument from False God-Beliefs

According to Max Baker-Hytch (2014, 96), "the best of the debunking arguments on offer" is one based on religious diversity.[9] The challenge of religious diversity and disagreement to religious belief is nothing new. John Stuart Mill once put it like this: "Mere accident has decided which of these numerous worlds is the object of [a person's] reliance […] [T]he same causes which make him a churchman in London would have made him a Buddhist or a Confucian in Peking" (Mill 1991 [1859], 229–30). If Christianity, Buddhism and Confucianism make mutually exclusive truth claims, then many religious beliefs must be false. Moreover, if the process through which one comes to hold her religious convictions is similar across religions (as Mill seems to imply) then there is something generally wrong with the way we acquire religious beliefs. Similar sort of reasoning can be found in Matthew Braddock's (2016) debunking argument from false god-beliefs.

(1) Polytheistic beliefs and finite god-beliefs are false god-beliefs.

(2) CSR mechanisms have disposed us humans to such god-beliefs across ordinary environments and throughout human history.

(3) So, CSR mechanisms have disposed us humans to a large percentage of false god-beliefs across ordinary environments and throughout human history. (From (1) and (2).)

(4) Given (3), we should suspend judgment about the reliability of CSR mechanisms in ordinary environments with respect to the class of god-beliefs, unless we have independent evidence favoring reliability.

(5) We have no independent evidence favoring the reliability of CSR mechanisms in ordinary environments with respect to the class of god-beliefs.

(6) So, we should suspend judgment about the reliability of CSR mechanisms in ordinary environments with respect to the class of god-beliefs. (From (4) and (5).)

Let us unwrap this argument. Braddock's target is traditional monotheistic belief in God. Most Jews, Christians, Muslims, and other monotheists readily accept premise (1). "CSR mechanisms" (premise (2)) refers to the cluster of cognitive tools and biases that make people susceptible to god-belief. These include HADD, the ToM, and other "mechanisms underlying various content biases (e.g., for MCI concepts, teleological thinking, mind/body dualism)" (Braddock 2016, 269). Now, why would these mechanisms make humans prone to polytheistic and finite-god-beliefs, specifically? Ethnographic data show that such beliefs, unlike monotheistic ones, are prevalent among hunter-gatherer bands. As Braddock points out, it is commonly assumed that contemporary hunter-gatherers tell us much about ancestral humans, since we have lived in such groups for most of our history.

> [T]he more analogous contemporary tribes are to ancestral humans, the less likely they are to be monotheistic and the more likely they are to believe in a variegated plurality of finite gods and supernatural agents. If we combine this ethnographic data with the leading CSR by-product theories, which say that modern humans have the same sorts of cognitive mechanisms leading to belief in gods that ancestral humans did, then we can reasonably infer that polytheistic and finite god-beliefs were prevalent among humans throughout the past. (Braddock 2016, 273)

Archaeology also suggests that our religious past is full of finite supernatural agents. According to Braddock, what CSR shows is that we share the same belief-forming mechanisms with our idolatrous ancestors. An anonymous reviewer of an earlier draft of his article has asked what difference would it make if "CSR mechanisms" was replaced with "whatever mechanisms produce god-beliefs"? Braddock responds that "it is crucial to the argument's evidential force that the relevant mechanisms be robustly operative across cultures and history. And CSR mechanisms meet the criterion and do so with increasing empirical support, unlike other candidates" (Braddock 2016, 274). We will return to this point shortly.

Premises (4) and (5) seem straightforward: if CSR mechanisms make us susceptible to false god-beliefs, we cannot rely on them being truth-tracking unless we have independent reasons to think they are reliable. However, the argument does not conclude with (6). In its extended version, Braddock adds an important qualification. As we saw earlier, there are several causal factors contributing to any individual's god-belief. CSR mechanisms are just a part of the total belief-forming process. Even if these mechanisms were unreliable, other causes may be truth-tracking and make the process reliable as a whole. Consider someone who forms a belief that Trump has been to North Korea by reading both a fake news website and a generally reliable news website. Although the process is partly contaminated by an unreliable source, the second website confers reliability to the process as a whole. The resulting belief seems justified. Now, Braddock seeks to reject the claim that other factors may debug the process behind god-belief so that it becomes reliable overall. The key premise of the extension states that "we have no good reason to think other significant contributors to our belief-forming processes would confer reliability upon them with respect to the class of god-beliefs" (Braddock 2016, 271).

What could such "significant contributors" be? The most obvious option is the testimony of others. Growing up, our parents and people in our religious community tell us about God. Trusting the testimony of others is generally a reliable method of seeking truth. The vast majority of the facts we know have come down to us through parents, teachers, news anchors, and so on. However, the reliability of testimony varies depending on the class of beliefs in question. In the case of religious beliefs, Braddock argues, everyone in the testimonial chain has been influenced by CSR

mechanisms. Therefore, the whole chain is contaminated (just as when a journalist writing for a generally reliable website takes his information from a fake news site).[10] However, as Braddock himself points out, there seems to be significant cultural contributors behind monotheism that are absent from the processes behind finite-god/polytheistic beliefs. Monotheism depends on cultural variables such as social size, subsistence technology, economic complexity, and literacy (Sanderson and Roberts 2008). Now, could any of these factors confer reliability upon the belief-forming processes? Literacy clearly seems like a good candidate. Historically, the production of religious texts has given rise to much analytic reflection on religious ideas. For example, biblical books such as Ecclesiastes or Job take a critical view of some traditional Hebrew beliefs. As Robert McCauley has argued, as a cognitive exercise, theology is often more akin to science than to popular religion (McCauley 2011, 207–44). It seems possible to claim, then, that the growth of literacy and the reflective reasoning that comes with it could have debugged the monotheistic testimonial chain.

Braddock concludes, that "we are not justified in holding our god-beliefs, absent independent evidence for them" (Braddock 2016, 271). Now, CSR seems to be important for the argument primarily for two reasons. First, as Mill might have put it, CSR shows that the same causes that make someone a churchman in London would have made him a polytheist had he lived in the prehistoric times. Second, CSR also offers an empirically robust account of what exactly those causes are. Nevertheless, Braddock's formulation is largely independent of any theoretical claims regarding the operation of CSR mechanisms. In establishing their unreliability, he does not appeal to, say, the hypersensitivity of HADD or the by-product nature of the mechanisms (the idea that the mechanisms are not "designed" to detect supernatural agency and therefore off-track). Rather, the unreliability claim is based on the falsity of the god-beliefs of the past. The secondary role of CSR becomes apparent if we note that the current theories regarding the belief-producing mechanisms (HADD, ToM, and so on) could be replaced by different ones without doing any damage to Braddock's argument. But if so, why could not "CSR mechanisms" be replaced with "whatever mechanisms produce god-beliefs"? After all, CSR scholars were hardly the first ones to suggest that the same psychological causes behind god-belief have been "operative across cultures and history."

Granted, getting rid of CSR would rob some of the argument's empirical credibility. This would also make it less clear that the causes behind polytheistic and finite-god-beliefs and monotheistic beliefs are the same. But, in fact, I do not think this is clear. Although CSR does suggest that the causes are at least partly the same, there are also differences. As I pointed out, literacy—a key feature of monotheistic cultures—might confer some reliability upon the belief-forming processes behind monotheistic beliefs

by virtue of the analytic thinking associated with it. Therefore, the process that produces and sustains monotheistic belief is not similar enough to the process behind false god-beliefs so as to be judged as similarly unreliable. Furthermore, is it not rather obvious that educated believers living in modern societies spend more time reflecting on their religious beliefs than our hunter-gatherer forefathers did (note that this does not necessarily mean having independent evidence for god)? Our intuitive CSR mechanisms are not alone responsible for our religious beliefs; our thought processes are much more complex (Vainio 2016). To recap, not only is Braddock's "same causes" argument independent of specific theoretical claims made by the CSR theories (though it does hang on the general framework), but CSR does not do the work he assigns to it.

A Cultural EDA

The cognitive and evolutionary study of religion is constantly evolving. New species of theories are born while others go extinct. Although theories such as HADD are in empirical trouble, the debunking debate is not *passé*. Arguments can be updated as science progresses—precisely because most of them do not hang on the specifics of any particular CSR theory. Taylor Davis' (2020) recent article provides a fine example. He argues that CSR has placed too much emphasis on the role of *content biases*. Content biases make some concepts (such the idea of an unembodied agent) inherently more interesting, memorable and transmittable than others (Gervais et al. 2011). Our minds "catch," say, the idea of a supernatural Designer far more easily than the idea of evolution through natural selection (Kelemen and DiYanni 2005). According to Davis, content bias theories are successful in identifying "various genetically inherited cognitive capacities that are involved in forming theistic belief" but "it is a separate question whether these capacities actually *bias* individual minds toward such beliefs, as opposed to merely being *recruited* by cultural beliefs that require them" (Davis 2020, 197).[11] Content bias theories also leave many important aspects of religion unexplained. Why do people passionately devote themselves to the worship of gods instead of just believing they exist? Why do they sincerely believe in particular gods but reject others?

Context biases (or "model-based learning biases") help answer such questions. Although we are attracted to certain kinds of ideas more than others, the sources of the ideas also matter. Will Gervais et al. (2011) argue, first of all, that instead of adopting beliefs and behaviors that are held by only few people, we tend to go after ones that are prevalent in our context. Second, we favor beliefs and behaviors held by older, skilled, prestigious and successful people. Third, we follow the example of those who actually practice what they preach: we look closely for so-called credibility enhancing displays, that is, special actions such as religious rituals that signal the

seriousness of one's religious commitment (Henrich 2009). Actions speak louder than words.

Davis argues that cultural evolutionary models that build on context biases can do all the work that content-bias theories do and more. For example, according to the so-called Big Gods theory (Norenzayan et al. 2016), a shared belief in a powerful God who watches people and punishes immoral behavior has helped to weed out freeriding from human communities. Freeriding—reaping the benefits of cooperation while not contributing yourself—is a major obstacle to large-scale cooperation. Freeriding benefits the individual as long as one does not get caught (and in large groups anonymity is secured), but it also erodes cooperation. Big Gods evolved to keep selfishness in check. Once people believe they are being watched by an omniscient Deity, and once such belief spreads via credibility enhancing displays, the freeriding obstacle is overcome. Large groups that cooperate tend to take over those that do not. Thus, the success of monotheism is explained by its ability to promote prosocial behavior.

Inspired by Big Gods, Davis puts a new spin on Griffiths' and Wilkins' argument. Recall that according to the Milvian Bridge principle, beliefs are truth-tracking only if their adaptive value depends on their truth value (or if, like scientific beliefs, they are based on such adaptive-only-if-true beliefs). Davis agrees with this principle but denies that adaptive value should always be defined in terms of benefit to individuals (genetic fitness). In the case of scientific and religious beliefs the crucial question is why and how those beliefs benefit the group (cultural fitness). The benefit of believing in Big Gods does not depend on the existence of gods, Davis argues. Science, however, is beneficial only if it is truth-tracking.

> [T]he cultural fitness values of scientific beliefs do depend upon their truth values; scientific norms and methods ensure that false scientific theories are eventually rejected, and the empirical predictions of science getting increasingly more precise and accurate over time … It is because of selection acting on cultural traits, not genetic traits, that a Milvian Bridge can be constructed for scientific beliefs but not religious beliefs. Religious beliefs are culturally inherited traits that have been selected for in virtue of their ability to promote prosocial behavior, regardless of whether they are true or false. By contrast, scientific beliefs are culturally inherited traits that have been selected for in virtue of their ability to produce true, accurate predictions. (Davis 2020, 206)

What we have here is an updated Milvian Bridge argument. Again we should pay attention to the role that the given CSR theory plays here.[12] Big Gods theory is important in demonstrating how religious beliefs may be selected whether or not gods exist. However, this theory as such need not be true. As Davis points out, nontheistic belief in karma can similarly produce prosocial behavior. In comparison with the original Milvian Bridge argument, however, Davis' case does seem to depend on a

more specific understanding of what makes certain religious traditions so successful. But again, religious beliefs can be made suspect simply by accepting the Milvian Bridge principle and the methodological naturalism of evolutionary science. An evolutionary explanation cannot refer to god-facts in explaining god-beliefs. This shows that that the case against the reliability of religious belief-formation is quite independent of the case for Big Gods or any other particular CSR theory.

Now, Davis' argument has something that the original Milvian Bridge lacks. He notes the response to Griffiths and Wilkins by Jonathan Jong and Aku Visala (2014). They argue that the justification of belief depends not on the *causes* but on the *reasons* one can present for her (scientific or religious) belief. Therefore, an indirect Milvian Bridge can be constructed for religious beliefs as well. Davis agrees that arguments and evidence can get the believer off the hook, but he thinks few believers are aware of arguments and evidence for god. Now, perhaps Jong and Visala could point out that very few people can present arguments or evidence for the scientific beliefs they hold. For example, most of us base our belief in climate change on the testimony of other. Does this mean that religion and science are epistemically in the same boat? No, says Davis. The convergence of scientific beliefs across the globe is evidence that their cultural selection is sensitive to evidence. "As a consequence, we observe convergence in science in a way that we do not in religion," Davis writes, "children in both India and the United States are taught that the earth revolves around the sun, and they are not taught that phlogiston is released in combustion" (Davis 2020, 206).

> Assuming that Christian beliefs are true, we should observe that people in Europe and people in the Philippines converged upon Christian beliefs in a manner that was independent of cultural contact. Instead, what we observe is that Christianity became popular in the Philippines soon after Spanish colonization. And for the same reason, the convergence we observe in India is toward karmic beliefs, not Christian beliefs. Indeed, religion is infamous for being a domain in which reason and argument fail to produce convergence across cultures. And this points to an important difference between scientific and religious beliefs that both Jong and Visala and Wilkins and Griffiths overlook. (Davis 2020, 206)

Religious diversity may serve as evidence that the way in which religious beliefs are transmitted and inherited is epistemically unreliable (cf. De Cruz 2018). But it is not evidence produced by CSR.

Conclusion

CSR has attracted the attention of many philosophers of religion. Part of the reason may be that by-product theories such as HADD seem to underscore the irrationality of god-belief more than many other naturalistic

accounts. CSR theories as such appear to present a serious epistemic threat to religious belief. However, I have argued that CSR theories are far from providing sufficient empirical evidence that the belief-forming processes behind god-beliefs tend to be unreliable. Although there are also strong debunking arguments that invoke CSR, in these the unreliability claim is based primarily on more widely accepted notions about evolutionary epistemology and religious diversity. Importantly, these arguments are largely independent of any specific theoretical claims made by CSR theories. Therefore, CSR is not the game-changer in the debunking debate it often seems to be. Debunking arguments, however, are not the only way to use CSR against religion. For example, one can argue that the evolutionary explanations CSR provides are incompatible with theological accounts of religious belief (e.g., Teehan 2014).

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Notes

1. Until recently, CSR has lacked a proper theory of what "beliefs" are and how they are to be explained. For discussion on how beliefs are formed, stabilized, and eventually lost, see, for example, Angel et al. (2017) and Connor and Halligan (2015).
2. I take a broad view of what theories are encompassed by CSR. See McCorkle and Slone (2019) for a similarly broad treatment.
3. While CSR purportedly explains belief in all kinds of extraordinary agents, this article is primarily concerned about belief in the God of (mono)theism.
4. Similar argument has been presented at least by Bloom (2009).
5. Some may think it is plainly obvious that gods, ghosts, or goblins are never really "detected" but are simply false positives. Making sense of some peculiar phenomenon by reference to supernatural beings may seem superfluous when we have viable naturalistic explanations at hand. But even if CSR makes supernatural explanations of religious experiences less credible, here the burden of proof is on the debunker to show why CSR excludes the possibility of encountering supernatural agency even in principle.
6. For evidence against the claim that ToM contributes to god-belief, see Ekblad and Oviedo (2017).
7. The argument is dealt with at length, for example, by Baker-Hytch (2014), Davis (2020), Jong and Visala (2014), and van Eyghen (2020). For other similar arguments against god-belief, see Goodnick (2016) and Talmont-Kaminski (2013).
8. Jong and Visala (2014) argue that an indirect Milvian Bridge can be constructed for religious beliefs.
9. At least Braddock (2016), Baker-Hytch (2014), and Teehan (2014) have presented arguments against god-belief partly based on religious diversity.
10. It could be argued that the reliability of the Christian testimony depends to a large extent on the historicity of its original events (such as Jesus' teaching and miracles, death, and resurrection).
11. Italics mine.
12. Davis apparently does not view context-bias theories such as Big Gods as part of CSR, but many other scholars do. See, for instance, the recent collection of key studies in CSR by McCorkle and Slone (2019).

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