

# *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."

## TWO TYPES OF "EXPLAINING AWAY" ARGUMENTS IN THE COGNITIVE SCIENCE OF RELIGION

by Hans van Eyghen

*Abstract.* This article discusses "explaining away" arguments in the cognitive science of religion (CSR). I distinguish two rather different ways of explaining away religion, one where religion is shown to be incompatible with scientific findings (EA1) and one where supernatural entities are rendered superfluous by scientific explanations (EA2). After discussing possible objections to both varieties, I argue that the latter way offers better prospects for successfully explaining away religion but that some caveats must be made. In a second step, I spell out how CSR can be used to spell out an argument of the second kind. One argument ("Bias Explaining Away") renders religion superfluous by claiming that it results from a cognitive bias and one ("Adaptationist Explaining Away") does the same by claiming religion was (is) a useful evolutionary adaptation. I discuss some strengths and weaknesses of both arguments.

*Keywords:* atheism; cognitive science of religion; explaining away; naturalism

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Explaining away religion has a long history. Well-known examples are Ludwig Feuerbach's explanation of religion as projection (Feuerbach 1957) and Sigmund Freud's explanation as wishful thinking (Freud 1961). Charles Darwin proposed the first evolutionary explanation of religion (Darwin 1898). Though he did not believe this himself, it is sometimes claimed to explain religion away. Later attempts were often based on the Darwinian theory of evolution or modern (cognitive) psychology.

It is clear that explaining away religion always involves explanations, but that not all explanations of religion amount to explaining away. It is also clear that there are conceptual differences between various attempts

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at explaining away. In this article, I will distinguish two main varieties of explaining away religion<sup>1</sup> and evaluate both. I believe these two varieties exhaust the ways in which religion can be explained away. Therefore, having an adequate account of both varieties can distinguish explaining religion away from merely explaining religion. A mere explanation of religion is then an explanation that does not fit within either of these varieties.

Distinguishing varieties of explaining away religion is important to get more clarity on the most recent attempts at explaining away religious belief, namely those inspired by cognitive science of religion (CSR). From the early 1990s onwards, cognitive scientists proposed new explanations for religious belief. Various theories proposed psychological mechanisms that are responsible for the acquisition of religious beliefs and others discussed the way the human mind is structured for the transmission of religious beliefs.<sup>2</sup> Some authors have used these theories to construct an argument against religious beliefs (e.g., Wilkins and Griffiths 2012; Nola 2013). I distinguish two variants; one which argues for the incompatibility between the content of religious belief and scientific theories and one which renders supernatural beings superfluous by explaining religious belief naturalistically. Focusing on the second kind, I will then discuss two ways how a more detailed naturalistic explanation can be spelled out using results from CSR. My aim is not to criticize existing arguments in detail or to defend a new one myself. My main aim is to categorize the arguments and offer directions for future arguments.

In the second section, I distinguish two variants of explaining away arguments and I argue that the second one offers more promise of success. In the third section, I apply the second variant of explaining away to CSR and discuss two possible explanations that take into account cognitive theories of religious cognition.

## TWO VARIETIES OF EXPLAINING AWAY

I argue that there are two main ways of explaining away religion; one in which the argument attempts to demonstrate that the content of the main religious beliefs stand in conflict with scientific results, and another that attempts to demonstrate that scientific results render supernatural beings superfluous. After spelling the arguments out, I will evaluate both varieties and argue that the latter offers better prospects for success.

*EAI: Arguing for incompatibility.* Many philosophers interpret the question whether CSR has explained religious belief away or can do so as the question whether CSR theories and the truth of a religion (usually Christianity) or general theism are incompatible. John Wilkins and Paul Griffiths (2012) argue that CSR shows that religious beliefs were produced by evolutionary mechanisms and evolution cannot be expected to

produce true beliefs in the domain of religion because the relevant cognitive adaptations are not truth-tracking. Robert Nola (2013) has a similar argument. He argues that recent cognitive theories show that religious belief is produced by an unreliable mechanism and hence religious beliefs are not justified.

The argument can be stated as follows:

- (1) The best scientific explanations of religious phenomena available make truth claims (premise).
- (2) Religious beliefs make truth claims (premise).
- (3) The best scientific explanation of religious phenomena is true (premise).
- (4) The best scientific explanation of religious phenomena available conflicts with the truth claims of religious beliefs (premise).
- (5) Two conflicting claims cannot both be true (premise).
- (6) Therefore, the truth claims made by religious beliefs are not true (from 1, 2, 3, 4, and 5).

The argument is formally valid as the conclusion (6) follows from the premises. The conclusion is metaphysical, namely denying that religious claims are true. Defenders of EA1 arguments, especially Robert Nola (2013), seem to draw an epistemic conclusion. Some respondents also attack an epistemological version of the argument. Whether a metaphysical or epistemological conclusion can be drawn depends on how premise (3) is cashed out. In the way I stated it, it leads to a metaphysical conclusion; rephrasing it as “the best scientific explanation of religious phenomena is *likely* true” will lead to an epistemic conclusion. Wilkins and Griffith and Nola do appear to endorse premise (3) in the way I stated it. Therefore, conclusion (6) does seem to follow from their arguments.

The first premise needs little defense. Scientific explanations are generally believed to make truth claims and the best scientific explanations of religion (i.e., theories from CSR) are no different. The second is denied by some theologians and philosophers of religion, the most famous being Dewi Zachariah Phillips. He argued that religious utterances are not so much concerned with making truth claims but rather with the sphere of human conduct and experience (Phillips 1976). Long before there were cognitive theories of religion, Phillips advanced the thesis that psychological explanations restrict the possibilities of what religious utterances mean. His position is, however, a minority one and most philosophers and religious believers maintain that religious utterances (and the religious beliefs from which they result) do make truth claims.

The third premise is more controversial. The defenders of EA1 arguments assert it when writing that CSR theories *show* that religious belief

was unreliably produced. Responders (see below) are usually more cautious but do not really challenge premise (3) either. They often assume it in a conditional way and attack other premises. Jonathan Jong, Christopher Kavanagh, and Aku Visala do write: “CSR has yet to fully deliver on its promises . . . . CSR’s theories are still *massively* underdetermined by data” (Jong, Kavanagh, and Visala 2015, 250, emphasis added). They, however, also continue their argument as if the theories are true. Some CSR scholars claim that Jong, Kavanagh, and Visala’s claim is overstated.<sup>3</sup> Assessing premise (3) for CSR lies beyond the scope of this article and for now I will assume it.

The crux of the argument is (4) and this is the premise responders usually attack. The conflict can be construed in different ways. The defenders mentioned earlier construe the conflict in terms of unreliability. CSR theories (allegedly) show that religious beliefs do not track truths and this clearly conflicts with the religious view where they are believed to do so. Another way, suggested by Michael J. Murray, is by claiming that CSR theories show that God is not involved in the whole process of belief formation (2008, 395–98). This conflicts with the religious view that religious beliefs result from God letting himself be known to humans.

Justin Barrett and Ian Church argue that results from cognitive psychology pose no problem for the epistemic rationality of religion. They claim that a cosmos-designing god could have appropriately tuned human cognitive mechanisms and hence that there is no conflict between theism and the results from CSR (Barrett and Church 2013). Kelly James Clark and Justin Barrett claim that theories from cognitive psychology are compatible with the belief that God implanted a cognitive faculty that produces belief in God and hence CSR and Christianity are not in conflict (Clark and Barrett 2010). Peter Van Inwagen argues that results from psychological experiments that show that religion arises spontaneously are not in conflict with religious belief (2009). Alvin Plantinga claims that the conflict between the main theories from cognitive psychology and religious belief is only a superficial one because God could have designed human psychology in this way to make himself known (2011, chapter 5). Michael J. Murray argues that CSR does not undermine the justification of religious belief because CSR does not show that religious belief was unreliably formed (2008). Joshua Thurow argues that CSR has only limited epistemic consequences for the rationality of belief in God because it cannot be shown that the belief-forming processes at the root of religious belief are unreliable. Because of this CSR and religious belief are compatible (Thurow 2013).

These responses and their supporting arguments suggest that a case for (4) is hard to make. Moreover, since most religions have rich hermeneutic traditions, the religious truth claims under attack can also be easily reinterpreted. In the present case, the religious truth claim under attack is the

claim that humans can know God (or gods) by means of their human psychology. As Wilkins and Griffiths (2012) and Nola (2013) point out, CSR suggests that religious beliefs probably do not track truths because the cognitive mechanisms at the root of religious beliefs arose because of evolutionary selection pressures. As a general rule, mechanisms that arose because of evolutionary pressures are aimed at survival and not at tracking truths. In their own ways, all the responders mentioned above reinterpret the ways God (or gods) is (are) believed to make himself (themselves) known to humans. Clark and Barrett (2010) draw upon the old tradition of the *sensus divinitatis*.<sup>4</sup> Others make use of a fairly new evolutionary interpretation of divine action which reinterprets divine creative action as creating through secondary evolutionary means (i.e., evolutionary processes) instead of through direct action.<sup>5</sup>

A related problem for (4) is that the burden of proof is on the challenger and the burden is heavy. It is up to her to show that science is inconsistent with religion, which requires thorough knowledge of the relevant scientific and religious truth claims. Since both the precise scientific and religious claims are often complex, mistakes can easily be made or ambiguity can arise. For example, Clark and Barrett doubt that CSR shows that religious beliefs result from an unreliable mechanism (2010). Murray (2008) and Thurow (2013) explicitly deny it.

Denying (5) is also a valid option. The law of noncontradiction is accepted by most philosophers in the West. Some philosophers defend a position called “dialetheism,” which allows for true contradictions (cf. Priest and Berto 2013). The position draws on ideas from Buddhism and Jainism. Especially, the Jain doctrine of Anekantavada might help here. The doctrine states that reality is perceived differently from different points of view. Since there is no absolute point of view, no view can claim to be the complete truth and all views should be taken as comprising the truth together (Dundas 2004). On the Anekantavada view, the religious claim can be taken as one point of view and the scientific as another. None or both can be considered the whole truth so both can coexist peacefully even though they contradict.

Given that the burden of supporting explaining away (1) arguments is so heavy and that cogent responses come fairly easy, they are not a promising way of explaining away religious belief.<sup>6</sup>

*EA2: Arguing for superfluity.* Another, arguably more popular among atheists but less developed and less discussed way of explaining away religious belief, is arguing that supernatural entities are rendered superfluous. Peter van Inwagen equates superfluous to unnecessary (2005). He does not give a clear definition but something seems to be superfluous when it does no explanatory work in an explanation. A famous example is the claim that the Darwinian theory of natural selection allows for an explanation

of a complex, seemingly ordered world without invoking a designer. This, however, only explains away God as a designer. Religions without a strict belief in designer gods, like Vedanta Hinduism or all strands of Buddhism, are not hurt by this argument. If successful, however, it would suffice to explain away religious beliefs of all Abrahamic religions. Daniel Dennett goes much further and suggests that religion in its totality can be explained as a natural phenomenon, by which he means that it can be explained without appealing to anything supernatural (Dennett 2006).<sup>7</sup> Arguments of this kind based on CSR theories are not common. Robert Nola (2013) argues that the growing power of naturalistic explanations of religious beliefs compare favorably to their folk explanations and therefore eliminates the folk ontology of gods.<sup>8</sup>

The argument can be stated as follows:

- (7) The best explanation of religious phenomena available does not refer to supernatural entities (premise).
- (8) If supernatural entities are not featured in an explanation of religious phenomena, supernatural entities are superfluous with regard to religious phenomena (premise).
- (9) Therefore, supernatural entities are explanatorily superfluous with regard to religious phenomena in the best explanation of religious phenomena (from 7 and 8).
- (10) It is not rational to believe in explanatorily superfluous entities (premise).
- (11) It is rational to believe the best explanation of religious phenomena (premise).
- (12) Therefore, it is not rational to believe in supernatural entities (from 9, 10, and 11).

The conclusion (12) makes it clear that these kinds of argument draw an epistemic conclusion rather than a metaphysical one. Defenders of these arguments target reasons why people hold religious beliefs (i.e., religious phenomena). These reasons can be phenomena that point toward a supernatural being (e.g., apparent design, an ultimate beginning of the universe) or ways people come to hold religious beliefs (e.g., religious experiences, revelations).

Premise (7) states that religious phenomena can be explained in a strictly naturalistic way and that this explanation compares favorably to other (non-naturalistic) explanations. Explanations are often compared by considering how well they score on theoretical virtues like parsimony, explanatory power, or accuracy. Considering this in detail falls beyond the scope of this article. Whether the premise holds in CSR is controversial (see also below). Supernatural entities are beings like gods, spirits, or demons.<sup>9</sup> Explanations

that do not refer to such entities can be manifold—for example, one where religious belief results from an unreliable cognitive mechanism as Robert Nola suggests (2013) or one where it results from indoctrination.

The phenomena associated with religious belief are numerous and offering an explanation for all of them is a demanding task. This problem can be avoided by offering an explanation of the most important phenomena associated with religious belief. A good case can be made that the main phenomenon is religious cognition, meaning the whole of cognitive processes involved in acquiring religious beliefs.<sup>10</sup> Other phenomena are far less widespread and depend on religious cognition to some extent. The phenomena associated with natural theology (e.g., apparent order, an ultimate beginning) are only of importance for a (very) small fraction of religious believers. Furthermore, it has recently been argued that their religious significance hinges on intuitions more strongly held by religious believers (De Cruz and De Smedt 2015). Testimony may also be important but is probably itself also dependent on religious cognition. Therefore, having an explanation of religious cognition that does not refer to anything supernatural comes close to having an explanation of religious belief in its totality. Since CSR aims to explain the occurrence of religious cognition, CSR theories potentially provide the means for an argument from superfluity.

The first premise entails (8) if one accepts that the best explanation of religious phenomena available (and the entities it refers to) suffices to explain religious phenomena. A possible objection could come from scenarios in which there is no sufficient explanation for religious phenomena. I take an explanation of religious phenomena to be sufficient when it provides a plausible (causal) story of how religious phenomena arise. For example, it is unlikely that people living in nomadic cultures were interested in explanations for religious phenomena. They performed religious rituals, but do not appear to have given the issue of why religious phenomena are the way they are and how they give rise to much thought. When they first started thinking about the issue, their explanations will likely have suffered from internal inconsistencies or will not have been very accurate. The explanations were nonetheless the best ones available, also if their initial explanations were naturalistic. In this scenario, the fact that the best explanation of religious phenomena available did not refer to anything supernatural did not warrant the conclusion that supernatural entities were superfluous. This objection does not hold when at least one sufficient explanation of religious belief is available. In our case, we certainly have a sufficient theistic explanation, namely that religious phenomena are the way they are because of an intervention by one or more gods. I call this the folk theistic explanation. Since a sufficient explanation will always be better than a nonsufficient explanation, a better explanation than the folk theistic explanation that does not refer to anything supernatural, if available, will also be sufficient. As a result, in our situation (7) will entail (8).

Premise (10) hinges on an epistemological version of the principle of qualitative parsimony. Alan Baker distinguishes qualitative parsimony from quantitative parsimony. The former states that one should not postulate more *kinds* of entities than required whereas the latter states that one should not postulate more entities than required *simpliciter* (Baker 2010). This rule, sometimes referred to as Occam's razor, is often used as a metaphysical rule, ruling out the existence of more entities than required. Premise (10) is an epistemological variant of the same idea. It does not claim that superfluous entities do not exist but only that one is not rational in believing they do. A rule stating that believing in more kinds of entities than required to best explain the relevant phenomena is not rational appears fairly uncontroversial and is widely used. Some are critical toward this rule or a similar one.<sup>11</sup> Assessing Occam's razor in detail goes beyond the scope of this article.

Premise (11) is also not very controversial. If there is a choice between competing explanations, it seems rational to believe the best one. Only if no sufficient explanation is available can this premise be called into doubt. In our case, there appear to be sufficient explanations. The best explanation can be naturalistic or not.

This way of explaining away also targets religious truth claims but, because of its reliance on the principle of parsimony, the challenge is less direct. The religious truth claims are not in direct conflict with scientific results. EA2 arguments require the intermediate step of premise (10), namely that one should not believe in superfluous entities. As an epistemic claim, this is intuitively plausible. When an argument takes away the most important reasons for accepting the existence of an entity, one is no longer entitled to continue believing in its existence. When people believing that evil spirits were responsible for diseases were confronted with modern medicine that explained how diseases could do harm without referring to evil spirits in any way, they could no longer rationally hold on to their evil spirits beliefs. Similarly, the belief in gods being directly responsible for natural phenomena (e.g., Zeus being responsible for thunder) did not survive modern science when natural, mechanistic explanations for these natural phenomena became plausible.

Someone who continues to believe in the superfluous entity while accepting the scientific findings is not being inconsistent, as he or she would be when holding on to that belief after a successful EA1 argument. In this regard, Clark and Barrett are right to write that a naturalistic explanation of religious belief could be available and God could still exist (2010). This idea is nicely captured in the phrase "absence of evidence is not evidence of absence." EA1 arguments conclude that religious truth claims are rendered metaphysically impossible whereas the explaining away (2) arguments conclude that religious belief (or its main truth claims) is (are) not rational. The conclusion of the second kind



is in some sense weaker but still poses a serious challenge to religious belief.

One way of criticizing superfluity arguments is by arguing that belief in God does not result from an explanation but is rather a basic belief. For example, Peter van Inwagen argues that superfluity arguments against the existence of God fail because believers do not believe in God on the basis of explanatory considerations but belief in God comes about in a basic way (2005). Clark and Barrett argue for something similar (2010). However, EA2 arguments do not claim that religious beliefs result from explanatory reasoning, they merely conclude that holding on to religious beliefs is no longer rational when a more parsimonious nonreligious explanation is available. They do not come to any conclusions about the psychology of forming religious beliefs but only about their rational status. As a result, it does not matter whether the belief in question is a basic belief or not; its status is rendered not rational in either case.

Another popular response is that superfluity claims about God's existence can be bypassed because God is required at a deeper level of explanation as creator. Alvin Plantinga and Jonathan Jong argue for this response (Plantinga 2011, 129–37; Jong 2012). In this view, a deeper explanation of religious cognition would require appeal to God as the designer of the cognitive mechanisms which produced it. The “deeper explanation objection” faces the challenge of parsimony as discussed earlier. Accepting that a good naturalistic explanation of religious cognition is available, while at the same time introducing a supernatural being at a deeper level, is a clear instance of postulating more kinds of entities than required. Invoking a deeper level is only appropriate when a more superficial explanation is insufficient.

A variant of this response states that God is needed to explain CSR itself. While God (or any supernatural being) is not needed to explain the emergence of religious beliefs, God is said to be needed at the deeper level of explaining how CSR itself is possible.<sup>12</sup> Without God creating the universe and fine-tuning it for intelligent life, there could never be a discipline like CSR. Some have also argued that if humans are the product of a purely naturalistic process, there is little reason to think that they would be able to grasp truths about the world (Plantinga 2011, chapter 10). Therefore, naturalistic CSR theories do (indirectly) require at least one supernatural entity. Assessing the cosmological and teleological arguments for God lies beyond the scope of this article, but it is clear that the debate over them is far from settled and that their conclusions remain controversial. The same goes for Plantinga's evolutionary argument against naturalism.<sup>13</sup> In order for this response to be valid, responders must first make a strong case for the need of postulating God to explain the universe, intelligent life, and our ability to grasp truths.

A third possible response is claiming that CSR does not offer a naturalistic explanation for theism.<sup>14</sup> Jong, Kavanagh, and Visala argued that none of the beliefs CSR theories try to explain is the belief in theism. They define theism as “the monotheistic belief of the Abrahamic religion as exemplified, for example, by medieval philosopher-theologians like Moses Maimonides, Avicenna, and Thomas Aquinas” (Jong et al. 2015, 253). According to them, CSR offers explanations for many (idolatrous) religious beliefs, like belief in spirits or belief in an anthropomorphic God, but not for the God of classical theism (Jong et al. 2015). While many religious beliefs can still be considered explained away if CSR offers a naturalistic explanation, belief in theism cannot. This argument already surrenders a lot of ground, given that the vast majority of believers do not believe in theism. The argument implies that only a very select group of intellectual Christians, Jews, and Muslims are rational in their religious beliefs. Furthermore, I believe it is a mistake to make a sharp distinction between theism and the beliefs discussed by CSR theories. Jong, Kavanagh, and Visala’s argument seems to presuppose that belief in theism stems from other sources than other supernatural beliefs do. These other sources could be arguments from natural theology or testimony. I noted earlier in this section, relying on work by De Cruz and De Smedt (2015), that arguments of natural theology might be only convincing because of the same mechanisms that underlie religious cognition. Claiming that belief in theism has its roots in these arguments will also give away very much, because the vast majority of believers have never heard of these arguments. Jong, Kavanagh, and Visala could also claim that belief in theism has its roots in testimony. It is, however, very likely that the mechanisms underlying religious cognition determine what testimonies are believed or not. In any case, I believe that a strict separation between belief in theism and other supernatural beliefs is not plausible.

The second kind of explaining away seems more promising than the first for a number of reasons. First, the burden is not exclusively on the defender of the argument. When confronted with scientific evidence that renders religious entities superfluous, those who believe in the existence of those entities need to give a response and thus need evidence as well. Second, it avoids the response that the targeted religious truth claims can be revised or reformulated. A revision or reformulation will not make the content of religious truth claims any less superfluous. Third, EA2 does not require an equally thorough understanding of the *explanandum* as does EA1. Arguing for incompatibility between science and a religious truth claim requires familiarity with the relevant science and the targeted religious truth claim because, if the latter is mistakenly portrayed, the argument fails. Giving a more economic explanation does not require a thorough understanding of the supernatural beings, which are rendered superfluous. It still requires

a thorough understanding of the scientific data, but an argument for incompatibility requires this as well. Fourth, explaining away (2) makes it easier to explain away religious belief in its totality whereas explaining away (1) usually only explains away some religious truth claims.

#### PROSPECTS FOR NATURALISTIC EXPLANATIONS OF RELIGIOUS BELIEF

We noted that much of the philosophical discussion of explaining away in CSR focused on the first variant. The criticisms of this variant from the previous section make it unlikely that arguments of this kind will work. EA2 arguments offer better prospects. To my knowledge only Nola (2013) has defended a detailed argument of this kind.<sup>15</sup> In this section, I want to offer two suggestions about how CSR theories can be used to formulate detailed naturalistic explanations of religious belief, which is a requirement for EA2 arguments. I will argue that current CSR offers the naturalist two routes; one in which religious cognition results from cognitive bias, and another in which religious cognition is shown to be a useful evolutionary adaptation. Both, if successful, would suffice in an argument that accepting the existence of something supernatural is superfluous for explaining religious cognition.

The first route, which I call the “Bias Explaining Away” or BEA, claims that religious cognition results from biases in the human cognitive makeup. Quite a number of CSR theories go in this direction. Justin Barrett (2004) suggests that religious beliefs result from hyperactivity of the cognitive mechanism responsible for agency detection, making it prone to detect agents where in fact there are none. Kurt Gray argues that when confronted with moral good or moral evil, people always look for a moral agent and a moral patient. In cases where people suffer from moral good or moral evil (especially moral evil) where no moral agent is to be found, they (unconsciously) infer an ultimate supernatural moral agent (Gray and Wegner 2010; Gray, Waytz, and Young 2012). Jesse Bering (2002) claims that belief in God results from wrongfully attributing meaning to meaningless events. A final example is the attachment theory of religion, which maintains that the tendency people have to emotionally attach to other humans overshoots, resulting in attachment to a supernatural being (Granqvist and Kirkpatrick 2008). All follow roughly the same line of reasoning; one cognitive bias<sup>16</sup> is isolated as making humans prone to form religious beliefs. Often the bias is argued to be parasitic on other cognitive mechanisms. For example, Barrett’s (2004) hyperactive agency detection device (HADD) is argued to be parasitic on agency detection and the existential theory of mind (EToM) is argued to be parasitic on the theory of mind.

From a naturalist's point of view, the biases can be seen as leading the human mind astray. The theories discussed above do not dictate this move (although Bering's (2002) seem to do so). None of the four views I mentioned forces a naturalistic conclusion; Barrett's (2004) even explicitly denies that his HADD commits one to naturalistic conclusions. However, the naturalist who offers a naturalistic explanation of religious belief by claiming that a bias (like HADD) leads the human mind astray does not draw naturalistic conclusions from the cognitive theories. He merely uses them (or rather one of them) to argue that religious beliefs can occur without there having to be a God or supernatural being responsible for them and that is enough for an EA2 argument. The naturalist is not making an *ad hoc* claim that all religious belief must arise from a bias because all the theories mentioned offer a plausible naturalistic story on how the bias in question can produce religious beliefs. Barrett acknowledges that his HADD amounts to a naturalistic explanation of religious belief. In a joint article with Kelly Clark he writes: "[W]e present three *naturalistic* accounts gleaned from the CSR literature regarding where beliefs in gods come from" (Clark and Barrett 2010, 176, emphasis added). Later in the article, Barrett and Clark present Barrett's theory as one of these naturalistic accounts. The naturalist, thus, does not conclude to naturalism solely on the basis of the theory but uses the theory in a broader EA2 argument (including Occam's razor) to conclude to the superfluity of God or other supernatural beings.

A BEA adequately explains religious cognition and there is no need to move to a deeper level. For BEA arguments, the explanation ends by pointing to how the cognitive bias leads humans astray when producing religious beliefs. Therefore, there is no need to add God or another supernatural being to the explanation.

I shall refer to the second route as "Adaptationist Explaining Away" or AEA. AEAs can claim that people have supernatural beliefs for the same reason they have opposable thumbs; it was randomly thrown up by biochemical processes and survived because it allowed people better odds of survival. AEA arguments can rely on cognitive explanations that point to the evolutionary use of religious beliefs. One popular evolutionary approach connects religious beliefs to strategic social information (e.g., Atran 2002; Boyer 2002; Wilson 2002; Tremblin 2010; Gervais and Norenzayan 2012). These theories start from the observation that humans rely on cooperation to a far greater extent than other animals. Our Pleistocene ancestors already had a distribution of labor with some members of the tribe being responsible for hunting, others for foraging, and still other taking care of infants. By consequence, humans face the problem of free riders, individuals who reap the benefits of other people's efforts while not contributing anything themselves. To know if someone is a free rider or reliable, people need access to their mental states. Humans with cognitive

mechanisms producing religious beliefs can overcome this problem. One prominent religious belief is the belief that a morally concerned, supernatural being exists with full access to people's mental states. By the term "morally concerned" defenders of the theory mean that the supernatural being attaches importance to human moral behavior and is often believed to punish or reward humans in accordance with their moral actions. People believing that a supernatural being is watching will tend to follow social norms and hence be more reliable, and this in turn results in greater odds for survival of the group. A second popular evolutionary approach holds that religious rituals are an instance of costly signaling (Ianneconne 1992; Atran 2002; Sosis and Bressler 2003). They also note that human beings rely on cooperation and that free riders are a potential problem. By engaging in costly rituals, people indirectly show how committed they are to the social norms associated with the religion they adhere to and hence show that they are to be trusted. As a result, other people will be more inclined to cooperate with people who engage in costly signaling and they will be more successful in surviving and reproducing.

An AEA argument argues that people form religious beliefs because this trait was randomly thrown up by biochemical evolution and the trait delivered a benefit for survival. Again the naturalist does not immediately draw naturalistic conclusions from the cognitive theories. By themselves, AEA arguments do not force this conclusion because the evolutionary theories can be interpreted in a naturalistic and a supernaturalistic way. To make an AEA argument work, the naturalist will again need to add Occam's razor but also the idea that biological evolution happens randomly. This last idea is not uncontroversial<sup>17</sup> but widely accepted.

Like BEA arguments, EAE arguments also present a naturalistic explanation of religious cognition. It is naturalistic because the random occurrence of traits is the end of the matter; asking why religious cognition popped up is similar to asking why opposable thumbs popped up; they just did. Again there is no need to add God or anything supernatural to the explanation.

EAE arguments have the advantage that they need not identify one or more biases to explain away religious belief. BEA arguments, in turn, need not offer a plausible evolutionary story and need not commit themselves to the idea that biological evolution is random. A combination of both is also possible. For example, Ara Norenzayan suggested that cognitive biases and evolution jointly explain supernatural beliefs (Norenzayan 2013). He, however, does not use this explanation in an EA2 himself. An EA2 that relies on a conjunctive explanation like Norenzayan's will be more vulnerable since the requirements are higher.

Both the BEA arguments and the EAE arguments provide explanations of religious cognition that do not refer to anything supernatural and as such they are more parsimonious than theistic explanations. Neither of the arguments excludes the existence of God. The believer could argue

that God designed our cognitive mechanisms in a biased way, or directed evolution to make himself known. However, when they add God to the explanation, they increase the number of entities postulated and thus their explanation scores lower on parsimony.

One important problem for both the EA2 arguments is that none of the CSR theories they rely on are sufficiently backed up by empirical data. We already noted how Jong, Kavanagh, and Visala claim that many CSR theories are massively underdetermined by the data (Jong et al. 2015). Elsewhere, Jong laments the “evidential paucity” of many CSR theories and writes: “The role of evolved agency detection mechanisms [Justin Barrett’s theory] and the mnemonic advantage of “minimally counterintuitive” concepts [Pascal Boyer’s theory], to cite two prominent examples, are notoriously underdetermined by data, as anyone intimately familiar with the primary research literature knows” (Jong 2014). This suggests that EA2 relying on CSR theories are not available right now. In order to successfully explain away religious belief, more (empirical) work will need to be done. These problems can, however, be overcome. CSR is still a rather young theory and potentially it can produce established theories over time.

## CONCLUSION

In this article, I argued that explaining away can be cashed out in two rather different ways, as arguing for incompatibility and as arguing for superfluity. Of these, the second is a more promising strategy for explaining away religious belief. Although its conclusion is weaker, arguing for superfluity avoids a number of common responses to arguments for incompatibility. I have also suggested two possible superfluity arguments based on theories in CSR that could succeed in explaining away religious belief; one in which religious belief results from a cognitive bias and one in which religious belief is an evolutionary beneficial adaptation. I also highlighted the major worry with superfluity arguments based on these theories, namely that the theories on offer do not amount to successful explanations (yet).

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## NOTES

1. The term “religion” covers a very broad category. In the remainder of this article, I will focus on religious belief since this is what most explaining away arguments seem to be aimed at.
2. A good example of a theory about psychological mechanisms responsible for the acquisition of religious beliefs is Justin Barrett’s theory (Barrett 2004). According to his theory, two

mechanisms jointly produce religious beliefs, namely the agency detection device and the theory of mind. An example of a theory about the transmission of religious beliefs is Pascal Boyer's theory (2002). He argued that intuitive categories in the human mind make religious belief easy to transmit.

3. Personal conversation with Robert McCauley and Bastiaan Ruitjens. Also, Jesper Sorensen writes in response to a similar criticism raised by Hakan Rydving: "Further, even though the quality and extent of cross-cultural testing should be improved, HR [Håkan Rydving] ignores the fact that many of the hypotheses constructed within CSR are based upon a substantial corpus of experimentally-based knowledge obtained in, for instance, experimental cognitive psychology, developmental psychology, psychopathology and cognitive neuroscience" (Sorensen 2008, 118).

4. The tradition of the *sensus divinitatis* goes back to Thomas Aquinas and John Calvin. They suggested that God implanted a mechanism in the human mind through means of which he lets himself be known. More recently, the idea was defended by Alvin Plantinga (2000).

5. This interpretation has its roots in works by church fathers and medieval scholars but is new in making room for evolutionary secondary means.

6. A defendant can also deny that religious claims make truth claims, like Phillips (1976) did, but we noted that taking this line of reasoning is not very popular among theologians and philosophers of religion.

7. Dennett (2006) does not make an explicit explaining away argument but he does hint at it.

8. Nola (2013) presents two arguments in his article. One can be classified as EA1 and the other as EA2.

9. Often immaterial souls are counted among the supernatural entities.

10. Sometimes the term "religious experiences" is used, but this term is usually reserved for more intense, mystical experiences that are very rare. Religious cognition also includes vaguer or more mundane experiences like feelings of being loved by God or feelings of being a sinner.

11. See Sober (1981) for some problems regarding Occam's razor or the principle of parsimony.

12. I thank an anonymous reviewer for suggesting this response.

13. See Beilby and Plantinga (2002) for some criticism and defenses.

14. I thank an anonymous reviewer for suggesting this response.

15. Michael Murray discusses a similar argument but criticizes it (Murray 2008, 395–98).

16. Often authors use the term "cognitive mechanism" rather than "bias." The term "cognitive mechanisms" covers a broader group, encompassing all sorts of mechanisms in the human mind with a role in the formation of beliefs. A bias is a mechanism that pushes beliefs in a certain direction.

17. A notable critic is Alvin Plantinga (2011, chapter 2).

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