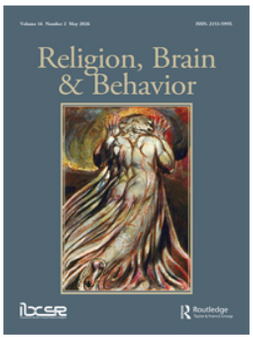

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Corrected by collegial commentators: my beliefs about beliefs about *Disbelief*

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Yeah, well, you know, that's just, like, your opinion, man. (Jeff Lebowski)

It's a rare privilege to have seven esteemed scholars devote their attention and expertise to my book *Disbelief*, and I'm grateful for their exciting and productive commentaries on it. Writing a book (Gervais, 2024) is a strange experience. You've got some ideas that you've been pondering for more than a decade, and keener minds have been gnawing on for much, much longer. But you're going to commit your ideas to dead trees for others to think about. Some of the folks will encounter these ideas for the first time, so you have to make everything broadly digestible. Other folks, however, will be encountering your book from the perspective of deep specialist knowledge—in reality, deeper specialist knowledge than you've got on a great many facets of the book you've written. This latter audience is the one I was most nervous about: how would the real experts react?

Bullivant (2025) provides some much-needed clarification, correction, and nuance on *Disbelief* from the perspectives of sociology, intellectual history, and religious history. **Elster & Singh (2025)** bring much-needed anthropological wisdom on the varieties of religious and supernatural belief that, alas, I wish I'd had the knowledge and space to cover in more depth. The distinctions between global religions and their affiliated orthodoxies on one hand, and the myriad expressions of global supernatural belief on the other, are vital, scientifically important, and also just intrinsically interesting. **Sommer (2025)** raises exciting possibilities about how conceptions of *evidence* might relate to the book's theses—in terms of how evidence might affect belief, but also in terms of how we ought to think about scientific evidence. **Van Leeuwen (2025)** presents a hypothesis about how reasoning and atheism might be more tightly intertwined than empirically implied by the large representative and cross-cultural surveys that tend to yield modest results. Finally, **Yilmaz & Isler (2025)** introduce the useful concept of *epistemic norms* to help explain patterns in belief, disbelief, and reasoning. These are all worthy contributions—precisely the type of productive discussion I'd hoped to engage in with the book.

Rather than turn this reply into a "he said, also-he said" rebuttal or rehashing of differences, I instead would like to comment on what seem to be a few themes that emerged across commentaries. I genuinely hope to have the opportunity to continue these conversations with any of the commentators (or readers!) at some conference-adjacent coffee shop soon.

Broadly, I'd like to consider a few key themes:

(1) Religion, atheism, and the stubborn persistence of spooky beliefs that violate strict naturalistic materialism
(2) The distinction between *facts about things* and *explanations for things*
(3) Atheism and rationality: what's the deal?

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Which beliefs and disbeliefs?

Let's begin at the beginning. Specifically, let's begin at the ultimate origins of all this religious and spiritual belief business—a topic, I should note, that is both conspicuously and somewhat intentionally not included in *Disbelief*. What does belief generally look like around the globe, in its myriad expressions? And what can we infer about the cognitive origins of supernatural thinking, based on the various ways it's expressed worldwide? Elster & Singh provide an excellent summary of the varieties of religious beliefs, and more importantly *religious-like* supernatural beliefs, around the world. The full cross-cultural breadth of supernatural expression is well beyond my own expertise, but readers intrigued by the ideas in this commentary would probably be better served by Singh's forthcoming book *Shamanism* (Singh, 2025) than by *Disbelief*.[1]

Elster & Singh rightly point out that there are lots of supernatural beliefs that don't fit the theoretical mold of *Disbelief* especially well—idiosyncratic supernatural beliefs that feel untethered from religious instruction. In the book, my explanation for religious belief and disbelief largely boils down to cultural learning: folks adopt those beliefs that are credibly modeled by those from whom they learn beliefs. The story fits large-scale patterns in organized religion and in (for lack of a better term) atheisms-of-organized-religions. But does this story miss the important underlying cognitive action? From whence comes the more general human impulse to attribute unseen intentionality and purpose to the world, to explain and make sense of things? Although the book doesn't dwell on these questions overly much, I think (as outlined in the book) that there's something scientifically interesting about the human tendency to attribute order and infer purpose. It may stem from low-level cognitive biases such as promiscuous teleology, or from motivational factors rather than cognitive ones. And, plausibly, these low-level biases could explain a more general tendency to believe in *spooky stuff* of various sorts. It's one plausible account.

But does the persistence of *any form of supernatural belief*—smaller-scale forest spirits, suburban "spiritual but not religious" (SBNR) folks, atheists who nonetheless check their horoscope—undermine the key theoretical story of *Disbelief*? Not necessarily. As an author, it would perhaps have been satisfying to write a book that tackles questions of all supernatural belief everywhere, whether culturally bolstered belief in the god of a global organized religion, or more idiosyncratic personal superstitions. Alas, 429 pages only allowed space for a compelling theoretical story for why the global religious landscape looks as it does today, with a particular focus on the phenomena where I have the most expertise, like the current upwelling of atheism—again, just defined as disbelief in gods, rather than disbelief in *any and all supernatural attribution for things that remain spookily and stubbornly beyond naturalistic explanation*. Atheism and hardcore rationalistic naturalism are distinct phenomena.

Elster & Singh highlight important topics overlooked in the book: the persistence of supernatural beliefs among Westerners who no longer endorse the global faiths, the strategic deployment of supernatural thinking in a broader global context, and the fact that very few atheists (people who disbelieve in gods) are also die-hard naturalistic materialists (people who disbelieve in all spooky supernatural things). These topics are all good spots for testing boundary conditions of the general dual inheritance approach I developed to explain faith and atheism, but I don't see any of them as necessarily undermining the book's core claims. In some cases, they address entirely separate phenomena than I sought to explain; in other cases, the evidence presented by Elster & Singh is entirely compatible with my offered theoretical story.

For example, Elster & Singh note that there's a large and growing number of SBNRs in the world. Do these folks pose a serious challenge to the dual inheritance approach that I deployed in *Disbelief*, or does the widespread existence of SBNRs actually fit my overall story pretty well? Although Elster & Singh point out some facts about SBNRs (their persistence of supernatural and superstitious belief), they fail to note that a huge proportion of SBNRs aren't even atheists: lots of SBNRs have grown disenchanted with formal and organized religion (hence the *but not religious* part of SBNR), but largely maintain their beliefs in gods.[2] Not only do SBNRs hold a lot of the more

idiosyncratic beliefs that Elster & Singh imply atheists shouldn't hold, many of them *also hold pretty standard belief in gods*.

To compound the issue, we could also run any of the spooky SBNR beliefs highlighted by Elster & Singh through the same four-factor checklist developed to explain faith and atheism in the book. For example, Elster & Singh refer to beliefs in souls, ghosts, and/or the afterlife as ones for which "cultural reinforcement might not be required." I think it's important that we pause here and consider this. Is it really the case that prevailing cultural conditions in societies where SBNRs thrive are *devoid of cultural support for souls, ghosts, and the afterlife*? That in these societies, for example, belief in the afterlife is not something credibly modeled by peers and elites, is not something to which every kid is exposed via Sunday morning cartoons and Pixar films and a lost pet who's crossed the rainbow bridge (rather than merely decomposed under disrupted soil in the back garden)? This seems incredibly implausible to me. Many of the beliefs that SBNRs hold receive ample cultural support—they're just not formally taught from some pulpit, as many (but not all!) more orthodox religious beliefs are. Beliefs that aren't taught formally by religious leaders are decidedly not the same as beliefs that weren't culturally modeled at all. That supernatural beliefs along these lines might get a boost from other cognitive or motivational factors (two of *Disbelief's* pathways to faith or atheism) does not in any way imply that they are not also culturally supported.

I find it very interesting that many people—including avowed atheists—hold a variety of supernatural beliefs. However, it neither logically nor scientifically follows that these beliefs must come naturally and without enculturation, simply because people who don't believe in gods seem to sometimes believe in them. We'd need much more work to see which specific supernatural beliefs these folks hold, and which supernatural-belief-supporting CREDs they were exposed to. There's hard scientific work to be done here, and we can't simply assume without more investigation that any departure from strict naturalistic materialism reflects some as-yet unidentified content bias or cognitive quirk giving humans some natural impulse to seek the supernatural. Here I'm somewhat reminded of the discussion of intuitive creationism in Chapter 4 of *Disbelief*: that was a case where some folks had made a strong argument on behalf of nativism (Barrett, 2012), from an experimental design that was fundamentally unable to test sensible cultural alternatives (Evans, 2000, 2001). I wouldn't be at all surprised if some cognitive quirks explain a lot about our species' predilection for superstition and supernatural belief outside of religious orthodoxies. However, it seems quite a scientific stretch to claim that the mere existence of these beliefs undermines a theoretical account of atheism centering on cultural learning. There are excellent scientific puzzles to be solved regarding avowed atheists' departures from naturalistic materialism: atheists who have good luck charms, or who are wary of fairies, or who are tempted to try witchcraft or horoscopes or augury. But their existence, to me, doesn't seriously challenge the explanation offered for atheism in *Disbelief*. Atheism and strict naturalism are distinct phenomena; the existence of one does little to undermine theoretical accounts of the other.

Asking tough questions about what atheists actually do and don't believe leads us to broader consideration of what exactly might count as an explanation for a phenomenon.

Facts about versus *explanations for*

Let's say I have a headache. I ingest Substance X. My headache goes away. Does this imply that my headache was caused by Substance X Deficiency? Put differently, does the *fact* that Substance X reduced my headache imply that any properties of Substance X can *explain* why I had a headache in the first place?[3]

It depends.

If Substance X was water, then perhaps I was dehydrated and I remedied it by rehydrating. I've fixed my water deficiency by drinking water, headache gone.

If Substance X was ibuprofen, on the other hand, then we'd be silly to posit that my headache was caused by some ibuprofen deficiency in my system. I've fixed my headache with a Substance X whose prior lack explains next to nothing about why I had a headache in the first place. Not every remedy is informative as to cause.

When studying religion or any other complex phenomenon, it's really hard to distinguish between *facts about* things and *explanations for* those things. We can identify various candidate Substance Xs in this tortured thought experiment, but it's considerably harder to tell if these Substance Xs are more like water or like ibuprofen.

Across commentaries, some very useful *facts about* religion and atheism were presented. Does this make them good *explanations for* those same phenomena?

For example, Bullivant rightly corrects my brief paraphrasing of Marx,[4] pointing out that in many ways Marx did conceive of religion's very origins as a way to alleviate suffering—as a (then-viewed-as) healthful way to overcome pain and move on with the tough daily deeds of living. The commentary links Chapter 2's dismissal of Marx's "opiate of the masses" aphorism to Chapter 11's discussion of *apatheism* as one pathway to disbelief. In the latter chapters of the book, the notion that existential security leads to atheism and insecurity to belief does some heavy lifting. I absolutely find the evidence here compelling: there's a clear causal link between material security and disbelief, at the societal level (Norris & Inglehart, 2011). So, do these *facts about* religion imply that insecurity and existential angst are good *explanations for* religion, writ large?

As a second example, several commentators (most notably Yilmaz & Isler, but also Sommer and Van Leeuwen) point to empirical evidence linking reasoning in various flavors to atheism. They point to several studies (Byrd et al., 2025; Ghasemi et al., 2025; Stagnaro & Pennycook, 2025) that, alas, came to my attention after my publishers rather firmly prohibited me from any more textual meddling. These studies—and others old enough for inclusion in the book—point in the same general directions: there are meaningful associations between measures of reasoning and atheism, these associations are not huge anywhere but are evident in many (but not all) samples, and even small effects can have important longer-run consequences. I fully endorse all these *facts about* atheism. But does this make reasoning a good and general *explanation for* atheism?

In both cases, I can imagine excellent scientists making a good faith argument that when it comes to both sets these *facts about* are also *explanations for*. However, I am not convinced in either case. I think we're closer to ibuprofen territory than water territory. Why?

When it comes to the established empirical links between insecurity and religion, I don't think that there's enough functional specificity at work to convert these *facts* into *explanations*. Look no further than the commentary by Elster & Singh: there's far more to religious and supernatural belief than I even covered in the book, and many of the specific, culturally recurrent forms that religion takes seem to have little (if anything!) to do with assuaging existential dread. Many culturally widespread forms of supernatural belief seem to, if anything, magnify existential insecurity. The cultural particularities of religions and the broad-spectrum psychic challenges posed by living as a self-aware mortal being in a universe inevitably trending toward entropy don't seem to be natural fits for each other—at least not in any specific way. Ibuprofen can make headaches of various causes disappear, much as religion of many types tends to wane as material security waxes. But just as headaches don't result from ibuprofen deficiency, I don't think that religion primarily results from existential security deficiency. That's just not a good explanation for lots of the specific aspects of religion that require explanation.

The case is somewhat similar when it comes to the empirical links between reasoning and atheism. The two are linked—as acknowledged repeatedly in the book. But are some measures of reasoning associated with some measures of atheism because reasoning is an adequate and general *explanation for* atheism? Here, I'm less convinced (though I have lively ongoing disagreements with collaborators and colleagues on the matter). Because this atheism-reasoning nexus cropped up across several commentaries, it's worth developing further.

Atheism and rationality: *a strawman*, *some clarification*, and then some *exciting possibilities*

Several commentaries elaborated on the relationships between cognitive style, reasoning, and atheism. I welcome the additional nuance brought by Sommer, Van Leeuwen, and Yilmaz & Isler. There is much to unpack in these commentaries, which combined point the way forward to several exciting scientific possibilities. Before doing so, however, I'd like to clear up …

A strawman

Early in his commentary, Van Leeuwen cites three lines of empirical research discussed in my book, and argues that from this evidence it does not logically follow that there is no causal link between reasoning and atheism—a position he inexplicably attributed to me! To the charge that I posit no causal role for reasoning in global atheism, I've pre-replied: "There you have it. Rational or analytic atheism is one viable pathway to atheism" (*Disbelief*, p. 314). A less pithy, though more nuanced, pre-reply is on the previous page: "I think the notion that atheism *primarily or necessarily* results from rational or reflective analytic thinking to be bunk … but that doesn't mean there's no relationship between analytic thinking and atheism [emphasis in the original]."

To be perfectly clear: I'm not saying that the causal relationship between reasoning and atheism is zero, or even that we shouldn't care about links between reasoning and atheism. I'm merely saying that reasoning is a poor scientific fit as a general *explanation for* most atheism worldwide. This, perhaps, requires …

Some clarification

There appears to be some confusion over the Rational Atheism Thesis discussed in *Disbelief*, and the reasons for which I've dismissed it. The Rational Atheism Thesis is not merely a statement that sometimes, somewhere, some reasoning is implicated in some atheism, in some way. Nor is it a precise claim about the magnitude of some effect size estimate for correlations between reasoning tasks and atheism measures. The Rational Atheism Thesis (as popularized by the world's most famous atheists) is the claim that *rationality is a necessary and primary contributor to patterns of global atheism.* The Rational Atheism Thesis reflects the quite strong claims that *atheism generally stems from reasoning*, and that *reasoning is a better explanation for atheism than are other factors.*

Rejecting this Rational Atheism Thesis doesn't mean that I think cognitive reflection is entirely causally unrelated to atheism; it's just acknowledging that *most atheism globally* isn't arising *primarily* through feats of rationality. Following our previous terminology, I don't think *facts about* smallish correlations between reasoning and atheism logically imply that reasoning is a strong and general *explanation for* atheism, writ large.

In weighing a couple decades' worth of hard-won empirical evidence, I've yet to encounter studies that compellingly and empirically demonstrate that if we want to predict or explain broad patterns of atheism, we ought to pay more attention to measures of cognitive style than to measures of religious enculturation.[5] In discarding this formulation of the Rational Atheism Thesis I'm merely saying that *other factors matter more,* not that reasoning matters none. Although several commentaries seemed uncomfortable with my treatment of rationality and reasoning, none of them seem to defend the claims that my book actually rejected.

Cognitive style and reasoning, I expect, tell us little about why atheism rates vary from country to country, or across regions within countries, or between rural and urban areas, or across time. Or why people are atheists when it comes to culturally alien gods; or why there are so many highly rational and analytical theists out there. Simply put: other factors (and especially ones like CREDs) are probably more important than reasoning when considering atheism at an expanded temporal and global scale.

Maybe one day empirical evidence will persuade me to take reasoning more seriously than enculturation as an explanation for global patterns of atheism; thus far, all comparative studies I'm aware of indicate the opposite rank ordering of these predictors' relative importance. I will happily alter my thinking in accordance with new evidence, if and/or when it rolls in. For the time being, though, our best available evidence is telling us that most atheism isn't stemming from reasoning. But that doesn't mean we shouldn't continue attending to any discovered empirical links between reasoning and atheism. Indeed, several commentators highlight some …

Exciting possibilities

Van Leeuwen presents an interesting hypothesis to reprise a starring role for reasoning in atheism, specifically by linking it to cultural norms about which gods are fair game for rational doubt. In a nutshell, Van Leeuwen's hypothesis frames CREDs as arbiters of which gods one might consider turning their reasoning faculties against. On one level, this is quite interesting! Effortful thought is certainly deployed strategically in other domains, and plausibly could be at play here as well. Indeed, I briefly considered discussing some unpublished data along these lines in the book. I elected not to, for one pragmatic science communication reason, and for one more theoretically substantive reason.

On the pragmatic front: I had a fun hypothesis and some preliminary data about motivated reasoning and religion. But a key subtheme in *Disbelief* is that we ought to be paying more attention (especially public attention) to ideas that have been subjected to multiple lines of independent empirical scrutiny and less effort lionizing one researcher or another's pet hypotheses that await convincing empirical tests. See, for example, discussion of HADD in *Disbelief*: citing each other's pet ideas (no matter how exciting they may be) can lead them to be enshrined in the literature before they've been rigorously tested, let alone convincingly demonstrated. This is bad, from a science communication perspective! The notion that reason may be selectively applied to religious beliefs, commensurate with cultural pressures, is a fun and exciting idea—but at its core it is still a pet hypothesis awaiting convincing empirical tests. The ideas Van Leeuwen sketched out could make a great outline for an Introduction section of a scientific paper; next, we need Methods and Results. Then, ideally, triangulating confirmation from independent follow-up work. Publicizing a hypothesis before running the crucial tests risks locking a zombie idea into the literature before it's been subjected to proper scientific scrutiny, to our collective detriment as scientists and science communicators.

On the more theoretically interesting front: I think it's worth unpacking the various arguments the commentators made about rational atheism in light of the visions of atheism and religious belief they imply (turning here to themes developed in Chapter 13 of *Disbelief*). To me, approaches that place rationality on a pedestal when it comes to atheism risk implying—admittedly, with varying levels of explicitness—that *religious belief is a default that must be overcome somehow*. Indeed, much research linking analytic thinking to atheism began quite explicitly from this starting point. However, the notion of a default and natural religious belief was an assumption[6] built into some early cognitive byproduct models of religion, not a conclusion derived from strong empirical scrutiny.

To complicate things further, approaches that make rationality central to atheism tend to remain silent or agnostic about where belief comes from in the first place. But one theme I tried to hit a few times in the book is that we want our theories of religion and our theories of atheism to cohere around shared mechanistic explanations of the underlying psychological and cultural processes. It's unsatisfying to assume belief into existence via entirely unspecified mechanisms (maybe it's HADD? Or innate? Or …), and then posit entirely different mechanisms that might reduce it (reasoning?).

In *Disbelief*, I tried to explain both faith and atheism using similar underlying mechanisms—this seems parsimonious, and the approach has proven empirically generative and fruitful as well. But

importantly, this view also brings a different focus on the possible cognitive naturalness of atheism, in certain contexts. Indeed, one refrain of *Disbelief* is that in lots of cultural contexts, atheism is the natural and expected outcome—no special cognitive sauce required. After all, there's little need for effortful reasoning to "overcome" beliefs that one never held, or had any reason to hold, in the first place. And *most disbelief* in *most gods*, I'd wager, fits precisely this pattern! Why do readers of this article not believe in the following deities: Ikaroa, Omai, Guapalov, Ninšubur, or Qailertetang? In a standard New Atheist-tinged Rational Atheism Thesis view, surely we must disbelieve in these gods because they make no rational sense, and we're clever enough to have intellectually outgrown them. Under Van Leeuwen's elaborated version of the hypothesis, perhaps we'd expand things a bit and declare that we grew up in cultural conditions where these gods were seen as fair game for rational critique, which we then applied. In my case, this would imply that I don't believe in Omai and Qailertetang because in the Colorado mountains where I spent my childhood, prevailing cultural norms told me that these gods were safe to ask tough questions about.

Poppycock, I say! Most readers of this article—myself included—will not need reason to overcome belief in the aforementioned gods, simply because *they've never had a single reason to believe in any of these gods in the first place, and may not even have heard of them*.[7] We didn't grow up in cultural contexts where belief in Ikaroa or Ninšubur was credibly displayed. As a result, we disbelieved in them without exerting an iota of reasoning or reflection. Because *belief in gods does not seem to be a cognitive default position that emerges without extensive cultural inputs*, we don't need to reason our way out of it.

I'd urge researchers linking analytic or rational processes to atheism to explicitly reflect on (1) what this model of atheism says about where belief comes from, and (2) what they are implicitly saying about disbelief in locally nonnormative gods. After all, theoretical claims about atheism are often rooted in implicit theoretical claims about religion, and a running theme within *Disbelief* is that most disbelief isn't about people "getting out" of heavy-handed religious indoctrination or cognitive default faith—it's the vastly more numerically prevalent atheism of people just not believing in gods they've never had good cultural reasons to believe in in the first place. Deconversion from strong religious upbringings is, I am reasonably confident by now, a minority of global atheism. Thus, it's not the phenomenon that a book about the origins of global atheism should be primarily concerned with. This is not to say that the processes of deconversion and the potential role reasoning plays are not worthy topics—they absolutely are!—they just aren't the topics that *Disbelief* was mostly about.

This brings us to excellent commentaries by Yilmaz & Isler and by Sommer, who offer important points of clarification and elaboration.

Yilmaz & Isler raise the important concept of *epistemic norms*, and point out that atheists and believers might not differ purely on levels of reasoning aptitude, but on more fundamental metacognitive stances on what constitutes knowledge or justification for belief. It would be fascinating to run these epistemic norms through our checklist of belief (Intuitive support? Motivation? Cultural learning? Reasoning?). One exciting possibility is that packages of epistemic norms are variably supported by these different forces; presumably, these packages could culturally covary with specific religious beliefs and disbeliefs as well. Indeed, one might be able to explore the cultural coevolution of religious beliefs and epistemic norms that help promote them!

In a similar vein, I found Sommer's proposals quite intriguing. By linking back to potentially differing concepts of *evidence* between believers and atheists, this proposal nicely dovetails with the epistemic norms approach raised by Yilmaz & Isler. Even more exciting, Sommer proposes that the approach used in *Disbelief* might be far more general: applicable not just to religious belief and disbelief, but to belief and disbelief in all sorts of things, more generally: "we may have on our hands not just a theory of religious belief and disbelief, but a single theory of *all* belief and disbelief." This is an idea very much worth pursuing!

In principle, I think the approach modeled in *Disbelief* may have wider applicability, with some tweaks. Generally, we approached faith and atheism by asking what people need to believe in a given

god, and settled on four key ingredients: (1) an ability to intuitively conceive of gods, (2) motivation, (3) enculturation, (4) maintenance. At a remote level of abstraction, I suspect that something like this would be workable for studying a wide-ranging variety of beliefs. To look at something like, say, anti-vaccine conspiracy beliefs, presumably there are some cognitive differences that would make scientific understanding of vaccines easier or harder for some people (note: for religious beliefs we considered mentalizing at this stage. Plausibly, different candidate cognitive processes might come into play at this stage for different classes of beliefs). Second, we could consider the situations that motivate different evidential approaches to vaccines. Cultural influence seems straightforward, given the role of online networks in the spread of conspiracy theories. Finally, some of the same reasoning processes we considered are very plausibly at play. Here we see a similar four-factor approach—just one with a potentially differing cast of key characters, and weighting of their respective roles. I genuinely would be interested in seeing this idea pushed to its limits across differing domains of belief and disbelief! Incorporating notions of *evidence* (as in Sommer's commentary) might provide a nice bridge here, given conceptual overlaps between cultural learning, epistemic norms, notions of evidence, and the degree to which things like testimony (e.g., Harris & Koenig, 2006) or deference are normatively classed as evidential or not across contexts and learners. In short: there's a lot to unpack here, and I hope to see these overlaps continue to productively develop.

Coda

Before these commentaries arrived, I had thought of preregistering a preference for mixed reviews. Sure, I want folks to like something I wrote. But even more than this, I hoped that things written in my book would stimulate useful, intriguing, and productive discussion. I wanted the book to push the field forward, even if it did so by making an easy target for refutation.

Thus, it's more than a little surreal to encounter commentaries like these: lively, engaging, full of new ideas, clarifications, and yes even documentation of the genuine shallowness of my expertise in areas of the book. But also, largely positive! I thank the commentators for their charity, constructiveness, and (most importantly) for their scientific generativity.

Notes

1. The savviest readers of this journal will, naturally, buy both. For themselves and as gifts for their numerous friends.
2. I have friends and family members who identify as SBNR, but who affirm the divinity of Jesus Christ, and who believe in cherubic guardian angels, and who attend regular services at nondenominational buildings that are nonetheless distinctly Judeo-Christian in spiritual heritage. They're SBNRs who just *aren't Catholic any more*, but who very much hold the full suite of beliefs that are genuinely disqualifying from the category "atheist." That many SBNRs also hold other spiritual and supernatural beliefs is thus, perhaps, unsurprising. SBNRs are a vibrantly heterogenous group, tough to empirically pin down.
3. For the time being, let's shelve the challenges of inferring causation from the observed correlation between Substance X and headache disappearance. For this thought experiment, Substance X most definitely causes a reduction in headache; no Fisher-tobacco "correlation isn't causation" statistical legerdemain here.
4. Let's be honest, it was barely even a paraphrase. Bullivant's awarding me a B- on Marx says far more about his generosity as a marker than my depth of knowledge on the topic.
5. By the by, most studies cited in favor of the role of reasoning in atheism are studies that considered these variables in isolation, without measuring other factors like CREDs. They are thus fundamentally unable to meaningfully test, let alone support, the Rational Atheism Thesis.
6. To clarify: proponents of hard versions of the naturalness hypothesis do cite empirical evidence consistent with a naturalness account—it's not a wholesale assumption from no evidence. However, this evidence tends to be consistent with other accounts as well, and there are precious few well-designed studies that empirically assess the degree of naturalness of religious thought, *vis-à-vis* other theoretical accounts. By my read, the naturalness of religion (and the unnaturalness of atheism) has been more confidently declared in

the literature (popular and scientific) than demonstrated. Hence "assumption built into some early cognitive byproduct models of religion, not a conclusion."

7. For example, I made up one of the gods in the above list as I was writing this piece. Without looking them up, how many readers can spot my divine invention? I'll bet precious few, and the underlying cognitive and cultural reasons why have little to do with rationality, even if it's selectively and strategically deployed.

Disclosure statement

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