

## Article

# On Angels, Demons, and Ghosts: Is Justified Belief in Spiritual Entities Possible?

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**Abstract:** Belief in the existence of spiritual entities is an integral part of many people's religious worldview. Angels appear, demons possess, ghosts haunt. But is belief that such entities exist justified? If not, are there conditions in which it would be? I will begin by showing why, once one clearly understands how to infer the best explanation, it is obvious that neither stories nor personal encounters can provide sufficient evidence to justify belief in spiritual entities. After responding to objections to similar arguments I have published in the past, I will go on to show that there is at least an imaginable circumstance in which belief in spiritual entities would be justified but then point out that it is not reasonable to think that such conditions will ever be met. In short, if such entities were real, it would be theoretically possible to demonstrate their existence scientifically, and in doing so, one could make belief in their existence justified. But doing so would require and entail a scientific revolution equivalent to proving that the Earth is flat.

**Keywords:** ghosts; demons; angels; spiritual entities; inference to the best explanation; the scientific method; the criteria of adequacy; methodological naturalism; the supernatural



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## 1. Introduction

Belief in the existence of spiritual entities (immaterial entities that interact with the world) is an integral part of many people's religious worldview. Angels appear, demons possess, ghosts haunt. Stories about ghosts (the disembodied souls of deceased humans) are abundant, as are "ghost tours" in supposedly haunted places such as Gettysburg, Pennsylvania, and the Edinburgh Vaults. Stories about angels are compiled into books (Anderson 1992), and blockbuster movies, thought to be "based on a true story" about demonic possessions, abound. Indeed, belief in such entities is surprisingly common (Newport and Strausberg 2001). According to the Harris Institute (Harris Interactive 2008), 71% of Americans believe in angels, 59% in the devil/demons<sup>1</sup>, and 44% in ghosts. Among those who are religious, the percentages are even higher, with 96% and 88% of those who attend weekly services believing in angels and the devil, respectively, and 57% of all Catholics believing in ghosts.<sup>2</sup>

But is belief that such entities exist justified? If not, are there conditions in which it would be? Elsewhere, I have argued that it is impossible for belief in demons to be justified (Johnson 2017). Here, as a way of exploring whether I should amend my conclusion, I would like to explore whether my conclusion also follows for ghosts and angels. To do so, I will begin by laying out an argument similar to the one I laid out in 2017. It will make clear why neither stories nor personal encounters can provide sufficient evidence to justify belief in spiritual entities. I will then turn to considering objections and whether there is even an *imaginable* circumstance in which belief in spiritual entities would be justified. I will show why there is, but I will also show why it is not reasonable to expect such conditions to ever be met. Consequently, my original conclusion about demons was only *slightly* too strong. What I should have said, and will argue here, is that justified belief in demons—and angels and ghosts—currently does not exist and is *practically* impossible.

To understand what this means, and why it is true, we must first explore the nature of explanation—for when it comes to establishing that something (previously unknown) exists, one must establish that the hypothesis that it exists (and acted) provides the best explanation for some phenomena. As we shall now see, that is (nearly) impossible.

## 2. What Good Explanations Must Be

Since the goal of explanation is to expand and unify our knowledge, what good explanations must accomplish is exactly that. While good explanations can raise new questions, those questions cannot in principle be unanswerable; similarly, good explanations cannot appeal to the inexplicable. (By definition, that which is inexplicable does not explain anything.) What is more, good explanations should fit with what we already know exists and to be true. As such, all things being equal, explanations should not invoke new entities and assumptions, and they should cohere with what we already have good reason to believe. And, although conditions do not always allow this, a good explanation should be falsifiable—it should make novel, observable predictions—and get those predictions right.

The process of discovering the best explanation is (quite fittingly) called “inference to the best explanation” (IBE).<sup>3</sup> According to Ernan McMullin (1992), it is “the inference that makes science”. In my experience, the clearest articulation of IBE comes from Schick and Vaughn (2020). They call it the SEARCH method, and it involves generating competing hypotheses, considering the evidence for them, and then comparing them to “the criteria of adequacy”.

1. Testability: the hypothesis makes novel, observable predictions.
2. Fruitfulness: the hypothesis’s predictions are accurate.
3. Scope: the hypothesis unifies our knowledge and has explanatory power. (Conversely, if a hypothesis raises unanswerable questions or invokes the inexplicable, it lacks scope.)
4. Simplicity/Parsimony: the hypothesis does not invoke or require extra entities or assumptions beyond what we already know exists or is true. (This is Ockham’s Razor.)
5. Conservative: the hypothesis coheres with what we already have good reason to believe.

It is important to note that a hypothesis being better might simply involve it fulfilling a certain criterion more than its competitors. If they meet all other criteria equally well, a hypothesis that has been confirmed by 50 studies is better than a hypothesis that has only been confirmed by one. (Both are fruitful, but the former is more fruitful.)

The best explanation might also just fulfill more criteria than its competitors (rather than all five).<sup>4</sup> For example, because the germ theory of disease proposed the existence of a new kind of entity (germs), it was not simple; but because of its monumental fruitfulness (it predicted how disease spread) and scope (its ability to explain the cause of disease, how they spread, and why vaccines work), it became accepted. Likewise, Einstein’s general theory of relativity was not conservative because it conflicted with (well-established) Newtonian physics; but it became the accepted theory when it proved to be more fruitful and wide-scoping than Newton’s theories by correctly predicting and explaining things Newton’s theories could not (such as the apparent location of a star near the sun during an eclipse and the perihelion of the planet Mercury). Indeed, if conservatism was always required, scientific knowledge could not progress. Likewise, in a way, quantum theory is not wide-scoping, because it raises seemingly unanswerable questions (or, at least, questions that have yet to be answered); but its monumental success at making accurate predictions in controlled experimental conditions, and the way it coheres with everything we know about how light, electrons, and other subatomic particles behave, has made it (arguably) the most widely accepted theory in all of science.<sup>5</sup>

In fact, not even testability and fruitfulness are required for a hypothesis to be the best among the alternatives. If you have two competing hypotheses but neither is testable (perhaps because they are about events in the past that would have left no presently available evidence), neither can be fruitful. (A hypothesis that makes no predictions cannot make correct predictions.) However, in such a situation, one hypothesis can still

be preferable to another. For example, the hypothesis that “Aliens planted perfectly faked evidence to fool us into thinking that the human species originated 200,000 years ago, when in fact it was seeded by those aliens 6000 years ago” cannot be tested. Since it predicts perfectly faked evidence, it makes the same prediction as the “Humanity is 200,000 years old” hypothesis. Still, the latter hypothesis is preferable because (a) it is simpler (it does not invoke extra entities and assumptions, such as aliens and super-advanced technology), and (b) it is more wide-scoping (it does not raise unanswerable questions about why or how the aliens accomplished such a thing).<sup>6</sup> Hypotheses should be tested if possible, and all other things being equal, the explanation that makes the most successful predictions is best; but neither testability nor fruitfulness are required for an explanation to be the best among the alternatives.

On some occasions, it will be debatable which hypothesis among those in competition is the best. For example, Bohm’s pilot wave interpretation of quantum mechanics is monumentally unconservative (because it violates relativity’s law regarding faster-than-light signaling), while Hugh Evert’s multiverse interpretation is monumentally un-parsimonious (because it suggests the existence of a vast multiverse). (See [Rosenblum and Kuttner \(2011, pp. 153–66\)](#)). Which “crime” is worse? Which criterion is more important in this circumstance? It is not clear. What is clear, however, is that when a hypothesis fails on *all fronts*—when it is untestable, unfruitful, un-parsimonious, un-conservative, and not wide-scoping—by definition it cannot be the best explanation. As I shall now show, this is (almost) inevitably true of the hypothesis that spiritual entities exist.

### 3. Why Stories of Spiritual Entities Cannot Justify Belief

In order for belief in spiritual entities to be justified, and not merely a matter of faith, one must have a good reason to believe they exist—and such a reason could only come from invoking them as an explanation for some event or fact.<sup>7</sup> And usually, when it comes to spiritual beings, what they are invoked to explain are sightings, possessions, hauntings, and healings.<sup>8</sup> Generally, however, people do not experience such events themselves. They hear stories of them. Unfortunately, as I shall now show, stories of such occurrences cannot justify belief in spiritual entities.

First of all, as I showed in 2017, all of the most famous stories about demonic possession and hauntings are verifiably untrue. The story on which *The Amityville Horror* is based is now known to be a total fabrication (see [Nickell 2004](#)), as are the most famous ghost stories, such as those told by the Fox sisters who claimed to see and communicate with ghosts (see [Ashe 2018](#)). The same is also true of stories about angels, such as the one found in the book *The Boy Who Came Back from Heaven*, which was pulled from shelves when Alex Malarkey admitted that his story was all (ironically?) malarky. “I did not die. I did not go to Heaven . . . I said I went to heaven because I thought it would get me attention” (See [Chappell 2015](#)).<sup>9</sup>

Second, when the stories are not known fabrications, they almost always turn out to be complete exaggerations with mundane explanations, such as the stories that are the basis for *The Exorcist* and *The Exorcism of Emily Rose*. As I explained in 2017, the boy who served as the basis for *The Exorcist* did exist, but all the elements of the story that have firsthand accounts are mundane, and all the elements that seem incredible are thirdhand. And Anneliese Michel (aka “Emily Rose”) was mentally ill, not demon-possessed. The same is true of ghost stories. The “H. Family haunting” (and their coughing fits) turned out to be carbon monoxide poisoning from a faulty furnace (see [Labianca 2001](#)), the shivers and apparitions in Vic Tandy’s medical lab were the result of infrasound created by a recently installed exhaust fan (see [Schick and Vaughn 2020](#), pp. 282–83), and the “ghost light” of Anson, TX, does not come from the ghost of a grieving mother looking for her son but from the traffic of a distant road (see [Ashe 2018](#)). The explanations for “incredible” angelic stories are usually even more obvious, such as when angels are invoked to explain “low probability” occurrences (e.g., near accidents),<sup>10</sup> are mistaken for ordinary flesh and blood people,<sup>11</sup> or are simply a part of a dream.<sup>12</sup>

This brings us, however, to considering stories of spiritual entities for which mundane explanations cannot easily be found. Can that kind of story justify belief? Again, the answer is no.

Simply put, in order for a story to convey justification, there must be good reason to think that it is true; but the fact that a story contains (seemingly) unexplainable<sup>13</sup> events is reason enough to conclude that it is not. To borrow a bit from Hume (Hume [1748] 2000), since the entirety of science and my previous experience tells me that people on Earth do not float in the air for extended periods, if someone tells me they saw someone on the street do so, the entirety of science and my previous experience justifies the belief that the story is not true (and the “word” of another person cannot outweigh that). I might not be able to deductively prove that a story did not happen, but thinking the inability to prove something false is a reason to think it is true commits the “appeal to ignorance fallacy”. In essence, stories with (seemingly) unexplainable events discredit themselves.

To put the point more precisely, when any such story is told, there are at least two explanations: (1) the story is true or (2) the person who originally told the story was either lying or mistaken. Given what good explanations must achieve, the second kind of explanation will always be better because it will always better fit the criteria of adequacy. It will not, for example, require the extra assumption that spiritual entities exist; it only requires what we already know exist: lies and mistakes. So, by definition, “spiritual entity” explanations will always be less simple. The lying or mistaken hypothesis will also have wide scope (i.e., explanatory power), as it can not only explain spiritual entity stories but a host of other such stories as well: alien abductions, UFO sightings, Bigfoot, the Loch Ness Monster, etc. The spiritual entity hypothesis, on the other hand, has no scope because it raises unanswerable questions about what immaterial spiritual objects are made of<sup>14</sup> and how they can interact with the physical world.<sup>15</sup> So, to say that a spiritual entity caused anything is simply to invoke the inexplicable and thus does not expand our knowledge.

This last point deserves elaboration. Consider ghosts. What are ghosts made of? If they are wholly immaterial—literally made of nothing—how can we see them? To be seen, something must give off photons, and something made of nothing cannot give off photons. Furthermore, if they are wholly immaterial, how can they interact with the world (e.g., move objects)? Not only are they made of nothing, but to do so would require them to violate laws about the conservation of energy.<sup>16</sup> In reply, one might suggest that they are only immaterial in the sense that they are not made of physical matter; perhaps they are made of something else. Suggestions have been made—“lifetrans”, “ectoplasm”—but the nature of such “stuff” is completely undefined, all attempts at verification have been shown to be fake, there still is no explanation of how it could give off photos or interact with physical matter, and attempts to describe it have been vague and unhelpful. (“Finer than atomic energies” is not a useful description) And then there is the question of where ghosts obtain their clothes. Although funny, this is a serious problem for the ghost hypothesis. If ghosts are the disembodied souls of the deceased, they should be naked; that is how we are born. Yet nearly every ghost story and experience describe the ghost wearing clothes. But clothes do not have souls. So, from where do ghost clothes come? The ghost hypothesis cannot account for this (without introducing even more extra assumptions, such as ghost clothes stores). The hypothesis that ghost stories are fabricated or the result of the environment playing tricks on people’s senses, however, accounts for it perfectly. “Ghosts” are figments of our imagination, and we see them as wearing clothes because we are used to seeing persons wearing clothes (See Schick and Vaughn 2020, pp. 279–80).

Lastly, and perhaps most importantly, the “lying or mistaken” hypothesis is conservative while “spiritual entity” hypotheses are not. Let us first address the former. The idea that people lie and make up stories does not contradict anything we already have good reason to believe; indeed, we know that people have carried out exactly that when it comes to spiritual entities. We also know that our perception, memory, and reason can very easily lead us astray; indeed, how readily and easily they do so is not fully appreciated. As a result, people can be convinced “beyond all doubt” that what they saw was really a

spiritual entity, when in reality they were the victim of their own natural limitations. As I put it in 2017:

Personal experience is notoriously unreliable; our senses are easily fooled and concoct false sensations when presented with vague stimuli. We also fail to recognize things like the ideomotor and autokinetic effect and that we often simply experience what we expect. Likewise, memories are easily confabulated; we add to and subtract from them readily, without even realizing it, in very grandiose ways. The fallibility of eyewitness testimony has been well established. In fact, the surer the eyewitness feels that his or her memory is accurate, the less likely it is. Moreover, a host of cognitive biases constantly lead our reasoning astray: confirmation bias, availability error, probability miscalculations, appealing to ignorance, subjective validation, anthropomorphic bias, the Forer effect, and so on. (p. 177)

The implications of this are easy to see in many stories about supposed angel encounters, which demonstrate how easily fooled our senses are and how unreliable our memory is. Take the story of the “minister’s wife” who tried to pass a coal truck on a two-lane road, only to find another semi barreling down on her. She says, “as the truck approached her, it melted from view”, as if it just disappeared; she even insists the other four people in the car saw it too (Anderson 1992, p. 40). Believers will see this as corroborating evidence, but those who study such things will not only see an example of how grandiosely our senses can mislead us but will see a prime example of memory conformity: how repeated storytelling can change not only someone’s memory but also the memories of others (see Barber and Mather 2014).

Other stories demonstrate how unreliable our instinctive reasoning can be. Take Father John who, during wartime in Peking, hailed a pedicab. Its driver refused to go straight as instructed, taking instead a much longer route, only to have the Father’s preferred route hit by a bomb (Anderson 1992, pp. 49–50). The Father concluded that the driver was (inspired by?) an angel, but he simply mistook the odds of how likely the pedicab would have actually been where the bomb fell, mistook how highly likely such an event was given that bombs were already going off outside the city, and did not appreciate the fact that the driver probably knew that main populated roads were not safe during attacks.

Let us now address why “spiritual entity” hypotheses are *not* conservative. Take ghosts. The hypothesis that ghosts exist is monumentally unconservative because ghosts are supposed to be the disembodied souls of deceased humans, yet the notion that souls exist has been effectively refuted by both science and philosophy. As I explained in detail in my 2013 article:

- (1) The arguments for the soul fail (thus we have good reason to conclude they do not exist because the relevant existential burden of proof has not been met).
- (2) The philosophical arguments against the soul (rooted in the problem of downwards causation and the violation of physical laws) are persuasive.
- (3) Neuroscience clearly indicates that the mind is dependent upon the brain for its existence (and thus it cannot float away from the body in a “soul” upon death).

So, the notion that ghosts exist stands contrary to that which is clearly established, both scientifically and philosophically. Indeed, the same is true for angels and demons; given that neuroscience has established such a strict dependence between mind and brain—minds cannot exist without brains—the very concept of a conscious (minded) disembodied “spiritual” entity, which would lack a physical body and brain, stands contrary to well-established scientific discoveries.

And so, when one hears a story about an encounter with a spiritual entity, that story cannot serve as adequate justification for believing in spiritual entities. The hypothesis that the story is not true, either because it was fabricated or because perceptions, memory, or instinctive reasoning led the original storyteller astray, will always be the better explanation.



#### 4. Seeing Is (Not) Believing: Why Personal Experience Cannot Justify Belief

The conclusion of the previous section is reinforced by Hume's conclusion that testimony can never justify belief in the miraculous.<sup>17</sup> As such, some readers may have found it obvious. It cannot be *that* obvious, otherwise published collections of such stories would not exist (See Tindy 2017). Still, in reply, such readers might insist: *Stories may not provide sufficient evidence, but personal experience can. If you see something that you cannot explain during what seems to be a haunting, possession, or angelic visit for yourself, you are then justified in believing a spiritual being is responsible.*

This line of reasoning, however, is fatally flawed, and the reason why may be obvious. Just as someone else's senses, memory, and reasoning can lead them to believe they saw a spiritual entity when they did not, so can yours. Granted, your experience provides *you* with stronger evidence than *someone else's* story; but the hypothesis that your senses, memory, or reasoning fooled you will still always be the more adequate explanation, especially when you think you saw something (seemingly) unexplainable.

To understand why, consider the experience of seeing a good magic trick. Take Penn & Teller's "Magic Bullet Catch", where they load uniquely marked bullets into pistols, fire them at each other across a stage, and then each spit out the other's uniquely marked bullet from their mouth. Not even the best magicians in the world have been able to figure out how they perform it. But when I saw it, I did not conclude that Penn & Teller actually caught bullets in their teeth or used "magic" powers to make it appear so. I simply concluded that there is a natural explanation—a trick—that I cannot fathom or detect. My senses have led me astray and my reasoning has let me down. This is the best explanation. Unlike "it's magic", this explanation does not invoke extra entities (such as magic powers), does not violate natural laws (as catching bullets in your teeth would), and it (roughly) explains basically every other magic trick I cannot figure out. "I'm ignorant" will always be a better explanation than "they have magic powers". And in drawing this conclusion, I am not being stubborn or irrational; I am simply avoiding the mystery-therefore-magic fallacy, a variety of appealing to ignorance which concludes that one's inability to explain something justifies the conclusion that supernatural forces are involved (see Johnson 2018b). "You can't prove that it has a natural explanation by figuring it out, therefore it has none and is magic".

In reply, one might suggest I am violating Richard Swinburne's principle of credulity: in the absence of direct contrary evidence, if something seems to be the case, we are justified in believing it to be the case (see Swinburne 1991, p. 303). So, if something seems like magic—or like it is caused by a spiritual entity—one can rightly conclude it is. This suggestion neglects, however, a lesson learned in the last section. The fact that something seems unexplainable—whether it be a story or an experience—provides sufficient reason to conclude your senses are fooling you. Sure, all things being equal, for everyday matters, your senses are usually good enough. But as soon as you see something that you cannot explain, you know that all things are not equal—it is likely that either your senses are failing and/or you are not in ideal conditions. Even if the experience is repeated, the whole of the rest of your previous experience, which suggests that such things do not happen, serves as evidence that such a thing did not happen; *that* is the "direct evidence to the contrary". Thus, when you see something seemingly unexplainable, it does not violate Swinburne's principle to conclude that your senses led you astray.<sup>18</sup>

As an example, suppose I think I see pink elephants dancing on my desk. The whole of my previous experience and knowledge tells me that such animals do not exist. Since the justification provided by the whole of my previous experience and knowledge far outweighs the justification provided by my senses in the moment, the conclusion that I must draw is that my senses have led me astray—perhaps someone slipped alcohol into my drink, or I am becoming sick or am otherwise compromised (by lack of sleep or food).<sup>19</sup> Even if the experience happens multiple times, the strangeness of the event itself provides evidence that my senses are not reliable during those times.

And so, one's inability to explain what they (thought) they saw during a haunting, exorcism, or angelic visit cannot justify belief in spiritual entities. One's inability to prove something false (e.g., one's inability to prove the supernatural was not involved by finding a natural explanation) does not justify the belief that it is true. After all, when Penn & Teller see a magic trick they cannot explain on their show *Fool Us*, they never conclude that the magician in question has magic powers; they always realize their ignorance is the better explanation.<sup>20</sup>

### 5. Replying to an Objection: What about Exorcisms?

In response to my 2017 chapter, Marcus Hunt (2020) argued that, during exorcisms, it is possible for the exorcist (i.e., the attending priest) to be justified in believing that a demon is speaking to them through the (supposedly) possessed person and thus be justified in believing that demons exist. Clearly inspired by Swinburne's principle of credulity, Hunt argues that as long as defeaters (convincing reasons against concluding that a demon is speaking) are absent, "the exorcist may treat as reliable the process by which he comes to believe that testimony is offered by a demon" (Hunt 2020, p. 256). Since, Hunt argues, "[i]n many cases of exorcism, defeaters are absent", he concludes that there are some cases in which belief in demons is justified (Hunt 2020, p. 256).

If he is right, a similar argument could be put forth for belief in ghosts and angels. Both supposedly speak during some spiritual encounters—Paul was supposedly saved from a falling tree by his guardian angel calling his name (see Anderson 1992, pp. 122–24), and The Goldfield Hotel EVP (electronic voice phenomena) supposedly contains the voice of a ghost (see Tindy 2017, pp. 201–9)—so if defeaters are absent in some of these cases too, belief in ghosts and angels could be justified. Unfortunately, Hunt's argument fails on two fronts.

First, Hunt's argument that priests can treat as reliable the process by which they come, during an exorcism, to believe that a demon is speaking to them (through the supposedly possessed person) is faulty. He tries to establish the reliability of what he calls "testifier-identification" ("the process by which one identifies that testimony is being given . . . and identifies by what type of agent testimony is being given") (Hunt 2020, p. 261) by offering common examples in which we successfully use it. We first think text messages are being sent by our spouse, but when they do not make sense, we realize "the autocomplete . . . is encoding nonsense as the phone is 'open' and in their pocket" (Hunt 2020, p. 261). You think your father is asking for a ride from the next room, but then it turns out to be your uncle.

The problem with Hunt's examples is that they all involve being removed from the body of the person (you think is) giving the testimony.<sup>21</sup> If you are not near the person communicating—because you are communicating via text, phone, or even from the next room—it is quite common to come to an erroneous conclusion about who is speaking and then correct it upon receiving further information. There are no such cases, however, where you are in the same room with person X, seeing them speak directly, and at first conclude that person X is speaking but then justifiably conclude that actually some other agent Y is directly speaking through them (by controlling their vocal chords).<sup>22</sup> So, there is no evidence at all that "testifier-identification" is a reliable means by which to detect that one agent is communicating from (for a lack of a better term) "inside" another. But that is what must be the case in order for a priest to be justified in concluding that a demon is speaking to them during an exorcism.

The second problem with Hunt's argument is related. Given that, even when including cases of mistaken identity, the whole of our experience never includes one agent speaking from inside another, even when presented with the evidence seen in an exorcism, the best explanation must be that it is the (supposedly) possessed person that is speaking, not that some second agent is speaking from within them. Whether it be because they are faking, or because of a delusion or mental illness, that is the better explanation for the kind of speech that is seen.<sup>23</sup> That explanation is simpler because it involves fewer assumptions (one rather

than two agents), more conservative because it aligns with well-established knowledge (one agent per body), and more wide-scoping because it does not invoke inexplicable entities (such as demons) or raise unanswerable questions (such as how an immaterial being such as a demon can control a material body).

When it comes to angels and ghosts, the voice heard is usually not coming from another agent, but testifier-identification is still not reliable enough to justify the conclusion that a spiritual entity is talking. In fact, in stories of supposed angel and ghost encounters, the conclusion is always fueled by the previously mentioned mystery-therefore-magic fallacy: “I can’t explain where the voice came from, thus it was a ghost/angel”. And for the same reasons already articulated, the hypothesis that your senses led you astray, or that you simply are not clever enough to figure out what the voice actually was, will always be the more adequate explanation. What is more, ghost voices almost always come in the form of EVPs, and EVPs are not a reliable source of evidence (more on this in the next section).

Hunt also has a reply to the charge that demonic explanations are “theoretically unvirtuous” (i.e., inadequate):

[I]t is only on the assumption of a naturalist worldview that the demonic explanation is theoretically unvirtuous. If one begins with a traditional Christian worldview the demonic explanation will not be theoretically unvirtuous. With respect to conservatism and parsimony, the traditional Christian who posits demons as an explanation for possession and exorcism will not be positing types of entities that do not already appear in his or her ontology (and so are not objectionably “queer”) but rather will be making use of entities already posited. (p. 265)

But here Hunt fundamentally misunderstands the criteria in question. Take parsimony (i.e., simplicity). An un-parsimonious explanation multiplies entities or processes beyond necessity, introducing ones outside of what is already *known* to exist. We know that agents speak from inside their own bodies but do not know of agents speaking from within the body of another; thus, the demonic explanation is un-parsimonious, by definition. And the same holds, of course, for angels and ghosts, since we do not know that they exist either. Christians/true believers may already *believe* in such entities, but to grant them knowledge of such entities would beg the question, since the existence of such entities is the issue at hand. And since *knowing* that spiritual entities exist would be necessary in order for a theory that requires them to be parsimonious, all spiritual entity hypotheses are un-parsimonious.

Indeed, understanding the role of simplicity as Hunt does makes simplicity useless as a criterion. One of the major marks against all manner of demonstrable pseudosciences—psychic powers, homeopathy, Bigfoot, crop circles, morphic fields, N-rays, pyrotrons, etc.<sup>24</sup>—is that they introduce new entities (or forces) beyond what is already *known* to exist. The claim that aliens cause crop circles lacks simplicity; and it would be obviously intellectually vacuous to try to circumvent that criticism by saying “Well, I already believe in UFOs”. Simplicity is a criterion partly because of what Bertrand Russell (1952) demonstrated with his celestial teapot example: the burden of proof (i.e., the requirement to provide evidence) lies on the believer. If you want to introduce a new entity (such as a tiny teapot that orbits the sun), the burden is on you to provide the evidence it exists. Until you do, your belief that it exists is unjustified (and others are justified in believing it does not).

As Brown and Key (2019) rightly point out, when it comes to existential matters—matters regarding whether something exists—an absence of evidence *is* evidence of absence. In “kinds of contexts where we could reasonably expect to find evidence if our hypothesis were true, where our methodology is sound, and where we do not obtain positive results”, we are justified in concluding that the thing in question does not exist. Predicting but then not seeing a hypothesized planet (Vulcan) closer to the sun than Mercury is good evidence that no such planet exists; the fact that fish lack the neural circuitry necessary to feel pain is good evidence that they do not feel pain. Scientists rightly draw conclusions that things do not exist, based on an absence of evidence for those things, all the time. Granted, an



absence of evidence is not *100% proof* that something does not exist, but as I have already tried to make clear, science never deals with 100% proof. An absence of evidence is good evidence that something does not exist. To try to reverse this and claim that an absence of evidence is not evidence of absence completely misunderstands where the burden for evidence lies in such matters. If you want to believe that Bigfoot exists, the burden is on you to prove that he does—it is not on me to prove that he does not. And pointing out that you already believe does not help you meet this burden. If something's existence is already well-established, invoking it in an explanation does not violate parsimony; but introducing something that lacks good evidence, especially if the existence of that thing is the issue at hand, does.

Something similar can be said about Hunt's misunderstanding of conservatism. Something is conservative if it does not contradict that which is *already well-established*; it is unconservative if it does. So, yes, the existence of spiritual entities aligns with the *beliefs* of the priests,<sup>25</sup> but their belief does not make their spiritual entity hypothesis conservative; it needs to be well-established by other evidence. Indeed, the fact that it contradicts well-established laws such as the conservation of energy and the causal closure of the physical, actively makes the spiritual entity hypothesis unconservative. What is more, the unconservative nature of the spiritual entity hypothesis is reinforced by the fact that it invokes the centuries-old unsolved philosophical problem of how *immaterial* mental events can causally affect *material* objects such as brains.<sup>26</sup> In fact, it is not even clear how immaterial objects, such as a demon or a ghost, can be "inside" anything (such as a person or a house) given that immaterial objects must necessarily lack all physical properties, including location.

In response, Hunt says that such philosophical problems and arguments do not bother him because, in the same way that he does not find "powerful philosophical arguments for moral anti-realism" to be a reason to doubt that "murder is morally wrong", he does not think a lack of "a good . . . metaphysical account of how the mind arises" undermines "our everyday beliefs about minds" (Hunt 2020, pp. 268–69). Consequently, Hunt also does not think that the philosophical problems with demons should deter belief in demons (or, presumably, ghosts and angels). But there are two things to say in response.

First, if convincing philosophical arguments and problems to which one has no answer are not reason to change one's belief, what then is the point of doing philosophy? If one admits that the philosophical arguments against X are good, and that one has no way to answer them, then one should no longer believe X, even if one's intuition (or sensory experience) tells one that X is true. One of the first lessons of philosophy and critical thinking is that intuition and sense experience are far less reliable than is often thought; so, if the sober, fact-driven arguments suggest that X does not exist, your intuition that it does cannot override them. My sense experience and intuition tell me that my desk is solid and black, but science has revealed that solid objects are mostly empty space, and Locke showed that color is a secondary property (that only exists in the mind). Consequently, I reject the idea my experience and intuition suggest.

The second problem with Hunt's argument is that the comparison is not apt. Take my belief that minds exist; this is not based on intuition. I have direct awareness of my mind's existence; indeed, as Descartes argued, if I know nothing else, I know my mind exists. So sure, if (contrary to fact) I am not able to answer the arguments of eliminative materialists, that does not mean I am forced to conclude that minds do not exist. But the kind of direct knowledge I have of my mind's existence is nothing like the kind of knowledge that an exorcist supposedly has, during an exorcism, that a demon is talking to him. At best, the latter is a general impression in the heat of the moment. So, the fact that I can still believe in my mind despite the philosophical arguments does not mean that I can still believe in spiritual entities despite their philosophical problems.

Hunt also misunderstands the criterion of scope. He thinks the demon hypothesis has wide scope because "the traditional Christian who posits demons as an explanation for exorcism might also posit them as an explanation for the occurrence of much natural and

moral evil . . . as well as . . . some of the paranormal happenings that Johnson mentions” (Hunt 2020, p. 265). But this argument endorses an erroneous understanding of scope similar to one engaged by conspiracy theorists. I will let Schick and Vaughn (2020) explain.

The scope of a theory is determined by the amount of diverse phenomena it explains, and conspiracy theories seem to have almost unlimited scope. The claims “the Freemasons (the communists, the CIA, The Bavarian Illuminati, the Jews, the Reptilians, and so on) did it” can be invoked to explain almost anything. But unless the conspiracy theorists have sufficient evidence to indicate that their group (rather than some other) did it, and some idea of how their group did it, their conspiracy theory explains very little. Recall the gremlin theory of the bridge collapse discussed in Chapter 6 [in which, to explain why a bridge collapsed, someone invoked a gremlin with ray gun whose powers and workings are incomprehensible]. The claim that the bridge collapse was caused by a gun-toting gremlin is not one that any rational person would take seriously because there is no evidence that a gremlin (rather than something else) did it, and the nature of the gremlin’s ray gun is left completely unspecified. So to claim that a particular group of conspirators did something is no better than saying a gremlin did it unless the evidence can best be explained on the assumption that the specified group did it by means at their disposal. (pp. 287–88)

Like a conspiracy theory, the activity of spiritual entities could explain damn well anything; but unless it also comes with an actual (plausible, understandable) explanation of how the spiritual entity caused the thing in question and evidence that it did, the spiritual entity explanation is no better than a conspiracy theory. As I pointed out above, invoking the inexplicable does not actually explain anything; so, spiritual entity explanations, on their face, cannot have wide scope.<sup>27</sup>

So, demonic explanations, on their face, lack simplicity, conservatism, and scope; they thus pale in comparison to other explanations for what one sees in an exorcism, such as mental illness. To this, Hunt also has responses. First, exorcists screen their potential subjects for mental illness before exorcising them, thus supposedly ruling it out as an explanation. He thinks that this counters my argument that the exorcists commit the mystery-therefore-magic fallacy (when they conclude that a demon caused the supposedly possessed person’s behavior because they could not find a natural explanation). But if Hunt understood the fallacy, he might have caught his error.

As I explained above, the mystery-therefore-magic fallacy is a fallacy because magic explanations (primarily because they appeal to the inexplicable) will always be inferior to their natural competitors, even when the competing natural explanation is something as plain as “I’m ignorant—there is a natural explanation, I was simply unable to find it”. Even if I cannot figure out Penn & Teller’s “magic bullet catch” after years of study, I will not be justified in believing they have magic powers because, by definition, the hypothesis that they have magic powers will lack simplicity, scope, and conservatism. Invoking the inexplicable does not explain anything.

To make his point, Hunt invokes an example where, to detect a rarer disease, a doctor first screens for a more common disease (that presents in a similar way). Without the first test, a positive test for the rarer disease would be inconclusive; but if the patient tests negative for the common disease first, a positive test for the second will be more conclusive. That is all well and good, but the analogy does not work because the germs that cause diseases are not inexplicable immaterial entities. Notice that, if the test for both diseases came back negative—indeed, if the doctor ran every test they knew and they all came back negative—the doctor would not conclude “Well, I guess you have a demon”. A hitherto unknown medical condition would still be the better explanation. Likewise, even if an exorcist had a professional screen for every mental illness they knew and found nothing, a hitherto unknown mental condition would still be the better explanation for the behavior of the (supposedly) possessed person. Otherwise, they are just appealing to ignorance.<sup>28</sup>

The other response Hunt has to my argument (that naturalistic explanations will always be the best explanation for what an exorcist witnesses) is that it does not matter; even when X is the better explanation, that does not mean that it cannot be rational to accept some other explanation Y. To attempt to prove this, he tells a story about a (usually crime-free) village that is struck by a crime wave. In the previous three incidents, the homeowners reported the criminal as having an Australian accent. But when someone breaks into your house, you hear them as having an American accent. What should you conclude? Hunt says that the “explanation that the burglar in your house also had an Australian accent which you misheard perhaps has a wider scope, is more parsimonious, and more conservative, than the explanation that there are two international burglars on the loose in your village. Nevertheless [i.e., despite the fact that it’s not the best explanation], it seems reasonable for you to continue believing that the burglar in your house had an American accent” (Hunt 2020, p. 266).

The astute reader may already have detected the error. Hunt thinks that the plain evidence of your senses can “override” the criteria and make rejecting the better explanation rational. But what this additional evidence actually does is *change which explanation is the better one*. Yes, one burglar is simpler than two, but the one burglar hypothesis now has to either include the fact that the burglar changed his accent and explain why (which would affect its scope and simplicity), or it has to account for how or why you heard an Australian accent as an American one (which would affect its conservatism, in that it contradicts what you have good reason to believe about your ability to hear accents). Now, in reality, which is the better explanation—(a) one robber who changes accents, (b) one robber and a homeowner who misheard the accent, or (c) two robbers with different accents—is debatable. But my point still stands: Hunt’s story is not one in which one’s personal experience provides a reason to dismiss the best explanation. It is one in which personal experience provides additional evidence that might change which explanation is the best. It is never rational to reject the explanation which, given the available evidence and considerations, is undeniably the best one.

What is more, Hunt’s “village crime spree” thought experiment does not establish that exorcists/true believers are justified in believing that a spiritual entity is speaking to them. Why? Because their perception that one is speaking to them is nothing like one’s perception of accents. Even if a personal experience could, hypothetically, give one reason to reject what is the better explanation, that personal experience would have to be of the direct, clear, and undeniable kind. An exorcist’s impression that a demon is speaking to them is not, and neither is one’s impression of an angel’s or ghost’s voice. (Usually they involve the person concluding, after the fact, that what they heard came from a spiritual entity.)

## 6. “So You’re Saying There’s a Chance!”

So, the argument of my original paper, which concluded that justified belief in demons is impossible, applies to ghosts and angels as well. But is it really impossible? Are there not even conceivable conditions in which belief in spiritual entities would be justified? I saw something recently that made me rethink my previous position. No, I did not see a ghost; I saw the latest *Ghostbusters* movie. Strange, I know—but while watching I realized that, even given the above arguments, if I lived in a universe where what happened in *Ghostbusters* actually happened, I could (should!) justifiably conclude that ghosts exist. Why? In short, because in the *Ghostbusters* universe, the ghost hypothesis’s fruitfulness helps it overcome its initial inadequacy, thus making it rational to believe. Let me elaborate.

As we have seen, in order for belief in a spiritual entity to be justified, that such an entity caused something would have to be the best explanation for some event or fact. The criteria by which we rank explanations are those that such supernatural explanations necessarily lack, such as scope (because they appeal to the inexplicable), simplicity (because they involve extra entities), and conservatism (because they violate physical laws). They also generally lack fruitfulness because it is difficult to test them in any kind of repeatable way. But that does not mean that testing them is impossible. And if it were possible, and

the spiritual explanation made enough fruitful predictions, it could be enough to overcome the hurdle created by its initial inadequacy.

Recall that the germ theory of disease was initially inadequate; it introduced a new entity, did not articulate how germs cause disease, and conflicted with what we thought caused disease at the time. We could not even directly observe them because they were too small. The theory overcame all this, however, by eventually making other kinds of successful predictions, such as handwashing reducing death rates in maternity wards (see Loudon 2013). Later, it explained the previously unexplained, such as why exposure to cowpox could make one immune to smallpox (see Boylston 2013). Later, it predicted the success of vaccines and proposed mechanisms by which germs cause disease. Eventually, we realized that it did not conflict with anything that was actually well-established, and we even observed germs directly (thus negating any worries about the theory's simplicity). And this all happened in ways that were not private but checkable and observable by others working in the field. Indeed, unlike with the evidence for spiritual entities, the evidence became more convincing and obvious over time. This story is oversimplified of course, but the point remains: even if a theory starts out as inadequate, it can overcome this disadvantage if the theory is true and the right interested parties perform enough of the right kind of work to prove it.

In the same way, if (for example) ghosts actually existed, it would be possible for the hypothesis that they exist to overcome its initial hurdle of inadequacy. Stories and personal experience would not cut it. But if one was able to successfully predict their appearance and activity in a way that is observable and checkable by others—if one was able to construct an understanding of what they were made of and a mechanism by which they interacted with the world—then belief in ghosts could become justified.

Think of the work Egon Spengler conducts in the original *Ghostbusters*. He develops a theory about what ghosts are made of (ectoplasm) and sees physical evidence of it, which he collects and tests. He develops instruments that can detect it, and when they do, he sees apparitions, which themselves have a physical effect on the world, both of which other people can directly see. He even develops a method for successfully catching ghosts. I know that, in the movie, he, Peter, Ray, and Winston are outcasts in the scientific community; but in the real world, Egon would publish his research, it would be checked and confirmed by others, and his theory's monumental fruitfulness and explanatory power would overcome its initial implausibility. It would take time, but just like with the germ theory of disease, Egon's ghost theory would eventually be accepted.

In other words—if ghosts (or any spiritual entities) were real, it could be possible to develop, in a scientific way, a theory of their existence and show that it was adequate, that their activity actually is the best explanation for events in the world. That is not to say that it would necessarily be possible if they existed; spiritual entities might always hide when you try to reveal them.<sup>29</sup> But if they behaved in consistent ways, revealing (and thus justifying belief in) their existence would at least be logically and scientifically possible.

True believers might insist that the ghost hypothesis has already cleared this bar, but it has not. The tools and methods ghost enthusiasts use are not scientific at all. Take EMF (electromagnetic frequency) meters, which supposedly reveal the existence of ghosts. In reality, EMF meters only detect varying electromagnetic fields; and not only do such fields exist everywhere and fluctuate for various reasons, but there is no independent evidence that they are emitted by ghosts. The same goes for devices that detect varying temperatures or non-visible light (e.g., infrared or ultraviolet). Indeed, any detection device must be calibrated with a sample of what you are trying to detect; the instrument must only respond in the presence of that sample. Since there are no verified samples of ghosts, no "ghost detection" device can be calibrated and thus be trustworthy.

Other detection methods, such as dowsing rods and pendulums—which supposedly move at the bidding of spirits—are easily explained by the ideomotor effect: undetectable alterations in one's hands that are exaggerated by the device and make it seem as if they are moving on their own (see Olson et al. 2017). My students are always amazed at how easy it

is to fake such things—although, because ideomotor movements are unconscious, one need not even be aware of the effect in order to “make” dowsing rods and pendulums work.

Other detection methods, such as EVPs, rely on psychological effects such as audio pareidolia. Pareidolia happens when a person takes a vague stimulus and imposes a pattern on it, such as a face in a Martian mountain or the Virgin Mary in a grilled cheese sandwich. Audio pareidolia happens when words or messages are heard in vague noises even though the messages are not actually there. It almost always involves “captioning” the noise with what those presenting it want you to hear so that the captions trick your brain into organizing the stimuli in the suggested way (see [Schick and Vaughn 2020](#), pp. 111–14). (When I play Beatles songs backwards for my students, they only hear garbled nonsense—until I reveal the captions.) In ghost hunting shows, they place tape recorders in rooms, turn the mics all the way up, and then playback the recorded static at high volume. The mics pick up every stray sound, and when coupled with captions, you can basically make any anomaly say whatever you want it to say. So, the message is not really there; it is being imposed by suggestion.

People often cite pictures and videos as evidence of ghosts as well. But if the supposed ghosts in them are not simply the result of visual pareidolia, the photos are literal fakes. Indeed, fake ghost photographs are almost as old as photography itself (see [Radford 2011](#)). Given today’s video and picture editing technology, no matter how convincing any photographic evidence of ghosts seems, without corroborating checkable evidence, the more adequate explanation will always be that the photo was photoshopped.

Some have argued that, despite the fact that so many have been debunked, the mere large number of ghost stories out there serves as evidence that ghosts exist. As Catholic scholar Peter Kreft put it, when arguing for the existence of ghosts, “The existence of [a great deal of] counterfeit money strongly argues for the existence of real money somewhere” ([Townsend 2013](#)). But as I explained in 2018, this line of reasoning invokes something called The Countless-Counterfeits Fallacy, where a large number of bad pieces of evidence is supposed to increase the chance that there is a good one. It does not.

Simply put, the true believer mistakenly thinks that whether or not a piece of evidence is good is a matter of chance, so that the more pieces of evidence there are, the more likely it is that one is reliable. . . . But this is not how evidence works. I can’t pile up a thousand pieces of bad evidence that you committed a murder and claim it’s likely that one proves you did. Whether a piece of evidence is good is not a matter of chance; it either is or it isn’t. In fact, the more evidence of a particular kind of phenomenon I debunk with a certain kind of explanation, the more likely it is that all such evidence is explained by that kind of explanation. ([Johnson 2018a](#), p. 142.)

After you debunk a few magic tricks, you know they all have natural explanations. In the same way, given that even the most famous and convincing evidence for ghosts falls under the slightest bit of scrutiny, we can justifiably conclude that all such stories are explainable in natural terms.

So, although it is possible for it to do so, the ghost hypothesis has not cleared the incredibly high evidential bar set by its initial inadequacy, and so it is with demons and angels too. Indeed, the evidence for them does not even have the pseudoscientific sheen that EMFs and EVPs give it; it is all just stories and personal experience. That is not to say it is impossible; I have admitted that there is at least an imaginable situation in which belief in spiritual entities would be justified. But to do so would be akin to proving the world is flat.

In fact, that is a good analogy.

Like with spiritual entities, the best evidence we have that the Earth is flat is our personal experience. Go outside, look around—it seems flat. The evidence we have that it is round is all scientific (although some such evidence can be gathered by ordinary persons, see [Schottlander \(2016\)](#)). But that scientific evidence is so overwhelming, and the adequacy of the flat Earth theory so pathetic, that the evidence of our senses is completely outweighed



and the belief that the world is flat is utterly irrational. That is not to say that I cannot imagine a way that one could (despite all current evidence) prove it true, if it actually were. But that scenario would involve proving false highly confirmed and peer-reviewed data, proving that countless pictures from space were faked, explaining away countless lines of evidence, proving giant conspiracy theories true, and countless other nearly impossible tasks. It would make for a pretty silly movie, and if it did happen it would dwarf all previous scientific revolutions.

Likewise, the evidence that science has provided for materialism (and thus against things such as spiritual entities) and the laws that govern the physical world (which suggest that only physical things have physical causes) are so overwhelming, and the adequacy of the spiritual entity hypothesis so pathetic, that belief in spiritual entities is utterly irrational. That is not to say that I cannot imagine how they could be proven to exist, if they did. But this revelation would overturn so much established science, that it would dwarf all previous scientific revolutions.

Indeed, realizing how high the evidential standard is makes crystal clear why things such as the experience of an exorcist, or Tidy's and Anderson's collection of ghost and angel stories, cannot clear the bar. Consider that, even when the multimillion-dollar OPERA particle detector measured neutrinos as traveling faster than the speed of light (in violation of Einstein's relativity), its operating team did not conclude they had (even though they could find no error in the experiment). They went to the scientific community and asked them to find the error (see [Brumfiel 2012](#)). It was eventually found, but the point still stands: if the checked and confirmed measurement of something such as an OPERA particle detector cannot overturn one simple fact in relativity, what hope does the personal, uncheckable experience of those who think they have seen spiritual entities have in overturning the entire scientific community's understanding of the world? "I/they saw it with my/their own eyes" just is not going to cut it.

## 7. Is Scientific Proof of Spiritual Entities a Contradiction in Terms?

I have argued that justified belief in spiritual entities is at least *theoretically* possible. Now, given their initial lack of adequacy, the evidential burden is so high that it is *practically* impossible to be justified in believing them, but since there are at least imaginable circumstances in which such hypotheses could be testable and fruitful, that burden could (hypothetically) be overcome. It has not; and the fact that it has not is sufficient reason to conclude that such entities do not exist. But it is at least logically possible.

This is tantamount to suggesting that it is logically possible for there to be scientific evidence of spiritual entities. To some, this might seem to be a contradiction in terms. Methodological naturalism—the idea that science demands, by definition, that only natural explanations be considered (and thus only natural explanations can be confirmed by science)—is quite common. [Boudry et al. \(2010\)](#) elaborate on how common it is by pointing out that:

In the Kitzmiller vs. Dover case on the teaching of IDC [Intelligent Design Creationism] in biology lessons, Judge John E. Jones denied the status of science to IDC because it "fails to meet the essential ground rules that limit science to testable, natural explanations". . . . Based on the testimonies of Kenneth Miller, Robert Pennock and John Haught, Jones stated that "This rigorous attachment to 'natural' explanations is an essential attribute to science by definition and by convention". . . . Philosopher of science Michael Ruse, among others [Maienschein, Miller, Scott, Strahler] agrees that science "by definition deals only with the natural" . . . The position . . . is also endorsed by the National Academy of Sciences in their official booklet Teaching about Evolution and the Nature of Science: ["]Because science is limited to explaining the natural world by means of natural processes, it cannot use supernatural causation in its explanations. Similarly, science is precluded from making statements about supernatural forces because these are outside its provenance. (p. 229)

If this is an accurate description of the method of science, “scientific evidence of ghosts” is an oxymoron. Ghosts are outside its provenance. They are not, however, because methodological naturalism is not an accurate description of the scientific method.

First, the common reasons given for thinking that scientists must embrace methodological naturalism are inaccurate. For example, the fact the supernatural *could* behave in inconsistent unpredictable ways does not mean that its existence cannot be revealed. It means that true believers can always make ad hoc excuses for why it is not. “The tests didn’t reveal the ghost because the ghost didn’t want to be discovered”.<sup>30</sup> But it is possible to make ad hoc excuses for anything.<sup>31</sup> The fact remains, if the supernatural existed and acted on the world in a consistent way, its existence could be revealed by scientific methodology.

Second, the motivations for thinking that scientists embrace methodological naturalism are ill-founded. For example, accommodationists—those who think that science poses no threat to religion because they are in separate domains—use it to soothe the worries of the religious. They say things such as:

*Religion and science are not incompatible; you really can be both religiously minded and scientific. It’s just that, when you are doing science, you don’t consider religious/spiritual hypotheses. You operate as if the supernatural doesn’t exist. But that doesn’t mean the supernatural doesn’t exist. So in your everyday life, like at church, you can operate as if they do.*

But this does not, at all, represent what science can or cannot do. If it did, scientific arguments that God did not create the universe 6000 years ago would not be possible. As I pointed out in 2020, science can and does consistently cast doubt on the existence of the supernatural (e.g., souls, miracles, etc.) (see [Johnson 2020a](#)). Indeed, the progress of science has been a steady and consistent march towards disproving supernatural phenomena. We used to think that everything from diseases to earthquakes were caused by the supernatural; thanks to science, we have now rejected those explanations and identified their natural causes. If methodological naturalism was true, that would have been impossible. As physicist Taner Edis put it, “Separating the spheres of science and religion is useful for keeping the peace, but it is intellectually dubious” ([Edis 2021](#), p. 110).

Methodological naturalism is also used by the dogmatically religious to criticize science. They think that science *is* applicable to religion and can even prove religious claims (hence their efforts for “scientific creationism” and “intelligent design” to be taught in science classrooms). The only reason, they think, science has not proven them (or that scientists have not admitted as much) is because of the biased methodology of scientists, methodological naturalism, which dismisses the possibility of the supernatural on its face, without argument or evidence. On this view, the only reason there is not yet scientific proof of spiritual entities is because science is methodologically biased against the supernatural.

But, again, this is not true. Science has no prior ontological commitments and thus is not required to only consider certain kinds of (e.g., natural) explanations; it is simply inference to the best explanation, a method for discovering the truth about what exists. Granted, scientists today usually do not bother with considering supernatural hypotheses, but that is not because of a pre-evidentiary methodological (or ontological or philosophical) bias; it is because supernatural hypotheses *have already been considered* scientifically, again and again, and have so consistently failed that today’s scientist have realized considering them is a waste of time. (This is the same reason that I would not put “magic powers” on my list of possible explanations for Penn & Teller’s magic bullet catch; I have seen too many other equally inexplicable feats naturally explained.) As [Boudry et al. \(2010\)](#) put it, all the arguments for the methodological naturalism (what they call “Intrinsic Methodological Naturalism”) fail. What they call provisory methodological naturalism on the other hand, the “empirically grounded attitude of scientists” that the supernatural does not exist, is justified because of “the consistent success of naturalistic explanations and the lack of success of supernatural explanations in the history of science” (p. 227).<sup>32</sup>

For example, the scientific investigations into psychic powers could have been fruitful. They were not, because (it turns out) psychic powers are not real; but if they were,

they would behave in consistent ways, reveal independently observable and verifiable information, and thus be confirmable by scientific methods. As Taner Edis put it

[P]arapsychology, [the] effort to show that psychic phenomena are genuine . . . has all the institutional trappings of any scientific discipline, from peer-review journals to academic conferences. Parapsychologists conduct experiments with considerable methodological sophistication, comparable to straight psychology in their rigor . . . and regularly publish results that, if confirmed, would be minor miracles [i.e., would revolutionize science]. (p. 67)

The problem was those results were not confirmed, not that parapsychology is unscientific.<sup>33</sup> To be sure, there are some parapsychologists who behave unscientifically, but psychic phenomena are something that can be investigated scientifically. “[I]f the paranormal were real, science could have affirmed it” (Edis 2021, p. 107). So, the fact that those investigations turned out negative is good reason to conclude that psychic phenomena do not exist.

Now, one might argue that if science were to do such a thing, it would not be proof of the “supernatural” because what would have been proved is that the phenomenon or entity in question was actually part of the natural world. The term “supernatural” just means “beyond the natural world” and proving that something exists would prove that it exists in the natural world. If we were to prove scientifically that psychic powers (or ghosts/demons/angels) were real, we would just expand our definition of what nature included, so that it encompassed such powers (or entities), and then turn around and insist that anything beyond that new conception of the natural world does not exist.

Perhaps. And if so, science might not be able to prove the existence of the supernatural; it could only prove that which we thought was supernatural was actually natural after all. But, to my eyes, this is beside the point—a semantic triviality. The question at hand is: “Could belief in demons, angels, or ghosts be justified?” If they were revealed to exist in the natural world, the answer to that question would be yes, even if the relevant understanding of what the natural world was expanded as a result.

## 8. Conclusions

I have admitted that my previous conclusion in 2017—that justified belief in demons is impossible—was too strong. By doing so, skeptics of the paranormal may think that I am handing “true believers” a win. This, I believe, is short-sighted. First, my original argument made the belief “demons don’t exist” unfalsifiable. Since that criticism cannot be applied to my revised view, it is an improvement.

Second, given what I have demonstrated about the deficiencies of supernatural/paranormal explanations, to find conditions in which belief in the supernatural would be justified, one has to turn to outlandish fictional stories. This demonstrates how ridiculous belief in the supernatural is and how irrational accepting it as real would be. To be justified in believing in spiritual entities would require a scientific revolution akin to proving that the world is flat. What is more, given that science could reveal their existence if they existed, the fact that it has not provides sufficient justification for believing they do not exist. None of these consequences will make “true believers” happy.

Now, in response, the true believer might insist that my argument simply assumes materialism, or more precisely, that to be real *just is* to be material. This is not the case. Given that spiritual entities are (by definition) immaterial (i.e., not made of matter), by admitting that science could reveal the existence of spiritual entities, not only is it false that I am presuming materialism, but I am also admitting that immaterial entities could be real. Granted, I have not entertained the possibility that the immaterial nature of spiritual entities entails, by definition, that they are incapable of interacting with the physical world at all. (I suppose one might think they were made of nothing at all.) If that were the case, scientific investigation into such entities would, in fact, be impossible. But I did not entertain this possibility for two reasons.

First, if spiritual entities are (by definition) incapable of interacting with the physical world, they are then (by definition) incapable of generating any evidence of their existence; thus, (by definition) justified (i.e., evidence-based) belief in their existence is impossible. (Even to appear in dreams, they would have to be able to interact with our brains.) So, not only would entertaining this possibility generate an uninteresting “by definition” conclusion, the assumption on which it is based grants my thesis in the cheapest way possible. I would have simply defined spiritual entities as that in which justified belief cannot be had.

Second, that is not what true believers think. They think belief in such entities is justified and, indeed, many who believe in such entities do so because they believe stories in which spiritual entities have interacted with the world: hauntings, possessions, appearances, and healings. And even if they find no one such story convincing, they believe that such entities could perform (and have performed) such things. So, if I, instead, wondered whether belief in spiritual entities that cannot interact with the world could be justified, I would be answering a question that practically no one was asking. Of course, the true believer might change their definition of spiritual entity, now that it is clear that evidence of their existence is lacking, so that evidence of their existence is impossible. But this would simply be an “ad hoc” excuse to save the theory from falsification.

The true believer might also say that I have set the epistemic standards too high. I have not. I did not set the standards. I am merely clarifying what follows from the facts—facts about what good explanations must accomplish and the fact that, in order for belief in spiritual entities to be justified, their existence would have to serve as the best explanation of some event or fact. It is as simple as that.

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## Notes

- <sup>1</sup> I assume here that belief in the devil entails belief in demons. In fact, belief in demons may be more abundant. A 2009 survey found that, while a majority (59%) of self-described Christians agreed that the devil is *not* a literal being, a majority (64%) agreed that persons could fall under the influence of demons or evil spirits. (Although the disparity might be due to asking people to agree or disagree with a negative statement: “Do you agree that Satan is not a living being but is a symbol of evil?” “Do you agree that a person can be possessed by a demon?”) see The [Barna Group \(2009\)](#).
- <sup>2</sup> Interestingly, at 41%, belief in ghosts among Protestants is lower than among Catholics (57%) or the national average (44%) and is lowest among those who attend church services most regularly at 38%. The latter is actually one point lower than among those who never attend services (39%) and is quite a bit lower than the highest percentage (56%), which is among those who attend services less than once a year. One reason for this might be that belief in ghosts does not quite square with Protestant doctrine regarding the afterlife, which suggests that upon death, one’s soul goes directly to heaven. The reason belief in ghosts might be more prevalent among Catholics is their doctrine of purgatory—a place where souls go before they go to heaven or hell. It is not much more of a stretch to believe that purgatory is an earthy affair. Another reason may be that those who profess to be Catholics are more likely to be culturally Catholic (while cultural Protestantism does not seem to be a genuine phenomenon), and cultural Catholics—because of their lack of religious involvement—have simply not given thought to how belief in ghosts is contrary to the church’s teachings about the afterlife. This is why, I suspect, belief in ghosts is highest among those who are nominally religious. See Harris [Harris Interactive \(2008\)](#). This comports with a poll conducted by Public Policy Polling in 2013, which suggests that, despite religiosity being on the decrease among 18–29 year-olds, belief in demonic possession among them is up to 63%. See [Wilson \(2013\)](#).
- <sup>3</sup> The term “abduction”, while often used as a shorthand for such reasoning, is not quite accurate. See [Mcauliffe \(2015\)](#), pp. 300–19.
- <sup>4</sup> It is also the case that, while there is no official ranking of the criteria, which criterion is more important might vary by circumstance. There might also be ties, where there is no clear winner and thus no justified conclusion about which explanation is best. Neither of these considerations will be relevant here because, when it comes to seeing why supernatural explanations are inferior to their competitors, breaking ties and ranking criteria are never necessary.
- <sup>5</sup> How to interpret what the theory entails, however, is still debated. See [Rosenblum and Kuttner \(2011\)](#), pp. 153–66).

- 6 In a recent article, I suggest that the different explanations for the stories about the resurrection of Jesus are like this. Because they are about events that lie in the unobservable past and make the same predictions about what we would presently observe if they are true, testability and fruitfulness cannot distinguish between them. Nevertheless, the resurrection hypothesis is by all accounts—indeed, by definition—the least simple, wide-scoping, and conservative explanation among the various alternatives; thus, it is the worst explanation for the evidence in question. See [Johnson \(2021\)](#), pp. 26–51.
- 7 Of course, Soren Kierkegaard or John Bishop might suggest that belief by faith (i.e., belief without evidence) in spiritual entities is acceptable or even preferable. (See [Bishop \(2007\)](#).) But such a suggestion is not only wrong (see [Clifford 1877](#)), it is beside the point. The question at hand is whether belief in spiritual entities can be justified, not whether it is acceptable to believe in them, even though it is not justified.
- 8 To be fair, they might also be invoked to explain religious experiences—such as a vision that only one person can see and hear. I have already argued elsewhere, however, that religious experience cannot justify belief, so I will not bother with this issue here. (See [Johnson 2020b](#)).
- 9 I debunked a similar story in 2014. (See [Johnson 2014](#))
- 10 In *Where Angels Walk*, Joan [Anderson \(1992\)](#) relays the story of Sharon W. “(not her real name) [who] in rough Michigan weather . . . skidded dangerously toward a light pole [and cried] ‘Oh, angels, help me!’ [before] the car righted itself”. (p. 43) It is worth noting that the angelic stories in Anderson’s book negate each other because they are contradictory. In the same chapter in which Sharon’s story appears, angels are able to lift (or transport) cars from one place to another to prevent an accident, but then in other stories are unable to prevent anything and only encourage the subject to put on a seatbelt so the subject only suffers injury rather than death. Other times, the angels demand the person pray before they save them; other times, their action is not requested.
- 11 Ed Strand concluded a child was an angel because he gave him a lift to school but then could not confirm his attendance ([Anderson 1992](#), pp. 67–70).
- 12 Sandy Smith thought she saw a fair-haired angel (who she concluded must have been her recently deceased mother) at her hospital bedside after an accident, even though her nurse realized, “It must have been a dream” because the incident occurred as she was slipping in and out of consciousness ([Anderson 1992](#), p. 108). Of course, it is possible that an angel appeared to her in a dream (i.e., it is possible that an angel caused the dream), but such a hypothesis would invoke an unnecessary extra entity and thus not be as simple as the “it was just a dream” hypothesis. This would be like insisting that we still invoke “caloric” or “phlogiston” to explain the increase in molecular motion in heated objects, despite the fact that the motion itself is sufficient to explain the increase in temperature.
- 13 I will use the phrase “(seemingly) unexplainable” to refer to events that people claim to be unable to find natural explanations for. I will reserve the term “inexplicable” to refer to entities or explanations that have low scope because they raise unanswerable questions and the like.
- 14 Notice that saying they are “immaterial” is not a positive description; it just tells us they are *not* material.
- 15 All evidence suggests that material events have material causes. That is not to say that attempts at explaining immaterial/material interaction have not been made, but Nancy Murphy has pointed out that they are only possible if we completely reform our notion of what causation even is, and Nicholas Saunders has described the argument that such interaction is possible as being in “crisis”. Both are talking about divine action, not spiritual action—but their arguments apply. See [Murphy \(1996\)](#) and [Saunders \(2002\)](#).
- 16 Robert [Larmer \(2009\)](#) has argued that divine action that involves the creation of energy does not violate simple conservation laws (i.e., the total amount of energy in a closed system remains constant); it only violates a more general metaphysical principle that “energy cannot be created nor destroyed”. We have scientific evidence only for the former, Larmer argues, so only it is a natural law—and positing the latter simply begs the question against the theist (by assuming the universe is a necessarily closed system with which God never interacts.) If he is right, one might suggest that immaterial spiritual entities can interact with the world, in the same way, without violating conservation laws: by creating energy. But there are multiple problems with his argument. For example, contrary to what he suggests, evidence for the law is good evidence for the general principle; it may not be proof, but science does not deal in proof. Evidence for the law is good inductive evidence for the principle—as is the fact that we have looked but never found an instance in which energy was created. What is more, as Ed [Tryon \(1973\)](#) points out, the fact that our universe has zero net energy is “supported by, or consistent with, all present observations”. (p. 397) Consequently, all scientific observations stand contrary to the idea that spiritual entities add energy to the universe; if they did, the universe’s net energy would no longer be zero.
- 17 I have argued elsewhere that he is exactly right, although not for the reason that he thought. See ([Johnson 2015](#)).
- 18 It would be different if the experience could be repeated in controlled conditions; I will address this possibility later in this article.
- 19 Although such explanations invoke an “extra entity” (e.g., alcohol), since the entities in question are known to exist, and that and how they cause such effects are well understood, such explanations do not lack simplicity or scope. This is not true of spiritual explanations.
- 20 Such experiences might also come with a sense of awe that makes one believe they have encountered a spiritual being. This happens to Carol when she concluded the white-shirted man who pushed her stalled car from the train tracks was an angel ([Anderson 1992](#), pp. 138–40). But “awe” cannot justify belief in spiritual entities either. First, there is an obvious better explanation (e.g., that does not invoke extra entities) for such experiences: that the person was just an ordinary generous human. Second, this



is analogous to the idea that religious experience can justify belief, but it cannot. Religious experiences happen in all religions (and yet only one could be true); thus, religious experience is not a reliable source of belief. What is more, there are natural explanations for all religious experiences that are (by definition) better explanations because they do not invoke extra inexplicable entities. See Johnson, (2020b).

21 The example Hunt mentions on page 262, about the “charity-mugger”, is irrelevant because it involves a change in judgment about the kind of person the agent is (not whether it is a different agent altogether).

22 Even if you mistake one twin for another, you simply think that the other twin is in a different room. And even in the case of someone with Dissociative Identity Disorder, you are speaking to an alternate personality (not an entirely different person).

23 If the “possessed” person says they are someone else, it is more likely they are lying—but such a person speaking in a foreign language to prove it might push one towards the “second person” hypothesis. However, the observer would have to be fluent in that language (to make sure the “possessed” is not speaking gibberish) and have absolute proof that the person did not learn that language (even a few phrases) beforehand. Many stories of such things happening have been debunked (see Dunning 2020).

24 Pyrotrons (aka Pyrotons) are a pseudoscientific explanation for spontaneous human combustion.

25 In my original article, I pointed out that it is no surprise that the priests conclude that the (supposedly) possessed person has a demon; they already believe in demons. This creates a bias in them that makes them more apt to “see the demonic” in the behavior of the person, thus tainting the reliability of their conclusions. H. tries to dismiss this worry. “[A] a young chemist already believes in atoms and electrons before conducting her experiment, but this surely does not defeat her belief that atoms and electrons exist, or her belief that atoms and electrons are involved in the best explanation of the experiment’s results”. (p. 267) H.’s analogy fails for multiple reasons. First, unlike with demons, the existence of atoms is already well established, and the young chemist is not testing for them; they undergird her theory. Second, the chemist is using the scientific method that is specifically designed to guard against the way our experiences and biases can lead us astray; the priest is not. Consider the historical example of N-Rays. French scientists, who convinced of their existence, performed experiments to prove N-Rays existed which merely relied on seeing—literally just looking to see—whether certain surfaces seemed brighter to them when N-Rays were supposedly present. They saw the effect, but no one else did; and when proper controls were put in place, it was revealed that the French scientists were just seeing the surfaces as brighter when they believed N-rays were present. Priests, who already believe in demons, and who are not using scientific procedures to test for demons, are analogous to the French N-Ray believing scientists, not the young chemist. As such, their conclusions, based on their own subjective experience, cannot be trusted, especially given the bias created by their preexisting supernatural beliefs.

26 For more on this problem, see Moore (n.d.), “Mind and the Causal Exclusion Problem”. *Internet Encyclopedia of Philosophy*, at <https://iep.utm.edu/causal-e/> (accessed on 20 June 2022).

27 I leave out the criteria fruitfulness here because, usually, priests are not making falsifiable predictions to test whether a demon is present; they are not conducting science. That said, I will respond to H.’s claim that naturalism does not predict episodes of seeming demonic possession. Actually, it does. Not only are such episodes predictable once you understand how the brain functions (and how it can malfunction), but (as Schick and Vaughn (2020) put it), “though our experiences (and our judgements about those experiences) are reliable enough for most practical purposes, they often mislead us in the strangest, most unexpected ways—especially when the experiences are exceptionally mysterious . . . Because of them, as several psychologists have pointed out, we should expect to have many natural experiences that seem for all the world like supernatural or paranormal events. So even if the supernatural or paranormal didn’t exist, weird things would still happen to us”. (p. 108)

28 How to apply this same argument to ghosts and angels is obvious. The fact that an enthusiast or true believer has tried and failed to find an explanation for a supposed ghost/angel encounter is not a good reason to conclude that there is not one, and does not make the ghost/angel explanation any better. This is still an appeal to ignorance that does not justify the conclusion that spiritual entities exist.

29 It must be noted that to protect the theory from a lack of evidence by saying “they always hide” would make one’s position unfalsifiable and thus irrational.

30 For more on what is fallacious about ad hoc reasoning, see Schick and Vaughn 2020, pp. 177–78.

31 This is one reason science cannot 100% deductively prove anything. Another reason is that IBE is an inductive method of reasoning, and thus does not deal in proof. This is why science’s inability to *prove* that ghosts do not exist is not a reason to conclude they do; not only is that an appeal to ignorance, but science does not prove anything. It just demonstrates the truth of theories beyond a reasonable doubt. That spiritual entities do not exist is something that undeniably has been demonstrated by science beyond a reasonable doubt. For more on this aspect of science, see Lewis (2014).

32 One might argue that such reasoning just assumes what it is trying to prove. “What evidence has science provided for the metaphysical theory of materialism? It cannot be that all our investigations of material reality have shown us only material objects and forces because that begs the question”. But this argument itself endorses the erroneous understanding of science that is being debunked here—that science is just an investigation into material reality, that only deals with material explanations, and so could only reveal material objects. As I have explained, science is simply inference to the best explanation, and if immaterial objects such as spiritual entities existed, that method of reasoning could reveal their existence. The fact that it has not been revealed is, therefore, evidence that such entities do not exist.

- <sup>33</sup> “The body of parapsychological results is . . . disappointing; reminiscent, indeed, of cold fusion. There are lots of barely noticeable and inconsistent size effects, little success at replication, and no consistent and strong signal that rises above the noise”. (Edis 2021, p. 68)

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