

CORRELATIONS AND CONCLUSIONS: NEUROSCIENCE AND THE BELIEF IN GOD

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INTRODUCTION

Interest in the nature of religious and mystical experiences (henceforth RMEs) is old. Recently, this interest has shifted toward understanding the relationship between brain function and RMEs. In the first section, I introduce neurocognitive data from three experiments that strongly correlate the report of religious mystical experiences with specific neural activity. Although correlations cannot be considered as “absolute” proof, strong correlations provide us with inductive grounds for justifying the belief or nonbelief of some proposition. These data suggest that the human brain plays a key role in having an RME and will provide support for the claim that our explanations for phenomena should be located in the natural world. In the next section, I explore the meaning of an RME from a Jamesian perspective and discuss the use of RMEs and the apparent design of the world as proof for God’s existence. My point is to show that the whole enterprise of using phenomena “that only God could have brought about” as the proof for God’s existence is inherently question begging and so is no proof that God exists. In the third section, I lay out in detail my assumptions for my main argument in the final section. There, I argue that belief in the supernatural is not justifiable given the data we have from contemporary science and basic rules of reasoning.

1. EXPERIMENTS IN RELIGIOUS AND MYSTICAL EXPERIENCES

In the decade between the mid-eighties and the mid-nineties, Michael Persinger put forth a general hypothesis claiming that RMEs are “artifacts” of tem-

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poral-lobe functioning. “Religious and mystical experiences,” he writes, “are normal consequences of spontaneous biogenic stimulation of temporal lobe structures.”¹ He then describes the function of the amygdala and the hippocampus and the roles they play in the perception of the “self” in relation to space and time and notes that when subtly magnetically stimulated, the amygdala “evokes intense meaningfulness and peak experiences; the latter are often in conjunction with altered body perceptions, such as out-of-body experiences or convictions of cosmic communion.”² Other sensations of temporal lobe stimulation include “vestibular sensations (spinning through time-space), auditory experiences (rushing sounds, the voice of God or a spirit creature giving instructions), perceptual alterations (looking down a tunnel; bright lights), and peacefulness.”³

Persinger refers to these “subtle stimulations” of the temporal lobe and its deep structures, the amygdala and hippocampus, as temporal lobe transients (TLTs). They are biogenetically anomalous, localized surges of electrical activity deep within cortical structures of the brain and, importantly, can be conditioned—what Persinger calls “kindling”—since they are “intrinsically rewarding experiences.” This conditioning of electrical activity in the brain is important because of its implication in the development of human psychology. There are at least two concepts being played out here and, although Persinger does not discuss them, it will be helpful to mention them.

The first might be referred to as the “pleasure principle.” The pleasure principle simply states that humans act for the sake of their desires—they wish to be pleased; that is, what motivates human behavior is the wish to have our desires fulfilled.⁴ If this is true and certain brain behaviors produce such pleasurable experiences as peacefulness, the voice of God, and spinning through space and time—and if such brain behavior were able to be conditioned, i.e., the individual subject of experience could self-induce TLTs to elicit these pleasurable experiences over time—then we could reliably expect humans to engage in such behavior because they would be “intrinsically rewarding experiences.”

The second concept involved is that of evolutionary psychology. To begin, we ask why the human brain would have developed in such a way that TLTs could be psychogenically induced in the first place. We reason as follows. Throughout the course of human evolution, humans have been designed to overcome problems that the environment presented, such as the threat of self-extinction. The eminence of one’s death, however, is nevertheless an abstraction—one that is recognized as the anticipation of death. Presumably, where there is no anticipation of death there is likewise no conscious awareness of the threat to one’s life. Thus, the ability to conceive of one’s self-extinction increases the chances of one’s survival by allowing one to be able to defer behavior that might lead to one’s death because one can imagine that some given course of action might lead to a fateful demise. As Daniel Dennett makes the point, “Mother Nature designed us to solve a certain set of problems posed by the environments in which we evolved, and whenever a cut-rate solution emerged—a bargain that would solve the most pressing problems pretty well . . . it tended to get installed.”⁵ The problem that the environment poses to us

is a quick death. The cut-rate solution is to anticipate that death and try to take a course that avoids it. If TLTs are able to be conditioned, then this might be a way of beginning to account for the ubiquitous presence of RMEs.

In sum, humans are the type of creature whose behavior is motivated by the desire to be pleased—to have one's desires satisfied. We are also the type of creature that experiences phenomena such as spinning through space and time, the voice of God, peacefulness, and so on where these experiences tend to be pleasing. Further, by way of evolutionary processes, humans have developed to solve environmental problems, including the avoidance of our own deaths. But since humans generally do not know when they are going to die, they can only anticipate their deaths. This anticipation of death, though abstract, is nevertheless perceived as a threat. Such abstract yet evolutionarily ingrained reasoning can lead one to avoid certain behaviors that might well cause one's death. Certainly, the desire to avoid one's death—insofar as avoiding death is pleasurable—is an “intrinsically rewarding experience.” So, if such phenomena are biogenetically induced, are “intrinsically rewarding,” and are able to be conditioned, then we would expect to see people independently inducing such phenomena as a way of eliciting pleasure. An RME would be one way for an individual—or group of individuals—to anticipate one's death.

Consider now the work of Alex Newberg et al. They begin with a simple premise: “The goal of every living brain, no matter what its level of neurological sophistication . . . has been to enhance the organism's chances of survival by reacting to raw sensory data and translating it into a negotiable rendition of the world.”⁶ Here Newberg et al. are echoing Persinger by hypothesizing that the evolution of the nervous system has allowed humans to anticipate favorable and deleterious events and to “make plans to try to ensure an optimal result.”⁷ As a case in point, the autonomic nervous system comprises the sympathetic and parasympathetic nervous systems, which are responsible for physiological arousal and quiescence, respectively.⁸ The limbic nervous system, on the other hand, is highly correlated with complex emotional states such as envy and surprise and especially fear, aggression, and rage that are key emotions involved in the finding of and defending food and mates.⁹ One could easily speculate that, without such physiological activities such as our fight or flight response or our deeply emotional desires for companionship, comradeship, mating, and eating, human life would be dramatically different than it is now. Thus, the stimulation of these neurophysiological structures is not just key to our survival; understanding the physiological behavior of these structures can seemingly tell us much about human emotional and moral behavior.

These speculations aside, it is important to note that, consistent with Persinger's temporal lobe hypothesis, when the limbic system (which includes the amygdala and hippocampus) is stimulated, subjects report “dreamlike hallucinations, out-of-body sensations, déjà vu, and illusions, all of which have been reported during spiritual states.”¹⁰ Newberg et al.'s work is supported by neuroimaging data using single-photon emission computerized tomography (SPECT). Their data indicate a correlative relationship between RMEs and neural networks in the brain, specifically the posterior superior parietal lobe,

the temporal lobe, and both the autonomic and limbic nervous systems.¹¹ More will be said regarding this relationship in the next section.

Finally, Nina Azari et al.¹² have produced imaging data showing a correlation between neural activity and RMEs. Using PET scanning techniques, they studied twelve subjects, six religious and six nonreligious, and found that during recitation of Psalm 23 there was significant activation of a frontal-parietal neural circuit, which includes the dorsolateral prefrontal, dorsomedial frontal, and medial parietal cortices. This activation was exclusive to religious subjects.

The prefrontal cortex is associated with cognitive processes,¹³ and while activated in religious subjects consistently, the same subjects showed no activation within the limbic system, particularly the amygdala, hippocampus, and hypothalamus. Cognitive schema¹⁴ and religious schema¹⁵ are characterized by Azari et al. as “mental representations containing prior knowledge about specific domains” and are localized, stored, and managed in the prefrontal cortex. The dorsomedial frontal cortex is correlated to the pre-supplementary motor area (pre-SMA) of the motor cortex and is responsible for motor activity of the body.¹⁶ The pre-SMA receives a large amount of input from the prefrontal cortex. It is speculated that the connection between stored memories and knowledge, i.e., “organized knowledge about religion and religious issues,”¹⁷ in the prefrontal cortex and the pre-SMA are responsible for a person’s readiness for action and the sustained preparation to act on the environment.¹⁸ Azari et al. suggest, then, that religious experience is a cognitive process and is not a phenomenon of the emotive process of the limbic system as Persinger and Newberg et al. suggest.

2. THE LOGIC OF RELIGIOUS AND MYSTICAL EXPERIENCES

The previous section suggests that there is a correlation between the emotive and/or cognitive phenomena of RMEs and what the brain does. But it is hardly surprising to find that when we experience some emotive or cognitive phenomenon that the brain does something. The question is whether or not there is anything more to the phenomenon besides brain behavior. RMEs, though, are sometimes emotive phenomena and sometimes cognitive phenomena. Still, this hardly seems surprising given our experiences of RMEs and both the emotive and cognitive aspects of believing. The important question is whether there is anything more to the phenomena aside from being an emotive or a cognitive brain process.

These questions are difficult. But let us begin by asking what is meant by “anything more to the phenomena.”

For millions and millions of people around the world, it is a fundamental fact that God exists. (We need not get involved in the semantics of God’s characteristics here. Let us assume God to be an Absolute Unitary Being [AUB]¹⁹ with sufficient knowledge and power to have been the creator of all that exists. This definition could be suitably changed to accommodate theistic differences that come from the various polytheistic accounts of the divine as well as the myriad beliefs about the divine that arise from the world’s vast cultures.) For

such people, the fact that an AUB exists is far from trivial, and their beliefs about such an AUB reflect this—from acts of charity, the peace of mind that comes from believing a loved one who has passed will spend an eternity in the afterlife, even to supreme acts of violence, it is clear that people’s religious and mystical experiences are deeply felt and deeply meant. So one way to answer the question of whether or not there is “anything more to the phenomena” would be to say that what is “more to” the phenomena of RMEs is the fact of an AUB’s existence, i.e., there is the fact of the RME and the fact that an AUB actually exists and, presumably, the former follows from the latter.

But can one conclude that an AUB exists because one has had an RME without begging the question? Is an RME enough of a justification to warrant the belief that an AUB exists? Commenting on this point, William James notes:

The inner need of believing that this world of nature is a sign of something more spiritual and eternal than itself is just as strong and authoritative in those who feel it, as the inner need of uniform laws of causation ever can be in a professional scientific head.²⁰

James’s answer to these questions, then, seems to be “yes.” The scientifically minded person will take the scientific method, laws of nature, and the perception of causality seriously enough to make claims about the world based on the consideration of phenomena involving these concepts. For example, assuming that events are preceded by an antecedent cause, a scientist might look into the world and make the correlation between the ebb and flow of the tide with the rising and setting of the moon. Later, advances in physics lead other scientists to claim that gravity is a real force that acts on all things. It is a small step to come to the conclusion that the moon’s gravitational force acts upon Earth’s water and, as it rises and sets, pulls the water along. Thus, the scientifically minded person would have reason to believe that the moon causes the ebb and flow of Earth’s tides, since the experience of the phenomenon and scientific consideration of the phenomenon are authoritative. But the scientist does not simply believe that the moon causes the ebb and flow of the tides; he or she also believes that claim is a fact about the world. So, the analogy James wishes to make is that for the spiritually minded person, RMEs and the feelings and insights that are associated with them are, likewise, the marks of truth about the world and justify the belief in them.

In his *Varieties of Religious Experience*, James identifies four characteristics of an RME: ineffability, noetic quality, transiency, and passivity.²¹ By transiency, James means states that do not last for a long time. Passivity refers to states of inactiveness where the subject is being acted upon, e.g., by a higher power. Important, though, are ineffability and noetic qualities. For an experience to be ineffable means that there are no words or expressions that are strong enough or descriptive enough to convey the sentiment and meaning of that experience. In other words, “. . . no adequate report of its contents can be given in words. It follows from this that its quality must be directly experienced; it cannot be imported or transferred to others.”²² Noetic states, for James, are “. . . states of insight into depths of truth unplumbed by the discursive intellect. They are illuminations, revelations full of significance and importance, all

inarticulate though they remain; and as a rule they carry with them a curious sense of authority of after-time."²³ Noetic states, then, are those states free from the impediment of rational thought and inquiry, deliver insight into truth, are significant and important to the experienter, and are authoritative, i.e., "... the mystic's experience is authoritative in a *pragmatic* sense, due to the unique epistemological as well as personal features of the situation."²⁴ The point is that RMEs are authoritative and, thus, provide adequate justification for the belief in an AUB.

According to Ellen Kappy Suckiel, James distinguishes between two senses of "authoritative," the objective sense and the subjective sense. For an experience to be subjectively authoritative, it would need only to persuade the subject that that experience was true, genuine, and, thus, veridical. To be objectively authoritative, experiences must be fully justifiable "in the sense that they provide adequate grounds for all persons, mystic and non-mystic alike, to believe that those experiences are veridical."²⁵ This distinction, Suckiel continues, "reflects the conventional distinction between a person *thinking* that they have evidence for a given belief and their actually *having* evidence for that belief."²⁶ So, on the one hand, one who has a mystical experience is convinced that a given experience is truthful. On the other hand, a mystical experience could be authoritative if the mystic *actually* has evidence to justify the claim of the truth—that the experience elucidates something true about the world—of the experience.

And how does a mystic justify her claim? The mystic's experience is personal and deeply felt and, yet, is noetic—the mystic knows not just in her head that an experience was true and genuine but knows it as an epistemic claim about what is true. Furthermore, according to Suckiel, the mystic has a right to know that her experience is true and genuine because any evidence that a non-mystic, or even a mystic with a different experience, could give to challenge the truth of her experience would simply be less convincing and authoritative since her experience was unique:

The mystic has the right to be sure of the veridicality of her experience because any evidence on the basis of which a third person might challenge the veridicality of that experience would, from the point of view of the mystic, have less strength, stability, and credibility than the experience it was being used to evaluate.²⁷

Suckiel's argument for James is not simply that a mystical experience is either objective or subjective for the mystic; rather, she finds that James espouses a doctrine of religious and mystical experience that is invulnerable²⁸ to attack or criticism because, although the truth imparted by such experiences cannot be established universally, i.e., true for mystic and nonmystic alike, the mystic has "irrefutable evidence for her claims" because (1) she still knows that that experience is meaningful and imparts knowledge about the world or divine reality, (2) the experience is ineffable, and (3) any evidence counter to her claims would be less convincing because nobody else was there to experience the same thing—the mystic has been there and knows.²⁹

There are, however, many obvious problems with Suckiel's account of

James's thinking on the veridicality of RMEs. However, the criticisms, to be discussed below, are not James's and Suckiel's alone. I see what might be called the "argument from the veridicality of experience" or simply the "veridicality argument" as an important and ubiquitous piece of reasoning in the justification of RMEs. James and Suckiel are two among many who make such claims.³⁰ Thus, criticisms directed toward their arguments should serve to undermine a general line of reasoning that claims that the strength of one's experiences has any bearing on the truth of one's claims based on those experiences.

One point of criticism comes from considering conflicting propositions. Consider the following: Andre has just had an RME. That experience has led to a belief *that the world is such and such*, i.e., a true or false claim about the way the world is. Assume for the sake of the argument that that experience left an impression on Andre that imparted deeper insight and knowledge about reality. Imagine, further, that the experience was such that there were no words that Andre could use to describe the experience since it is on the edge of things "where speech and thought expire"³¹ and so no meaningful speech can be made about the experience that would be strong enough to convince others of the event. And, because of the deeply personal nature of the experience, no other person has a moral or epistemic right to challenge the truth of Andre's experience because *that* evidence would be less convincing. The critic simply was not there and could not know.

Now consider other people who experience similar events. Consider, further, that each person comes to a conclusion that contradicts the others' claims about the way the world is. Who would be correct? It seems that if Suckiel's account is correct, then they would all be correct; that is, they would all have a claim to truth. This, of course, is a relativist claim because there would be no absolute or universal truth of the matter shared by all mystics and religiously minded individuals. The individual mystic or religiously minded person is the sole authority on whether or not an RME is veridical. And, indeed, from the points of view of each individual mystic, each would be making a veridical claim about the world and would have a right to make that claim. If, for example, one RME led one to believe that there was a single AUB of the universe and that that AUB was the AUB of the New Testament, then that claim would be veridical. If, on the other hand, another RME led one to believe that there was a single AUB but that it was not the AUB of the New Testament but rather Vishnu, one of the Hindu trinity, then that claim would also be veridical. We are left, then, with the justifiably true propositions that the AUB of the universe is and is not the AUB of the New Testament and that the AUB of the universe is and is not Vishnu. But this is inconsistent. We would no more allow the claim *that one and one is equal to two and is not equal to two* than we would allow the claim *that a light can and cannot be on at the same time*. Why, then, would we allow a similar claim based on RMEs? The answer, on pain of inconsistency, is that we should not.

There is another rather serious problem with allowing such subjective criteria to decide what is and what is not veridical, and that is that doing so is to beg the question of God's existence. This can be seen in two different ways.

First, RMEs can be and often are used as the justification for the belief that an AUB exists. It is a fact of logic that if it is the case that some AUB exists and, if RMEs are a result of that AUB's influence, then an RME would be a demonstration that an AUB exists (and is active!). The problem is that one can imagine a universe where no AUB exists and still there being many reports of what we would nevertheless call RMEs. There is, then, no reason to suspect that an RME is proof that an AUB exists. And if an AUB did exist, then it would still need to be demonstrated that that AUB was the direct influence of the RME. Otherwise, one assumes that it is not just that AUB would be the direct influence of the RME, but is the direct influence of the RME. Given the causal connection between an AUB and RMEs, claiming that "Phenomenon X is an RME" is tantamount to claiming that "an AUB exists." Thus, to say that an RME is proof of an AUB's existence is simply to claim that "An AUB exists; therefore, an AUB exists." This circular reasoning is no demonstration, and such "proofs" should be abandoned.

Of course, RMEs are not always used to justify the existence of an AUB, and an AUB is not always said to be the source of RMEs. There is another way, then, that referencing an RME is an instance of question begging. RMEs are spoken of as if they are more meaningful than mere brain activity; even if one does not believe in an AUB, an RME is nevertheless understood to be "real" in the sense that a critic of someone else's RME would be making a mistake to say that that experience was not real or genuine; again, "the mystic has been there and knows." But the assumption is that there is something more to the experience than mere brain activity. The experiments that were discussed in the beginning of this paper suggest that, at the very least, an RME involves brain activity. On this point, it is doubtful that there would be much disagreement. But if the suggestion was made that there is nothing more to the experience than mere brain activity, one might expect opposition. And it is precisely this point—that there is more to an RME than mere brain activity—that must be demonstrated. If it could be shown that there is more to an RME than mere brain activity, then one could more easily make the argument that an RME is an artifact of some other phenomenon beyond the functioning of the brain. But it is unlikely that this will ever happen.

The point thus far has been to discuss in some sense the meaningfulness of RMEs such that an RME indicates the presence of an AUB such that if there were no AUB, then there would be no RMEs. I suppose that there are some people who would be happy considering an RME as a mere output of brain activity. Such people may, nevertheless, continue to be inspired and motivated by those experiences. In such cases, those RMEs would not really be religious insofar as religion is conceived of as some set of practices, beliefs, customs, and so on that are affiliated with the actual existence of an AUB. But the point of even referencing RMEs is that they point to something higher, i.e., the actual existence of some AUB. And so, as a final motivation for this line of reasoning, briefly consider two further points: Charles Hartshorne's position that we all feel the presence of the divine and a recent major Supreme Court decision indicating the referent to creationist language.

First, Hartshorne:

No, we feel the divine beauty and majesty, and cannot but respond accordingly. Even the other animals feel it; what they cannot, and we can, do is to think it. Whitehead again: God leads the world by the “majesty” of the divine vision of each creature and its place in the world. God “shares with each actual entity its actual (past) world.” “God is the fellow sufferer who understands.”³²

For Hartshorne, it is really all a matter of fact that our experiences point to something higher—even the animals feel it. Our feelings and recognition of divine beauty and majesty are actual occurrences, actual phenomena. And when we do recognize and feel, when we have our RMEs, it must not come as any surprise that we act in accordance with those experiences, whether it be believing that an AUB exists, loving an AUB, any number of acts of charity, and so on. It all points to something higher.

Regarding the 2005 Supreme Court case of *Kitzmiller v. Dover Area School District* (400 F.Supp.2d 707 [M.D.Pa. 2005]), it was demonstrated that the book that the school district wanted to use had simply switched the term *creationism* with the term *intelligent design* in an attempt to bypass the separation of church and state problems that it would encounter if it kept the term *creationism*—a term that refers to an AUB’s direct power as having created the universe, whereas the term *intelligent design* could reference the supernatural intelligence and power of an AUB as well as it could reference the intelligence and power of extraterrestrial and, thus, completely natural aliens. The question is one of whether or not the language is religious or scientific. However, the point of referring to intelligent design is and always has been to give a way of justifying the belief in an AUB’s existence—a point made clear from the ruling.

The problem with both Hartshorne’s position and that of intelligent design is that they are ultimately, again, question begging. That God or some AUB exists is a definite claim about the world. That God or some AUB has causally influenced the world is another and quite different claim. However, it is precisely these claims that need to be demonstrated. If an AUB exists and created the universe and causes RMEs, then the universe and RMEs would undeniably be the effects of an AUB’s power, intelligence, etc. But to use the universe or RMEs as the proof of an AUB’s existence and causal influence is to assume that those things were caused by an AUB’s power, intelligence, etc. in the first place and in order to demonstrate that they are evidence of an AUB’s existence. This is classic circular reasoning and demonstrates only a logical tautology.

What I hope has been shown in this section is that much evidence points to the fact that talk of RMEs is inherently laden with reference to “something higher” and are used to motivate and justify (or warrant) the belief that that “something higher” is an AUB. I have also tried to show that this line of reasoning is inherently question begging. This criticism is enough to show that such reasoning does not warrant the belief in the existence of an AUB.

I wish to begin spelling out my main argument. In so doing, I hope to show that if we take certain assumptions about what it means to be reasonable seriously *and* forgoing any metaphysical arguments demonstrating that an AUB

exists and that an AUB causally influences the universe, then on epistemological grounds, so long as there is some natural explanation for a religious phenomenon (or, indeed, any other phenomenon), that natural explanation should be preferred since reference to a nonnatural, i.e., supernatural, explanation is no kind of explanation and, thus, unreasonable. Since RMEs do not demonstrate in a non-question-begging way that an AUB exists and causally influences the world, they cannot be used as evidence that warrants the belief in an AUB's existence. Belief in an AUB, then, is unwarranted. I offer my central assumptions for my main argument.

3. ASSUMPTIONS

I will make several assumptions that my argument will implicitly or explicitly make reference to. My arguments do not, I think, rest or fall on the truth of these assumptions alone, and so they are not necessary to demonstrate the validity or soundness of the argument. It is, however, useful to point out what I am taking as fundamentally true in order to see how the argument is motivated. Certainly, some of the assumptions are contestable, such as 4 and 5. Others, it seems, nobody would deny, such as 1 and 3. Others, still, might be a matter of conjecture but not mere speculation.

Here are my assumptions:

1. RMEs are real phenomena, i.e., people sincerely report having them.
2. It is possible that an AUB exists.
3. If an AUB exists and an AUB intervenes in human affairs, then it is also possible that an AUB's interference is responsible for RMEs.
4. If an AUB exists, an AUB is a supernatural being and, therefore, not bound by nature.
5. The supernatural is beyond human understanding and thus beyond rational explanation.
6. Nature is, in principle, amenable to human understanding and explanation.
7. To accept what is beyond human understanding as an explanation is not rational.

Discussion

Regarding Assumption 1, if the phenomena that we commonly refer to as a religious and mystical experience as discussed throughout this paper didn't actually happen, then we have wasted our time. Clearly, people have experiences that are associated with the religious. Whether or not there is a referent to those experiences is another matter altogether. Assumption 2 is simply a modal claim about an AUB's existence. Since my argument is essentially an epistemological one, an AUB's existence or nonexistence would not affect my claim that the belief in an AUB's existence is unwarranted. Unicorns might exist and apples might start to rise tomorrow, but those facts do not suggest that I should believe that unicorns *do* exist and that apples *will* rise tomorrow.

The conditional that is Assumption 3 simply captures the reason that RMEs are used as warrant for the belief in an AUB's existence in the first place. If an AUB does not exist, then an AUB can have no causal efficacy in the world. If an AUB, in fact, does not exist, then as a matter of *modus ponens*, it is a valid claim that an AUB cannot causally affect the universe. But then it would be a moot point as mentioned earlier to talk about RMEs as warrant for an AUB's existence. Thus, the conditional as stated implies the valid inference that an AUB *could possibly* causally affect the universe, which is the point of referencing RMEs in the first place.

Assumption 4. It may well be that if that AUB exists, then an AUB is a part of the natural world. But, then, most of the stories that are told about an AUB from culture to culture would have to be changed. There is nothing inherently wrong with this, but it does point to the fact that certain things are predicated of an AUB, such as being unlimited in power and being. Were AUB a *part of* the natural world, then this would seem to imply that an AUB would, as any being associated with the natural world, be bound by the limits of the natural world such as gravity, friction, and decay. But, of course, part of the normal story about AUB is that not only is this not the case, but it cannot be simply because the natural world is limited. Plus, there is the additional problem of accounting for how an AUB, a natural being, could have created the natural world in the first place. How is it that a natural being can exist before there is a natural world in which to exist? An AUB's being and power, if real, have to be supernatural.

Assumption 5. If an AUB created the natural world and an AUB is supremely knowledgeable, then it is unproblematic to assume that an AUB would also understand the natural world and all of its laws, limitations, and possibilities. But reflecting a little on this situation forces us to realize that this relationship is neither reflexive nor symmetric—especially when it comes to understanding an AUB. One way of realizing this is to acknowledge the extent of what we know about the natural world. We know quite a bit about the world. We know how to get space shuttles into space and how to cure diseases. We can peer into the human brain and see neurons, and we have invented the Internet. But as staggering as our knowledge of the world is, what is more staggering is to contemplate just how little we actually understand about it. Some of the most common experiences of our daily lives have yet to be explained by our best thinking. What is time? What is the nature of causation? Are minds real and, if so, what is a mind and how does it exist? The questions are endless. Fortunately, so is our sense of curiosity. The point is that as creatures of nature, we don't understand some of the very basic phenomena of the natural world.

Now, in comparison, what could we possibly know about the supernatural in any demonstrable sense? There are an abundance of platitudes we can make about the supernatural such as *the supernatural is not bound by the limits of the natural world* and *the supernatural is the spiritual plane of existence*, etc. But, of course, this is what is meant by *supernatural*—*beyond* nature—and is, therefore, trivial. Are there limits to the supernatural world? What are they? If we are creatures of nature bound by our natural sensory perceptions, then what would an

explanation or demonstration of supernatural characteristics look like? Can human beings, for example, even conceive of an infinite being? How does one understand infinity?

Consider ghosts as an example. The usual story about ghosts is that they are “restless spirits” that can pass through walls, float in midair, appear and disappear, and are otherwise not bound by the physical laws of this world—they are supernatural beings. How, then, are ghosts in any way perceivable? To say that one has “seen a ghost” necessarily involves the very natural concept of light refraction off of some object (a ghost) and the reception of photons on the retinotopic nerve, the activation of the striate cortex, and so on. But how can photons refract off of a being that is not subject to the laws of the universe and can pass through objects? What is there for a photon to refract off of?

There are at least two possible answers to this question. One would be to say that they simply do, and it is only a matter of time before we come to some suitable explanation. Perhaps this is so. But until that explanation arrives, there is simply no justification for the claim. It must either be made as an assumption and, therefore, subject to revision in light of proper evidence, or it would be an instance of begging the question—assuming ghosts are real in order to use the phenomena of ghost activity as proof that ghosts exist. Another answer would be to say that ghosts are a part of the natural world. Perhaps this is also the case. But, then, not only would we have to change our stories about the nature of ghosts, we would be forced to consider whether or not other “supernatural” beings, such as AUBs, are themselves natural beings. As we mentioned above, though, there are problems with thinking that an AUB is a natural being.

These considerations, along with our commonsense experience of the natural world, suggest that the natural world is in principle amenable to human understanding. We do understand many aspects of the natural world. This could only be possible if the natural world were able to be understood. Were it not, then how could we understand even a part of it or claim knowledge of it? Perhaps we do not know all there is to know about the natural world, but in principle it is logically possible that we could come to know the mysteries of the natural world. The same cannot be said about the supernatural.

Finally, a few words about Assumptions 6 and 7. We can make an immediate distinction here between being *in principle* not understandable and not understanding. A child may ask her or his mother how the tides come and go. The mother may well respond that the moon is responsible for the tides, and when asked how the moon does it, the mother may well respond that she does not know. Clearly, this is an appropriate answer. It may be frustrating and may not be the answer that a child or anyone else may want, but notice that even in cases where we do not have a proper explanation of the way things are in the natural world, we could in principle. Telling the child that the moon is responsible for the tides is the correct answer precisely because it has been demonstrated—there are those who do understand. Perhaps one might object and say that we are wrong about the moon being responsible for the tides. If this were so, then that claim would have to be demonstrated and another explanation sought. This is exactly what we expect in the world, though. Simply because we

can understand does not mean that we *do* understand. But, as of yet, there is no reason to suspect that we cannot.

Now suppose that we encounter some phenomenon Ψ that lacks an explanation. Person A offers the claim that ϕ is the explanation for Ψ but that it is impossible to understand ϕ . One might wonder in what sense it is that Ψ is an explanation if nobody can understand it. It is not clear how something that is in principle not understandable can be an explanation for anything. If some explanation is actually not able to be understood, then how can someone claim to *know* that that thing is an explanation? Would they not have to be able to explain why it is an explanation? Again, it is one thing to say that something is not understood. It is quite another thing to claim that something is not understandable. Therefore, if part of what it means to be rational is to accept as an explanation something that is in principle understandable, then to accept as an explanation something that is not understandable is to commit oneself to irrationality. We allow mistakes and one can offer an explanation that is incorrect. This can be clarified and we can begin to offer better explanations. This is one manner in which we increase our knowledge. But there is simply no verifying whether or not an explanation that is not understandable is correct or not. Therefore, such explanations are not really explanations and should be abandoned.

I arrive now at my main argument in light of these assumptions.

4. THE ARGUMENT FOR IRRATIONALITY OF BELIEF IN AN AUB'S EXISTENCE FROM THE PARSIMONY OF EXPLANATION

The focus of this paper has been religious and mystical experiences, or RMEs. In particular, I motivated the claim that RMEs are often seen as evidence that some AUB exists. That some AUB exists is a metaphysical claim. But in the context in which it has so far been presented, it is a claim that is based on what I see as essentially epistemological and inductive inferences. Given that RMEs exist and that people are sincere about them, an RME does not prove that some AUB exists such that it is responsible for the RME. As I demonstrated earlier, it is question begging to say that it does. Metaphysical claims may be supported by epistemological or other inferences, but it is a classic mistake to justify a metaphysical claim based on our epistemological assumptions and inferences alone. From conceivability arguments such as Anselm's famous ontological argument to recent arguments in favor of intelligent design, reference to how we know the world to be (or, really, assume it to be) in an attempt to justify some metaphysical claim consistently fails. As well, given the very long history of arguments, proofs, and justifications for an AUB's existence, it seems as if we are at a metaphysical impasse as to whether or not some definitive demonstration of an AUB's existence can even be given with arguments burning out on both ends. What we can do, however, is to have a closer look at the epistemological justifications that warrant an AUB's existence and ask whether or not the *belief* in AUBs, or an AUB's existence, can be justified. It may well be the case that some AUB exists. But just as it is possible that unicorns and rising apples are

real phenomena and, yet, there is no legitimate reason to believe they are real is true, it very well may be the case that even though some AUB actually exists, there may be no legitimate reason or reasons to believe that some AUB actually exists.

I will focus specifically on an argument that exploits our epistemic access to the supernatural. By way of a disjunctive argument and reference to the principle of parsimony—which states that given a choice between two or more explanations of some phenomenon where those explanations explain the phenomenon equally as well, the simpler of the explanations should be preferred—I will attempt to show that reference to the natural behavior of brain activity and our epistemic access to the natural world is a far more parsimonious explanation for RMEs than reference to the supernatural world and AUBs. If this is true, then belief in an AUB's existence should be abandoned.

I present, first, the argument in standard form.

1. Either one accepts the supernatural or one accepts the natural as the explanation for RMEs (Prem).
2. By the principle of parsimony (Occam's razor), the simpler of two explanations should be sought (Prem).
3. The *in principle* explainable is simpler than the *in principle* unexplainable (Prem).
4. If one accepts the supernatural, then one is using the unexplainable to explain the unexplained (A5).
5. But to use the unexplainable as an explanation is not rational (A5, A6).
6. If one accepts the natural, then one is using the *in principle* explainable to explain the unexplained (A7).
7. To use the *in principle* explainable to explain the unexplained is rational (A7, A8).

Therefore,

8. If one aims to be rational, then the supernatural cannot be used to explain RMEs (P1, 4, & A5).

Therefore,

9. If one aims to be rational, then the natural can be used to explain RMEs (P1, 6, 7).

Therefore,

10. It is irrational to use RMEs to justify the belief in the supernatural, i.e., an AUB (P1, 2, 3, C8, C9).

Discussion

As has been stated earlier, it is given that RMEs are real phenomena, i.e., people actually report having them and that, at least, some of those people are sincere in their reports. Further, given that we are curious and interested in expanding our knowledge of the world, it is legitimate and fair to inquire about the nature of the RME and of RMEs in general.

But what explanations are available for our understanding of any given RME? Immediately, we might conclude the disjunction either one accepts the

supernatural or the natural as the explanation. It would then be argued that this disjunction is falsely dichotomous since there would be at least a third option—we just don't, or can't, know. It is, of course, possible that we just do not know and simply do not have an explanation for an RME. Being uncertain of an answer is a perfectly respectable position to take, and in many cases it is the position that we should take. But should we adopt this position here? I do not think this is one of the cases where we should—or, at least not immediately so.

The inquiry into RMEs is prompted by a desire to understand. If we are going to say that we don't know because we have reached some sort of limit, then we need to stipulate whether the limit is due to some inherent feature of the thing being understood or because of some other reason. So, considering that we are creatures of nature, one response to the question of how we are to understand RMEs is to reference the natural world. Another response is to reference something other than the natural world, i.e., the supernatural. If we decide that we don't understand some phenomenon in the natural world, then this does not immediately rule out the possibility of knowing. We could know in principle. However, if we decide that we do not understand some phenomenon outside of the natural world, then, being bound by the constraints of our mind within the natural world, we could immediately rule out the possibility of knowing. The rest of this paper is devoted to exploring this idea.

When considering explanations where two or more theories explain the phenomenon with equal weight, yet one of the theories is less complicated than the others, that theory is to be preferred. This does not mean that the accepted theory need be simple, only that the *simpler* theory be preferred. The principle of parsimony is a way to help be as clear and precise as possible by removing information that is not needed due to redundancy, incompleteness, error, etc. It is a rational tool that helps us keep from introducing unnecessary information into our explanations.

Premise 3 in my argument is a bit tricky. By “in principle explainable” is meant that by ordinary, rational means some phenomena are able to be explained. This does not mean that an explanation will be found but that there is some possibility of finding one. By “in principle unexplainable” is meant the exact opposite: by ordinary, rational means some phenomena are not able to be explained. This means that there is no possibility of explanation by ordinary rational means. What is meant by “ordinary, rational means”? This can only mean means that predictably and reliably lead to knowledge and true statements and that are, in various ways, testable, repeatable, consistent, and agreed upon by a community of knowers. We may not be able to see electrons, but all of our best thinking and methods of inquiry tell us that they are there. Our theories of electrons and electromagnetism let us do things in the world and predict what will happen given certain conditions. Further, although it is possible that there is no such thing as an electron, there is no good reason to believe as such. Stephen Jay Gould defined the term *fact* as follows: “In science, ‘fact’ can only mean ‘confirmed to such a degree that it would be perverse to withhold provisional assent.’”³³ *Fact* certainly does not mean “absolute certainty.” We are humans with limited cognitive and physical capabilities. We are simply not the

kind of knowers who can have such absolute knowledge. In this respect, then, “ordinary, rational means” are the means by which we discover “facts.”

Premise 4 claims that, given some phenomenon, if one references the supernatural as the explanans, then one is using the unexplainable to explain what needs explaining. But is the supernatural really unexplainable? Given Assumptions 2 to 5 above, I think the only reasonable answer is “yes.” Whatever humans are, we are creatures of nature and bound by the limits of the physical universe—its laws, forces, energy, etc. The same old story about supernatural beings such as ghosts, phantasms, spirits, souls, and AUBs, are that they are not bound by the limits of the physical universe. It is commonly said of ghosts that they walk through walls, cannot be caught, are not affected by gravity, and so on. This, of course, violates all of what we know about the natural world and its laws. Now, it very well may be that what we commonly refer to as ghosts and spirits are things such as energy or forces, assuming that they exist in the first place; but, then, all this says is that ghosts and spirits and the like are a part of the physical world and bound by the laws of nature. And so be it. It is just that we would have to change our stories about what such entities are including their special status as supernatural beings—this includes AUBs. This is hardly an acceptable proposition to most religious believers, and it certainly contradicts status quo theology.

Furthermore, what would a supernatural explanation look like? Our explanations of things all refer to the natural world; whether we are referencing energy or forces, covalent bonds, causal interactions, colors and their corresponding light wave frequencies, or the heritability of traits, we are nevertheless referencing the natural world, and our explanations are considered to be natural explanations. Our epistemic access to knowledge, it seems, is limited to the natural world. We simply would have no real means of referencing the supernatural in a non-question-begging manner. If the supernatural does exist, we have no access to it and, so, it is *in principle* unexplainable by ordinary, rational means. This is not to deny that the supernatural exists. What is being denied is that we have any access to it. To use the supernatural as the explanans of an explanandum is to use the unexplainable to explain that which needs an explanation. This is not any kind of explanation as it replaces one mystery with another.

If this line of reasoning is correct, then to use the natural to explain some phenomenon is rational. This does not mean that our natural explanations are always correct. It is simply a claim that the only way to rationally explain some phenomenon is by reference to the natural world—however it turns out to be; hence, Premises 6 and 7. Conclusions 8, 9, and 10 follow. One must be able to explain the supernatural if it is to be used as any kind of explanation; otherwise, it is no kind of explanation. So, the supernatural, i.e., an AUB, without begging the question of an AUB’s existence, cannot be used as an explanans for an RME. As it turns out, there is a large psychoneurological data set that strongly correlates RMEs with brain activity and, hence, admits of the possibility of a natural explanation. Given this disjunct, the latter ought to be preferred. But since RMEs do not admit of a supernatural explanation, then RMEs cannot be

used as a justification for belief in the supernatural without committing one's self to either an instance of question begging, irrationality, or both.

NOTES

1. Michael Persinger, "Religious and Mystical Experiences as Artifacts of Temporal Lobe Function: A General Hypothesis," *Perceptual and Motor Skills*, 57 (1983): 1255–1262.

2. *Ibid.*

3. *Ibid.*

4. Here, one might make the comparison with psychological egoism. Psychological egoism is the claim that human behavior is motivated by the desire to promote one's self-interest. It is a non-normative yet nontrivial description of human behavior. Psychological egoism is often used as a premise in the argument for ethical egoism. So, if psychological egoism is true, and it is likewise rational to act in a way that promotes one's self-interest, then one may conclude that one should act in a way that promotes one's self interest arriving, thus, at the central claim of ethical egoism. However, I wish to be general here and do not wish to imply any notion of normativity; hence, my use of the term the *pleasure principle*. I wish also to avoid the complications of psychoanalysis. Sigmund Freud relied heavily on the pleasure principle in his theory of mental processes. So, for example, in Freud's tripartite structure of the psyche (id, ego, and superego), the id is dominated by the pleasure principle. The id is the nonlogical, primitive part of our psyche that is responsible for our actions as they relate to the satisfaction of hunger, sex, aggression, and so on—the primitive desires of self-preservation. But, of course, this talk brings with it a lot of theoretical baggage the discussion of which is beyond the scope of this paper. I assume that Persinger and the others do not necessarily have the Freudian concept of the pleasure principle in mind but a more general claim that at least some of our actions are guided by the impulse to satisfy our desires.

5. Daniel Dennett, *Darwin's Dangerous Idea: Evolution and the Meanings of Life* (New York: Simon and Schuster, 1995), 489.

6. Alex Newberg et al., *Why God Won't Go Away* (New York: Ballantine Books, 2001), 15.

7. *Ibid.*, 16.

8. *Ibid.*, 38–39.

9. *Ibid.*, 42–43.

10. *Ibid.*

11. *Ibid.*, 4. See also, Douglas Richards, "Neurological Correlates of Transformational Experiences," <http://www.meridianinstitute.com/reports/neurocor.html>.

12. Nina Azari et al., "Neural Correlates of Religious Experience," *European Journal of Neuroscience*, 13 (2001): 1649–1652.

13. Arnaud Partiot et al., "Brain Activation During the Generation of Nonemotional and Emotional Plans," *NeuroReport* 6(10) (1995): 1397–1400.

14. *Ibid.*

15. Bernard Spilka and Daniel N. McIntosh, "Attribution Theory and Religious Experience," *Handbook of Religious Experience* (Birmingham, Alabama: Religious Education Press, 1995). In Azari et al., 2001.

16. Giacomo Rizzolatti, "The Organization of the Cortical Motor System: New Concepts," *Electroencephalography and Clinical Neurophysiology* 106 (1998): 283–96.

17. Azari et al., 2001. See also Spilka and McIntosh, 1995.

18. Azari et al., 2001.

19. Newberg et al., 178.

20. William James, *The Will To Believe* (Mineola: Dover Publications, 1956), 56.

21. William James, *The Varieties of Religious Experience* (New York: Penguin Books, 1985), 380–82.

22. *Ibid.*, 380.

23. *Ibid.*, 380–81.

24. Ellen Kappy Suckiel, "The Authoritativeness of Mystical Experience: An Innovative Proposal from William James," *The International Journal for Philosophy of Religion* 52 (2002): 175–89.

25. *Ibid.*

26. *Ibid.*

27. *Ibid.*

28. *Ibid.* See also; James, *Varieties of Religious Experience*, 424.

29. James, *Varieties of Religious Experience*, 423.

30. A bit more should be said regarding James's defense of REMs here. In *The Meaning of*

Truth, James writes, “. . . the links of experience sequent upon an idea, which mediate between it and a reality, form and for the pragmatist indeed *are*, the *concrete* relations of truth that may obtain between the idea and that reality” (Rockville: Manor, 2008, 97). He continues, “The idea itself, if it exists at all, is also a concrete event” (ibid.). I take James to mean that experience is the sort of thing that mediates between an idea and the reality of that idea—between the concept of a thing and the thing itself. In this case, the experience itself would be the “verification” of that reality and its idea or concept. Or, in other words, to experience an idea is to verify the idea’s reality in the concrete world and, thereby, verify its truthfulness.

The pragmatist must then ask, *what difference would it practically make to anyone if this notion rather than that notion were true* (James, *Pragmatism* [Rockville: Manor, 2008], 27)? If the answer is that there is no difference between the truth of an abstract or conceptual fact, say a belief about a religious fact, and its corresponding concrete fact—the difference between the idea and its actually being true—then that belief is not true; it must be “workingly embodied.” To put it a different way, there must be a causal connection between the concept and its reality. Let us say that a given mystical or religious fact is, in fact, true. The pragmatist must ask, *what concrete difference will its being true make in anyone’s life?* If that truth does not elicit conduct in consequence to that fact, then it is not true. In short, for any given belief or truth to be true there must be a corresponding conductorial response in the concrete world. That causal response is the verification between the abstract and conceptual world and the concrete world.

Furthermore, these truths and ideas must be useful and good for life if they are to be true; thus, “They have, indeed, no meaning and no reality if they have no use” (ibid., 114). This is especially true of RMEs. On this view, the pragmatist now has grounds for asking, “What would be the *worth* of a God if he *were* there . . .?” (ibid., 47). What worth would our theological beliefs and ideas have if they were not useful for life, for living, and for making our way around this world (ibid., Lecture I)? Even though James admits that pragmatism would willingly accept any mystical or religious belief that was out there, he nevertheless insists on it having “practical consequences” (ibid., 46–47).

This short discussion has been simply to point out some of the nuances of James’s position that distinguish it from Suckiel’s. Much more could be said about Suckiel’s treatment of James, but this paper is not the place for that discussion.

31. James, *Will To Believe*, 122.

32. Charles Hartshorne, *Omnipotence and Other Theological Mistakes* (Albany: State University of New York Press, 1984), 14.

33. Stephen Jay Gould, *Discover* 2 (May 1981): 34–37.