

# The Problem of Magic

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## 1. Introduction

In previous work (e.g., Maitzen 2009, 2010a, 2010b, 2013, 2014), I argued that theism undermines moral value because theism dissolves moral obligations that form the core of ordinary morality. Here I describe some destructive implications of theism, and supernaturalism in general, for epistemic and more broadly axiological kinds of value.

Various philosophers and theologians – including Aquinas, Leibniz, Bernard Lonergan, and Hugo Meynell – see evidence for the existence of God in the fact that the universe is *intelligible* to us, i.e., the fact that we can understand to an impressive degree how the universe works. As Lonergan says, “If the real is completely intelligible, God exists. But the real is completely intelligible. Therefore, God exists” (2004: 5). In Meynell’s words, “If there were not something analogous to human intelligence in the constitution of the world, the world would not be intelligible. But the world is intelligible.... The intelligibility of the world...is perfectly to be accounted for if the world is due to the *fiat* of an intelligent will which conceives all possible worlds, and wills the one which we actually inhabit” (1982: 68, 70).

I’ll argue very much to the contrary. First, I’ll try to make clear what “intelligibility” means in this context and, in particular, what it had better *not* mean. Second, I’ll examine and reject some reasons philosophers have given for thinking that the intelligibility of the universe requires or suggests supernatural – and more particularly, theistic – backing. Third, I’ll argue that supernaturalism, including theism, would in fact *threaten* the complete intelligibility of the universe. Fourth, I’ll argue that supernaturalism, including theism, would impose non-epistemic costs as well.

## 2. The Kind of Intelligibility at Issue

When philosophers and theologians invoke the existence of God in order to explain the intelligibility of the universe, what they mean by “intelligibility” of course depends on which philosopher or theologian you ask. But one thing I hope they don’t mean by it is that the universe *obeys the laws of logic* and in that sense is a “logical” or a “rational” place. Yes, the universe obeys the laws of logic: in that sense, the universe is indeed a logical and a rational place.<sup>1</sup> But to explain the operation of the laws of logic by invoking God’s existence is to venture *beyond* the bounds of intelligibility. For no genuinely theistic explanation can assert merely that God’s existence is *sufficient* for the operation of the laws of logic, because *everything* is (trivially) sufficient for the operation of the laws of logic: the operation of any law of logic is necessary in the strongest sense

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<sup>1</sup> Regrettably, people don’t always *reason* as the laws of logic imply they ought to: people sometimes make invalid inferences. But they don’t thereby violate the laws of logic, any more than I violate the laws of arithmetic when I make a calculation error. The laws of logic and of arithmetic govern even if I fail to infer or calculate as they require.

and therefore implied by any proposition at all. The existence of cheese is therefore just as (trivially) sufficient for the operation of the laws of logic as the existence of God is.

Instead, any theistic explanation of the operation of the laws of logic must say at least this: If God didn't exist, then the laws of logic wouldn't hold. But no sense at all can be attached to the consequent of that conditional. What could it mean for the laws of logic *not* to hold? Would it "mean" that the laws of logic never hold and yet sometimes hold? Would it "mean" that the laws of logic sometimes hold, never hold, and neither sometimes *nor* never hold? If it wouldn't have either of those pseudo-meanings, why not? Presumably not because the laws of logic would prevent it! No one can make any sense of what would be implied by the failure of the laws of logic, and therefore no one can make any sense of the supposition that the laws of logic might not hold.<sup>2</sup> In the face of that senselessness, one might retreat to the claim that without God only *some* rather than all of the laws of logic would fail. But *which* laws would fail, and why only those? I can't see any plausible answer to those questions.

Admittedly, intuitionistic logicians do claim to accept all of the laws of classical logic *except* for excluded middle and double-negation elimination. If they mean what they claim, then they allow that for some *proposition* (not merely some *sentence*)  $p$ , it fails to be the case that either  $p$  or not- $p$ . But the example of intuitionistic logicians is instructive. For it would seem that they don't, after all, mean what they claim: they don't wish to be construed as saying that the world might be *neither a particular way nor not that way*, presumably because they recognize the senselessness of saying such a thing. So, instead, they *redefine* assertion and negation as the *constructive provability* of, respectively, a proposition and the proposition's contradictory. There's nothing senseless in asserting that neither a constructive proof that  $p$  nor a constructive proof that not- $p$  exists, but the assertion doesn't come close to rejecting the law of excluded middle or any other law of logic.

In sum, it makes literally no sense to credit God for the fact that logic works. Therefore, anyone hoping to give a theistic explanation for the intelligibility of the universe presumably means something else by "the intelligibility of the universe." So far as I can tell, recent proponents of the argument for God's existence from the intelligibility of the universe do mean something else by it, namely, the fact that the universe is susceptible to empirical, scientific discovery and explanation.<sup>3</sup> At any rate, I'll interpret them that way in what follows.

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<sup>2</sup> One might respond that, because the laws of logic are necessary, their failure is impossible and therefore their failure implies *every* proposition: the failure of the laws of logic implies their total success; their total success *and* their total failure; their total success, their total failure, *and* neither their total success nor their total failure; etc. Because it relies on drawing inferences, I'm not convinced that this response genuinely *assumes the failure* of the laws of logic. But even if it does, I don't see how it counts as *making any sense* of the failure of the laws of logic.

<sup>3</sup> A complication arises in the case of Meynell, who at times seems to treat a thing's existence as logically *equivocal* to its intelligibility: "[W]hat is at issue is the general property of intelligibility which one might say that things have to have to *be* things, that the world has to have in order to *be* a world" (Meynell 1982: 83, as noted in Sherry 1983: 130; italics mine). If simply being a world necessitates being intelligible, then it's hard to see how the existence of God would be needed to explain the world's intelligibility. Henceforth I'll simply ignore this unfortunate feature of Meynell's presentation.

### 3. Knowledge Needs No Supernatural Backing

First, however, I want to critique a different but related theistic argument also premised on our ability to know the world around us. One version of the argument occurs in the *Meditations*, where Descartes argues that we have reason to trust our cognitive equipment – i.e., our senses, memory, and reasoning – if and only if we believe that a benevolent God created us. Among the things we need God to guarantee, Descartes notoriously includes any legitimate certainty we have that the laws of logic hold (1641/2008: 49–51, 92–93). That way, however, lies peril, for reasons we’ve just seen. Because it’s literally unintelligible to suppose that the laws of logic ever fail, it’s likewise unintelligible to claim that we might not be legitimately certain *that* they never fail. For what is it that we’re not legitimately certain never happens? Presumably the answer is “The laws of logic fail.” As I argued, no one can understand that answer any better than he or she can understand gibberish. Therefore, no one can understand the claim that we might not be legitimately certain that the answer isn’t true: what answer?<sup>4</sup>

So it makes no sense to suppose that God might underwrite our trust in logical reasoning, which leaves Descartes to argue that we have reason to trust our other cognitive faculties – our senses and memory – *if and only if* we believe that a benevolent God created us. We can make short work of this argument. Unfortunately for Descartes, the “if” part of his biconditional fails because it depends on a premise that his own contemporaries and many later commentators have criticized, namely, the premise that a benevolent God couldn’t ever deceive us (Descartes 1641/2008: 33). I regard those criticisms as decisive.<sup>5</sup> There’s no good reason for presuming that a benevolent God couldn’t deceive us, and therefore Descartes fails to show that God must have given us reliable senses and memory. Consequently, the belief that a benevolent God created us gives us no more reason to trust our senses and memory than the reasons we have independently of that belief. Indeed, there’s a sense in which it gives us *less* reason, as I’ll argue below. In any case, the existence of God is *at best* irrelevant to the trustworthiness of our senses and memory.

At the outset I mentioned Lonergan’s argument for the existence of God from the complete intelligibility of the universe. His fellow theologian R. M. Burns rejects Lonergan’s argument, but the grounds Burns gives for rejecting it are interestingly similar to the grounds Descartes gives for using God to underwrite the reliability of our cognitive equipment. According to Burns,

The ultimate reason for [Lonergan’s] failure is that any attempt at proof of the human capacity to attain objective knowledge must beg the question by assuming such a capacity.... The general conclusion to be drawn is that despite all efforts to remove it, or to ignore it, an abiding question-mark remains at the basis of all human cognitive endeavour.... It follows that any human being who chooses to affirm his capacity to know is making an act of trust in his nature which goes beyond any possible evidence. [Burns 1987: 146, 149]

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<sup>4</sup> Because the answer is no more intelligible than gibberish, the claim in question is no more intelligible than “We might not be legitimately certain that it isn’t true that @#\$%^&\*,” a claim that should strike anyone as unintelligible. Here it’s crucial to distinguish (a) the semantic claim that “@#\$%^&\*” *expresses a truth* from (b) the first-order claim that @#\$%^&\*. I grant that (a) is intelligible, but (b) isn’t, and it seems clear that Descartes’s position requires (b): Descartes isn’t making a semantic claim in the metalanguage; he’s making a first-order claim in the object language.

<sup>5</sup> For recent criticism, I recommend Wielenberg 2010.

This act of trust, according to Burns, has theistic implications:

If so, then the basic trust at the root of human cognitive activity must be understood as, implicitly at least, the hope of created minds that they can participate in the uncreated light of the divine intellect by grace.... [H]uman reason must be grounded in a trusting dependence upon God.... By contrast, the attempt of the human mind to understand itself as cognitively self-sufficient can lead only to an oscillation between unjustifiable dogmatism and a paralysing skepticism [Burns 1987: 151, 154].

I'll examine this argument at some length. But an obvious objection to it arises immediately. Burns claims the following:

- (B) Any attempt at proof of the human capacity to attain objective knowledge must beg the question by assuming such a capacity.

What's the status of claim B itself? Burns argues *for* B, as if he wants us to accept B and, indeed, as if his aim is to prove that B is true and, given that his argument for B is entirely *a priori*, to prove it *a priori*. Must Burns therefore beg the question in his attempt to prove that B? If he must, then his attempt must fail, because arguments that commit the fallacy of begging the question don't prove anything. Therefore, if Burns doesn't mean to imply that his own argument is a failure, he must allow that at least proposition B *can* be proven to be true. In that case, it's hard to see what else is necessary yet unattainable in order for us to *know* that B and to know that B unconditionally. Indeed, it's for this reason – i.e., the sufficiency of proving for knowing – that a proof of global skepticism, a proof that no one knows any proposition at all, looks to be impossible.

As decisive as this objection to Burns seems to be, let's waive it. The objection refutes any alleged proof that we have no propositional knowledge at all, not even *a priori* knowledge: the objection shows that any such proof undermines itself. But perhaps Burns is merely guilty of overreaching. As I remarked earlier, it's more charitable to construe theistic arguments from intelligibility as focused on our *empirical* beliefs. Construed that way, Burns's pessimism about our cognitive self-sufficiency has been echoed by such nontheistic epistemologists as Laurence Bonjour and Barry Stroud.<sup>6</sup> These epistemologists observe that we routinely *take* ourselves to know various empirical propositions, such as the proposition that we have bodies, that Toronto is north of New York, and that species evolve by natural selection. That is, we routinely *regard* our cognitive equipment as successful in achieving such knowledge. But how do we *know* that we know such propositions – how do we know that our cognitive equipment in fact succeeds in achieving empirical knowledge – if all we can rely on to answer that epistemological question is that very cognitive equipment itself? As Burns says, if nothing *transcending* our cognitive equipment ensures its reliability, then mustn't we beg the question if we *use* that equipment to verify that we've attained empirical knowledge? The worry is that without some transcendent validation of our cognitive

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<sup>6</sup> Stroud is explicitly pessimistic when he writes that “it still seems to me [that] scepticism will always win going away” (Stroud 1994: 307). Bonjour's pessimism is less explicit, because he seems to allow that one can achieve cognitive self-sufficiency if one has *internal, first-person* access to the fact that one's empirical beliefs are reliably produced (see Kornblith 2001: 185–186). Because I see no reason to think that we have such access, I classify both Stroud and Bonjour as pessimists.

equipment, any empirical knowledge that we claim for ourselves will always be “merely conditional” knowledge: it will always be the consequent of a conditional proposition whose antecedent we can never discharge.<sup>7</sup>

But this worry rests on a mistake.<sup>8</sup> To see why, suppose that the “JTB analysis” of propositional knowledge is correct: suppose that propositional knowledge is correctly analyzed as justified, true belief. I choose the JTB analysis merely in order to have a simple example; the point I’ll make doesn’t depend on the details or the correctness of the analysis. According to the JTB analysis, I know that Toronto is north of New York if and only if I have a justified, true belief that Toronto is north of New York. I know that the JTB analysis *is* correct if and only if I have a justified, true belief that the JTB analysis is correct. I know that I possess knowledge if and only if I have a justified, true belief that I possess knowledge. And so on. At no point must the JTB analysis appeal to anything that transcends what human cognitive equipment can grasp on its own.

In what sense does the JTB analysis, or any analysis of knowledge, make all knowledge “merely conditional”? One might suppose that the JTB analysis makes all knowledge merely conditional because (1) only if the JTB analysis is correct in the first place does anyone *know* that it’s correct, and (2) only if the JTB analysis is correct in the first place does anyone know a proposition *p* just by virtue of attaining a justified, true belief that *p*. But notice that (1) and (2), although perfectly true, are perfectly trivial. The truth of (1) stems entirely from the conceptual truth that only what’s correct can be *known* to be correct. Given that the JTB analysis by definition analyzes knowledge *as* justified, true belief, (2) is just the truism that any explanation *implying* the JTB analysis will be a correct explanation only if the JTB analysis is itself correct. If (1) or (2) implied that knowledge is always merely conditional, then every proposition *q* would be merely conditional, on the grounds that (1\*) *q* is known to be true only if *q* is true and that (2\*) if *q* implies *r*, then *q* is true only if *r* is true. But to call every proposition “merely conditional” on those grounds is to misuse language. Therefore, neither (1) nor (2) implies that knowledge is always merely conditional.

Indeed, nothing of interest follows from the trivial truths (1) and (2). In particular, neither (1) nor (2) implies that we can’t *know* that the JTB analysis is correct, know *that* we know it’s correct, know other propositions, and know *that* we know those other propositions. Crucially, neither (1) nor (2) implies that we must always merely *assume* that the JTB analysis is correct or that we must always merely *assume* that we possess knowledge. If one demands that proponents of the JTB analysis show that they have knowledge *without invoking* the JTB analysis itself, then one’s demand is obviously unfair: it’s unfair to ask proponents of the JTB analysis to show that they have knowledge without letting them invoke what they regard as the correct analysis of knowledge.

“But,” one might ask proponents of the JTB analysis, “how do you *know* it’s the correct analysis of knowledge?” To that question the proponents can reply, entirely legitimately, that they have a justified, true belief that it’s the correct analysis. One might then challenge them to show that they

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<sup>7</sup> This way of putting the worry, including the phrase “merely conditional,” is found in Kornblith 2001, who goes on to criticize the worry as unfounded. The specific context of Kornblith’s discussion, and also that of Stroud 1994 and Sosa 1994, is externalist analyses of knowledge and justification, rather than the JTB analysis of knowledge. But that difference doesn’t affect the point I’m making here.

<sup>8</sup> As Ernest Sosa (1994) and Hilary Kornblith (2001) have pointed out.

*fulfill* the conditions required by the analysis: that they really do accept the analysis, that their acceptance of the analysis is justified, and that the analysis itself is correct. But none of these latter challenges would expose any defect in their reply to the question “How do you know that your analysis is correct?”<sup>9</sup>

Nevertheless, the objector might then ask them: “How can you be sure that the JTB analysis you *invoked* is the correct analysis in the first place?” Here, however, the objector’s use of the word “sure” smuggles in the false assumption that knowledge must be *infallible*. For the objector doesn’t mean to ask the empirical, psychological question “How can you achieve full confidence, or subjective certainty, that your analysis correct?” That question fails to capture the objector’s epistemological worry. Nor does the objector mean to ask how proponents of the JTB analysis can *rule out the epistemic possibility* that their analysis is wrong, because that question is just a fancier way of asking them how they *know* that their analysis is right, a question to which we’ve already seen their answer. Instead, the objector means to ask proponents how they can rule out the *logical possibility* that their analysis is wrong. To that question, it suffices to reply that nothing in the concept of knowledge requires the logical impossibility that the knower is mistaken: the concept of knowledge allows that I can know that *p* based on evidence that’s logically consistent with the falsity of *p*.<sup>10</sup> In sum, no general problem of the kind described by Burns, Bonjour, or Stroud afflicts the analysis of human knowledge.<sup>11</sup> Someone wanting to criticize the project of analyzing knowledge must challenge the *correctness* of the particular analysis on offer, whether it’s the JTB analysis or some other, in the usual way by proposing counterexamples. It doesn’t suffice to charge, falsely, that any analysis leaves us with only “conditional knowledge” or that any analysis is known to be correct only if it’s infallibly known to be.

#### 4. Supernaturalism Threatens Human Knowledge

We’ve seen no good reason to think that human knowledge needs backing by anything transcending our cognitive equipment, including anything supernatural. In this section, I’ll argue that supernaturalism, including theism, is worse than unnecessary for human knowledge: it positively threatens human knowledge.<sup>12</sup>

Philosophers have long been aware of the possibility that theism poses a skeptical threat. In the First Meditation, Descartes briefly wonders whether believing in the existence of an all-powerful God might undermine our reasons to trust our cognitive equipment. He then cites God’s

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<sup>9</sup> A similar lesson applies in the case of explanations. When the fire investigator concludes that a short circuit in poorly installed wiring explains why the fire started, she has given a paradigmatic explanation. Her explanation isn’t “merely conditional” because it doesn’t also explain why the wiring was poorly installed.

<sup>10</sup> As Peter Klein emphasizes, empirical knowledge “does not rest upon entailing evidence” (Klein 1981: 14–15, citing Chisholm 1973: 232 to the same effect). Similarly, possible-worlds analyses of knowledge, such as “truth-tracking” and “safety” analyses, impose requirements on the knowing subject’s belief of *p* in *nearby* possible worlds rather than in *all* possible worlds. See Ichikawa and Steup 2014.

<sup>11</sup> Compare Kornblith 2001: 197.

<sup>12</sup> Christine Overall has argued that *miracles*, in the usual sense of violations of natural law, “would be a ‘cognitive evil’ ... because they would seriously compromise the human capacity to understand the universe” (Overall 2006: 356). I’ll argue that supernaturalism in general, and theism in particular, would seriously compromise the human capacity to understand the universe even if miracles never occurred.

reputation for goodness in order to dismiss this worry and move on to consider the Evil Demon hypothesis instead (1641/2008: 15–16). I’ve already said why I think Descartes moves too fast here: God’s goodness wouldn’t preclude God’s engaging in deception. As I’ll now explain, theism (and supernaturalism more generally) poses a threat to human knowledge for reasons having nothing to do with deliberate deception.

As I use the terms, “supernaturalism” denotes the view that at least some supernatural things exist or occur, whereas “naturalism” denotes the view that no supernatural things exist or occur. Admittedly, that way of putting the contrast isn’t very informative! Can we define “naturalism” more informatively than as “the denial of supernaturalism”? I think so. Any informative definition of “naturalism” is likely to be contentious (see Williamson 2011a, 2011b), but according to one promising definition, naturalism asserts “in the simplest terms, that every mental thing is entirely caused by fundamentally nonmental things and is entirely dependent on nonmental things for its existence” (Carrier 2007). While this definition is fine as far as it goes, it rests on a distinction between the *mental* and the *nonmental*, a distinction that’s roughly as contentious as the definition of “naturalism” itself, to say nothing of the definition of “caused by,” another concept it invokes. Therefore, I propose to define “naturalism” in a way that avoids those controversies by invoking a concept that I think we understand at least as well as, and probably better than, the distinction between the mental and the nonmental or the concept of causation: to wit, the concept of a *purpose*. As I construe it, naturalism is the view that *purposes aren’t fundamental*: every being, action, or whatever, that has a purpose (a goal, a *telos*) arises from things that have no purpose.<sup>13</sup> In a phrase, “Purposes don’t go all the way down.”

I wrote the previous paragraph with the purpose of introducing my proposed definition of “naturalism.” According to naturalism as I define it, that purpose of mine must have arisen, somewhere down the line, from things that have no purpose at all – neither a purpose supplied *by* any of those things themselves nor a purpose given *to* them by something else. Maybe those purposeless things are the neurons in my brain, the molecules that compose those neurons, or the atoms that compose those molecules. My neurons *function* when they generate my purposes, but my neurons can function without functioning *for* some purpose. Going downward (so to speak) in the chain of ontological dependence, purposes eventually cease to exist and never return.

This definition makes naturalism compatible with contemporary science and, I believe, with common sense as well; I don’t think that common sense takes a stand on whether purposes go all the way down. It allows the naturalist to accept the reality of phenomenal, first-person experiences; to accept that purposive explanations, although never fundamental, are often useful and correct; to regard mathematics as discovering objective truths about an independent, even Platonic, reality; and to regard the laws of logic as holding necessarily in the strongest sense (which they do) and as more fundamental than the truths discovered by empirical science (which they are). Yet the definition has enough content to make naturalism *incompatible* with traditional theism, substance dualism, animism, other versions of supernaturalism, and perhaps also panpsychism.

Most importantly in the present context, only positions that are compatible with naturalism as I’ve defined it *allow human discovery to be limitless in depth*. For according to supernaturalism

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<sup>13</sup> Alternatively, we can say that on naturalism anything’s having a purpose is *realized in* or *constituted by* one or more things lacking any purpose, in the sense of “realized” and “constituted” used in discussions of mental causation.

– the contradictory of naturalism – purposes *do* go all the way down, at least sometimes if not always. According to supernaturalism, at least some things have a purposive explanation that’s fundamental. According to naturalism, by contrast, no purposive explanation is fundamental: any purpose has a purposeless, purely mechanistic explanation. Again, there’s a purposive explanation for my writing what I wrote three paragraphs ago: I wrote it in order to propose a definition of “naturalism.” But, according to naturalism, the explanation of my action doesn’t bottom-out with any purpose, because purposes themselves always arise from things without purpose. I hasten to add that this view doesn’t regard purposes as epiphenomenal: purposes make a difference in the world. My having a particular purpose played an essential role in my writing what I did: had I lacked that purpose, I wouldn’t have written what I wrote. But a purpose can play that indispensable role even while arising from something purposeless.

According to supernaturalism, by contrast, the world contains *genuine magic*, not just the pseudo-magic practiced by illusionists like David Kotkin, *aka* “David Copperfield,” whose tricks all rely on mechanisms and therefore can be explained in mechanistic terms. We know that there’s some *manner* in which Copperfield makes the Statue of Liberty disappear from view, some mechanism by which he accomplishes the illusion, and furthermore a mechanism whose operation we could, at least in principle, understand as thoroughly as we might like by asking ever-deeper questions about it.

Things are very much otherwise with the magic posited by supernaturalism. The priest who performs an exorcism isn’t supposed to be exploiting a mechanism whose operation we could scrutinize with arbitrary thoroughness. On the contrary, he calls on *purposive agents*: beseeching God to give him the strength required to perform the rite, and commanding the evil spirit to depart the victim. To see why it can’t be a case of mechanism, consider the following questions. In order for an exorcism to work, exactly how loud, in decibels, must the priest’s words be when they reach the ears of the possessed person? Indeed, why must the priest make any noise: what function do vocalizations serve? Could he use only sign language, or no language at all? Would a speech defect diminish the effectiveness of his incantation? What if he leaves out a word of the prescribed rite or switches the order of two words without violating grammar or syntax? At least in Latin, word-order usually doesn’t affect sentence-meaning, but would it affect the power of a spell? If exorcism worked by way of some mechanism, there would be a *way* the mechanism worked, and all of these questions would be worth taking seriously. But I presume that nobody would take all, or perhaps any, of them seriously. In sum, if something literally magical occurs, then there’s *no way* it occurs – no manner in which it occurs, no answer to how it occurs, no mechanism by means of which it occurs – that we could scrutinize ever more deeply.

What holds for supernaturalism holds all the more so for theism in particular, which says that something magical stands at the foundation of our universe: a nonphysical God who created the universe from nothing, without exploiting any laws of nature, and without relying on any mechanism. On the contrary, God had free rein over which natural laws, if any, to create in the first place. Adolf Grünbaum puts it this way:

The Book of Genesis tells us about the divine word-magic of creating photons by *saying* “Let there be light.” But we aren’t even told whether God said it in Hebrew or Aramaic. I, for one, draw a complete *explanatory* blank when I am told that God created photons. This purported explanation contrasts sharply with, say, the story



of the formation of two photons by conversion of the rest-mass of a colliding electron-positron pair. Thus, so far as divine causation goes, we are being told...that an intrinsically elusive, mysterious agency X inscrutably produces the effect. [Grünbaum 1991: 235]

If the universe is at bottom magical, then our inescapably nonmagical ways of figuring it out are doomed to fail eventually. According to naturalism, by contrast, nothing magical stands at the foundation of our universe, so there's no reason in principle why science can't make our knowledge of the origin and workings of the universe ever deeper.<sup>14</sup>

It's a commonplace that whenever we can explain a phenomenon entirely in mechanistic terms, we don't invoke the intentions of agents to explain it. Now that we can explain thunder entirely in mechanistic terms, we're not at all tempted to explain it by invoking the intentions of Thor. Indeed, the progress of natural science has largely consisted in *removing* intentional agents from our explanations and predictions of phenomena. But theism regards God's intentions as *fundamental* to the universe, rather than as the product of anything nonintentional. Augustine makes the point this way:

[T]hey are seeking to know the causes of God's will, when God's will is itself the cause of everything there is. After all, if God's will has a cause, then there is something that is there before God's will and takes precedence over it, which it is impious to believe. So then, anyone who says, "Why did God make heaven and earth?" is to be given this answer: "Because he wished to." ... Anyone though who goes on to say, "Why did he wish to make heaven and earth?" is looking for something greater than God's will is; but nothing greater can be found. [Augustine 2002: 42]<sup>15</sup>

On theism, therefore, we can't hope to understand the universe as deeply as we might want by means of our most reliable (i.e., natural-scientific) methods. Unlike naturalism, theism puts a barrier in the path of our ever-deeper knowledge of the universe. At best, we could hope to approach that barrier asymptotically, with scientific discovery becoming ever-slower, which would represent a surprising and discouraging reversal of the pattern shown by science since the Enlightenment.

At this point, one might object that it's not only supernaturalism that puts a barrier in the path of our ever-deeper knowledge of the universe: so does quantum mechanics. At least in the form of its most popular interpretation, quantum mechanics says that (3) events such as individual particle-decays are fundamentally, ontologically indeterministic, there being no sufficient reason why they occur rather than not; and that (4) some pairs of quantum values can't, even in principle, be measured with arbitrary precision (Faye 2014; Hilgevoord and Uffink 2016). If (3), then we can't hope to know why, for example, a particular atom of uranium decayed during a given interval of time rather than not; if (4), then we can't hope to know, for example, both the position and the

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<sup>14</sup> Alvin Plantinga has argued that naturalism itself, when combined with evolutionary biology, provides grounds for doubting the reliability of our cognitive equipment. I ignore his argument here because it has been thoroughly and trenchantly criticized by the contributors to Beilby 2002.

<sup>15</sup> I thank Mike Ashfield for the reference. See also O'Connor 2013 for an argument that no contrastive explanation of God's choice to create a world (i.e., rather than not create one) is even possible.

momentum of an electron at a given time as precisely as we might wish. Where quantum phenomena such as these are concerned, maybe we've already *hit* the barrier to our ever-deeper understanding of the world. Indeed, maybe this barrier constitutes evidence that supernatural magic *does* underlie the world that science can observe and understand!

One reply to this objection is that (3) and (4) belong to a *particular* interpretation of the quantum mechanical formalism, the Copenhagen interpretation developed in the early years of quantum theory. Some surveys suggest that the Copenhagen interpretation may still command the allegiance of a plurality of the experts – although, significantly, not a majority of them (Schlosshauer, *et al.* 2013). Nevertheless, several other interpretations of quantum mechanics exist that fit with the formalism and with all the experimental data, including interpretations that emphatically reject ontological indeterminism and uncertainty (Wolchover 2014). In short, neither the formalism nor the data imply any barrier to further discovery about the mechanisms underlying quantum phenomena. Nor, therefore, do they provide any evidence that we've already hit a barrier separating mechanism from magic.

Finally, one might object that supernaturalism, including theism, allows for more robust inquiry than my criticisms of it suggest. For supernaturalism still allows us to ask *indefinitely many* scientific questions, even though it limits the *depth* of the scientific questions that have answers, and, unlike naturalism, theism in particular allows us to ask indefinitely many nonscientific questions about God. But how many and how deep can those latter questions really be? Monotheistic theology has been a going concern since 1200 CE, at the latest; Augustine, Boethius, Avicenna, Anselm, Averroes, and Maimonides had all made their contributions by then. Empirical science has been a going concern since perhaps 1543, the date of Copernicus's *De Revolutionibus*. Even theologians must admit that few things in human history are as glaringly unequal as (c) the growth of our knowledge about God since 1200 and (d) the growth of our knowledge about nature since 1543. If the prospects for further discoveries about God were as robust as the objector suggests, then we should expect (c) and (d) to be less glaringly unequal. Even if, for some reason, further growth in our knowledge of God can't occur in this world but only in the next, that waiting period must nevertheless count as an epistemic cost of theism as compared to naturalism.

## 5. Some Axiological Costs of Magic

I'll conclude by describing some more broadly axiological threats posed by supernaturalism, including theism. These threats would arise if genuine magic were a feature of our world, and particularly if it were, as theism says, a *fundamental* feature of our world.

For reasons similar to those I've already sketched, genuine magic isn't a *progressive* research program, to use Lakatos's term. Consider again the case of exorcism, and compare two hypotheses: (5) the naturalistic hypothesis that behavior attributed to demonic possession can be explained in purely mechanistic terms (invoking, say, neurological disorders such as epilepsy or psychosis); and (6) the supernaturalistic hypothesis that the behavior results from being possessed by demons. If (5) is true, then we can realistically expect to cure or altogether prevent the unwanted behavior if we focus sufficiently on the neurological mechanisms that underlie it. But if instead (6) is true, then then we can't realistically expect to get any better at treatment than we've been for centuries; much less can we expect to prevent the behavior entirely.

As the Harry Potter stories seem to recognize, a genuinely magical world, as enchanting as it may sometimes seem, is perversely unpredictable, frustrating, and scary. To use a mundane example: In a naturalistic, law-governed, fundamentally mechanistic world, if I want to read a book on my shelf, I pick it up and start reading. If I find that I can't accomplish that, then I consult a physician about my immobility, or my poor reading vision, or my inability to comprehend text. But in a supernaturalistic world, I may need the book's cooperation to begin with in order to read it: maybe the book has its own personality and needs to be appeased before it will sit still for me. Or maybe the book has been bewitched by a spell that someone else cast on it. Even if I can get the book to cooperate by casting a counter-spell, there will be no mechanism by means of which my counter-spell works. There will be no mechanism by means of which *any* spell or counter-spell works, not merely a mechanism we don't yet understand.

Consider how much better our lives go because the inanimate things in our world *aren't* animated by spirits. Otherwise there would be no limit to how unpredictable, frustrating, and scary life could get. Suppose we had to appease the capricious spirit of every part of every meal before we could eat it, with a different spirit animating every type of food or, yet more chaotically, every morsel of every type of food. Our world isn't as chaotic as that, of course, even if theism is true. But if theism is true, then our world rests on a foundation that's just as inscrutable as magic.

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