TOPIC 10

A Priori: Theism

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This chapter discusses whether the existence of a priori knowledge bears positively on theism, and argues tentatively that it does.

WHAT IS THE A PRIORI? WHAT IS THEISM?

You know as well as I do—and without needing to trust anyone else on the matter—*that 2 + 2 = 4*, and *that it's wrong to bludgeon innocent people to death for no reason*, and *that nothing can be both entirely red and entirely green*. But how do you know these things? It's not as though you can see or hear or smell or feel or taste your way to knowing them. It's true that very often when we put two things together with two other things we end up with four things. But not always: things go missing. Haven't you ever lost a sock? And it's true that we can see the gory physical consequences of a bludgeoning, but it doesn't seem like you can likewise see the *wrongness* of the bludgeoning. And it's true that we've never encountered anything that is entirely red and entirely green; and maybe we can know on that basis that we never will. But how can you know on that basis that you *couldn't* encounter such a thing—in other words, that it's not possible to encounter such a thing? It's not as though you can peer into all the nonactual scenarios and check.

Faced with cases such as these—cases of mathematical, moral, and (so-called) modal knowledge (knowledge of what is necessary and what is merely possible)—philosophers have historically reacted in one of three ways. Some philosophers argue that, contrary to initial appearances, you don't really know what I took you to know: either because these claims are not of the right sort to *be* known (maybe they are not claims at all but expressions of emotion or the laying down of rules) or because you (like the rest of us) are not properly equipped to know them (see, e.g., Beebe 2011). Other philosophers maintain that you do know these claims but argue that, contrary to appearances, you can come to know them (ultimately) on the basis of your seeing, hearing, smelling, feeling, and tasting things (see, e.g., Mill 1884; Quine 1951; Devitt 2005). However, given the difficulties facing both of these views, some philosophers accept these cases at face value and conclude that you have knowledge that *doesn't* depend on sensory experience (see, e.g., BonJour 1998; Bealer 1996, 1998). Knowledge of that sort is called *a priori* knowledge.

Going forward, I will simply assume that at least some humans have at least some a priori knowledge. Indeed, I will assume more specifically that at least some humans have at least some a priori knowledge *of a certain kind of truth*. Say that a sentence is analytic if and only if it is synonymous with some logical truth, and say that it is synthetic otherwise. I will assume that at least some humans have at least some a priori knowledge of some synthetic truth. Let us abbreviate that claim by saying "there is a priori knowledge." There are arguments for this assumption—including an argument based on the premise that neither of the other two reactions to the cases I've mentioned is tenable, in conjunction with the plausible (although admittedly controversial) premise that those truths are synthetic—and to my mind some of the arguments are compelling. But I can hardly do

KEY CONCEPTS

A Priori Knowledge
Abstract Objects
Bayes's Theorem
Conditional Likelihood
Divine Conceptualism
Evolutionary Argument against Naturalism
Posterior Probability
Prior Probability

justice to those arguments in the space I have here. (For much more discussion, see BonJour 1998; Bealer 1996, 1998.) My focus will instead be on the question: Granted that there is a priori knowledge, what follows from that fact, if anything, for the theism/atheism debate?

Before addressing that question, let me say a little more about what I mean by "a priori knowledge" and "theism."

Providing a problem-free and fully illuminating definition of a priori knowledge is an extremely difficult task (see Casullo 2009 for a valiant attempt). Even characterizing a priori knowledge any more precisely than I have already done is nontrivial. But several clarifications are nevertheless in order. First, the sense in which a priori knowledge is supposed to be *independent* of experience is rather circumscribed. It is not meant to rule out a role for experience in coming to understand the relevant proposition; it is not meant to rule out the possibility of a future experience undercutting or rebutting or otherwise defeating whatever (nonexperiential) reason one has for believing the proposition; and it is not meant to rule out the need for a subject's environment to "cooperate" in order for the subject to have a priori knowledge (see Hawthorne 2007). Second, I said that a priori knowledge doesn't depend on "sensory experience," but in truth it's supposed to be independent of experience more broadly. What this broad notion of *experience* includes is far from clear: it's usually taken to include at least sensory experience, kinesthetic experience, memorial experience, introspective experience, and testimonial experience. Third, the characterization is silent as to whether a priori knowledge still depends on *something*, and if so, on what. This is deliberate. Some have argued that a priori knowledge (at least when it's not inferred from other a priori knowledge) is based on a so-called rational intuition, by which is meant either an "intellectual seeming" of the truth of the proposition (Bealer 1998), or, more strongly, an "intellectual seeing" that the proposition is true, and maybe even why it's true (BonJour 1998). But as far as I'm concerned that's a substantive claim about a priori knowledge, not a constituent of the very concept itself. Fourth, I have given an initial characterization of a priori *knowledge*. Others would make a priori *justification* the target of their analysis and investigation. Since justification is widely thought to be a constituent of knowledge or at least a necessary condition for knowledge, the assumption that there is a priori knowledge is stronger than the assumption that there is a priori justification. Thus it should be acknowledged that even if the existence of a priori knowledge supports theism, the existence of a priori justification might not. Fifth, and finally, we can speak not only of a priori knowledge (and justification), but of a proposition itself being a priori. A proposition is a priori when it is possible for some (human) subject to know the proposition a priori. (There is another, weaker sense of a priori proposition: a proposition is a priori in the weaker sense when *either* it *or* its negation is a priori in my stronger sense. In that weaker sense a false elementary arithmetical proposition is presumably a priori, if anything is a priori at all. But as a priori knowledge is a technical term, I feel comfortable using it in the sense most convenient for my purposes.) As we shall see, certain arguments for the bearing of a priori knowledge on theism are best understood as arguments for the bearing of a priori propositions on theism.

As to theism: It's important not to pack too much into our characterization of theism. That would make it unduly hard to argue for it deductively and unduly easy to confirm it probabilistically. By the same token it's important not to pack too little into our characterization of theism. That would make it unduly easy to argue for it deductively and unduly hard to confirm it probabilistically. (Probabilistic confirmation is discussed further in the section "Probabilistic Bearing.") More simply even, it's important not to pack too much or too little into *any* thesis; one should pack in no more and no less than what the thesis says.

My best attempt to capture what is standardly meant by "theism" uses the following view: there is exactly one all-powerful, all-knowing, and wholly good being—a Supreme Being, for short—and

that Supreme Being (at least ultimately) brought into existence *all this*. When I say "all this," I am pointing to, well, everything I can point to; or, more exactly, everything with which I could interact; or, more exactly still, everything *other than the Supreme Being* that has any causal powers at all: from my computer and my children to the sun, the moon, and distant galaxies. Note well that theism, as I've characterized it at least, says nothing of any *special* concern that the Supreme Being has for humanity. (Perhaps it follows from being wholly good that the Supreme Being is concerned with humanity, but not *especially* concerned.) And theism, again as I've characterized it, says nothing of who or what produced things that lack any causal powers, if such there be.

EPISTEMOLOGICAL BEARING

One way in which the existence of a priori knowledge—or, more exactly, a priori propositions—might bear on the theism/atheism debate is for it to bear on our *knowledge* of theism, whether or not it bears on the truth of theism. Suppose theism is in fact true. Suppose, in fact, that there is a valid argument for theism, such that (a) if there are a priori propositions, then all of the argument's premises can be known, and (b) if all of the argument's premises can be known, then there are a priori propositions. For example, at least one version of the so-called ontological argument for theism has the following premises: (1) it is possible for there to be a being that is perfect in every way; (2) necessarily, any being that is perfect in every way is a Supreme Being, and necessarily so; (3) if it is *possible* for there to be a being that is necessarily a Supreme Being, then there *is* a being that is necessarily a Supreme Being. It's pretty clear that each of the premises is such that, if it can be known at all, then it's possible for someone to know it a priori. (Even if it can be known on the basis of testimony, it's plausible to think that this would require that at least *someone* know it *not* on the basis of testimony, but a priori [but see Lackey 2008].) And, arguably, each of these premises "commends itself to reason" (at least upon sustained reflection), so that if there *are* a priori propositions—if there are things we can know independently of experience—then we can know the premises. Taken together, that would imply that the ontological argument is such that all of its premises can be known if and only if there are a priori propositions. And if this is not true of the ontological argument, it might well be true of at least *some* argument for theism. If it is, then the existence of a priori propositions bears on the epistemic status of theistic belief in at least the following way: it affords us an otherwise unavailable route to knowledge of theism. That's not yet to say, however, that there'd be no *other* route to knowledge of theism, or even no other "argumentative route" to knowledge of theism.

But the existence of a priori propositions might bear on the epistemic status of theistic belief in an even stronger way. Suppose theism is in fact true. Suppose, in fact, that there is a valid argument for theism, such that (a) if there are a priori propositions then all of the argument's premises can be known, and (b) if all of the argument's premises can be known, then there are a priori propositions. And suppose finally that *every* valid argument for theism is such that if all of its premises can be known, then there are a priori propositions. This is not an implausible cluster of suppositions. It goes beyond our previous suppositions only insofar as it supposes that either there is no valid argument for theism all of whose premises can be known, or there are a priori propositions. And that is quite plausibly true. For an even logically stronger claim is plausibly true, namely, that every valid argument for theism has at least one premise such that if it can be known at all, either it is *itself* a priori or any (human) knowledge of it would ultimately be based on some other a priori knowledge. Every even slightly compelling argument for theism of which I am aware has at least one premise with that feature.

A promising version of the cosmological argument—perhaps the *most* promising version—has as a premise the *principle of sufficient reason* (the claim that *every* truth has a sufficient explanation). If this can be known at all, it can be known a priori; for as David Hume taught us, it is extremely problematic to rely on analogy or induction when our conclusion is partly about something that is so vastly different, or at a vastly different scale, from the things about which we have ordinary evidence. A promising version of the teleological argument—perhaps the most promising version—has as premises a number of claims about the prior probabilities of various hypotheses. But if these prior

probabilities can be known at all, then they can be known a priori; for these are supposed to be *prior* to any empirical knowledge we might have about the world. (Prior probability is discussed further in the next section.) And Peter van Inwagen (2004) has argued that it is no accident that the arguments for theism of which we are aware have this feature: theism, *by its very nature*, is just not the sort of thing for which one could successfully argue using premises all of which can be known on the basis of experience alone. (The main point for van Inwagen is to argue that there is no good wholly scientific argument for atheism; but he acknowledges that the same holds, *mutatis mutandis*, for theism. And, I take it, if there is no wholly scientific argument for theism, then a fortiori there is no good argument for theism all of whose premises can be known on the basis of experience alone: the set of scientific premises includes the set of observation reports—and truths about what we experience—as a proper subset.) Clearly enough, if every valid argument for theism has at least one premise such that if it can be known at all, either it is *itself* a priori or any (human) knowledge of it would ultimately be based on some other a priori knowledge, then either there is no valid argument for theism all of whose premises can be known, or there are a priori propositions.

So the final supposition in the cluster is plausible. If it, along with the previous suppositions, is *true*, then the existence of a priori propositions bears on the epistemic status of theistic belief in a very strong way: it affords us an argumentative route to knowledge of theism, where *no argumentative route* to knowledge of theism would otherwise be available. That's still not to say that there would be no *other* route to knowledge of theism if there were no a priori propositions. Perhaps we could have knowledge of theism without any argument at all, and without such knowledge being a priori. Some philosophers, such as William Alston (1991), have suggested that we can *perceive* God. Others, such as Alvin Plantinga (2000), have suggested that as long as certain constraints are satisfied—having to do with the proper functioning of our cognitive systems and the cooperation of the environment in which we find ourselves—we might come to know that theism is true by, for example, looking up at the starry heavens above and on the basis of that experience simply and immediately forming the belief that theism is true. If either of these views is true, then even if everything we've said until now is right, knowledge of theism doesn't require that there be a priori propositions; but it's still noteworthy that *argument-based* knowledge of theism quite plausibly hinges on there being a priori propositions.

Now, an astute reader might point out that everything I've said about the bearing of a priori propositions on our knowledge of theism can be said, *mutatis mutandis*, about the bearing of a priori propositions on our knowledge of atheism. The existence of a priori propositions admittedly bears positively on the epistemic status of theism (if theism is true) and bears positively on the epistemic status of atheism (if atheism is true). There is no tension between these points since neither of them says that the existence of a priori propositions bears positively on the *truth* of theism or the *truth* of atheism. It is in this regard that theists and atheists can *agree* as to the significance of there being a priori propositions. Without them neither side could have any knowledge-producing argument in favor of her view. Just *how* significant that is depends on what else we wouldn't know if there were no a priori propositions. Some philosophers, such as Laurence BonJour (1998), have argued that we would know almost nothing at all if we couldn't know anything a priori: nothing beyond our past and present experiences (based on memory and introspection, respectively) and our past and present immediate environment (based on memory and sense perception, respectively). According to such views, it should come as no surprise that knowledge about a question as recondite and difficult as whether theism is true is hostage to the fate of the a priori. But such an austere view might itself give rise to a more direct relationship between the a priori and the question of whether theism is true. It is to that more direct relationship that I now turn.

PROBABILISTIC BEARING

The existence of a priori knowledge might bear on the theism/atheism debate in a more direct and less egalitarian way than I discussed in the previous section. In particular, it might bear on the *truth* of theism (and thus on that of atheism). But this sort of bearing still comes in two varieties. I start with the weaker variety.

It is hard, perhaps, to see how the existence of a priori knowledge could absolutely require, or entail, the truth of theism (and presumably even harder to see how its existence could absolutely require, or entail, the truth of atheism). It is easier, I think, to see how the existence of a priori knowledge could make theism *more likely*.

Here's a natural thought that would suggest this conclusion. If there is a Supreme Being who brought "all this" into existence, then in particular there is a Supreme Being who (at least ultimately) brought *human beings* into existence. But any Supreme Being is wholly good—and so is likely disposed to ensure that the things that this Supreme Being brought into existence have a priori knowledge, alongside whatever other knowledge they have. And any Supreme Being is both all-knowing and all-powerful, and so *knows* what sorts of cognitive faculties we would need in order to have a priori knowledge and is *capable* of endowing us with such faculties. So it is very likely, given theism, that there would be a priori knowledge.

But if theism is *false*, then either there is no Supreme Being, or there is, but the Supreme Being didn't bring "all this" into existence. If one or the other of these alternatives obtains, then it's very unlikely that we would have cognitive faculties that permit us to know anything that we can't learn from experience. So it is very unlikely, given atheism, that there would be a priori knowledge.

The upshot is that it is much more likely given theism than given atheism that there would be a priori knowledge. But if that's so, then the existence of a priori knowledge is significant probabilistic evidence for theism, in the sense that it significantly raises the probability of theism above its antecedent, or prior, probability. (That is, its probability before taking into account the evidence provided by the fact that there is a priori knowledge.)

To help you understand this argument in greater detail—both its formal structure and its substantive assumptions—I now introduce a bit of probabilistic machinery.

Let us use L (α) to represent the likelihood function. This function assigns a number between 0 and 1 to a proposition (α is to be replaced by propositional variables, like P, Q, and R), in accordance with the degree of belief (the so-called credence) that it is rational to have in the proposition: it assigns 0 to propositions for which it is rational to be certain that they are false, 1 to propositions for which it is rational to be certain that they are true, and so on. And let us define the *likelihood of* α *conditional upon* β, L (α | β), as follows:

$$\textbf{Definition of conditional likelihood: } L(\alpha \mid \beta) = \frac{L(\alpha\beta)}{L(\beta)}$$

As the Reverend Thomas Bayes pointed out, it follows from this definition (together with the assumption that L (α & β) = L (β & α)) that:

$$\textbf{Bayes's theorem: } L(\alpha \mid \beta) * L(\beta) = L(\beta \mid \alpha) * L(\alpha)$$

From which it of course follows that:

$$\textbf{Corollary of Bayes's theorem: } L(\alpha \mid \beta) = L(\beta|\alpha) * \frac{L(\alpha)}{L(\beta)}$$

Where H is some hypothesis and E is some piece of evidence, then, we have

$$\textbf{Posterior probability: } L(H \mid E) = L(E|H) * \frac{L(H)}{L(E)}$$

L (H | E) is known as the *posterior probability* of hypothesis H (posterior to the bearing of evidence E); L (H) and L (E) are known as the *prior probabilities* of hypothesis H and evidence E, respectively; and L (E | H) is known as the *likelihood* of evidence E given hypothesis H.

As should be evident, the posterior probability of hypothesis H is greater than the prior probability of H if and only if the likelihood of evidence E given H is greater than the prior probability of E. Perhaps less evident is that this is so if and only if the likelihood of E given H is greater than the likelihood of E given the negation of H. That is, we have this schema:

$$\textbf{Confirmation: } L(H \mid E) > L(H) \text{ iff } L(E \mid H) > L(E) \text{ iff } L(E \mid H) > L(E \mid \neg H)$$

In the event that this condition obtains, we say that evidence E *probabilistically confirms* H.

This provides a rigorous framework in which to state and evaluate the argument. Let T be theism. And let APK be the claim *that there is a priori knowledge* (where, recall, by that is meant just that at least some humans have at least some a priori knowledge). Then the argument I sketched has as its lone substantive premise that:

Likelihood of a priori: L (APK | T) > L (APK | ¬T)

And from that, together with the relevant instance of **confirmation**, it follows that:

A priori confirms theism: L (T | APK) > L (T)

What shall we say about this formalized argument, and in particular about its lone substantive premise? It seems to me that, as it stands, it's not very persuasive. For as it stands, nothing has been said to make it plausible that a Supreme Being would have *any* interest in *anything* having specifically a priori knowledge. That is, nothing has been said to make it plausible that a Supreme Being would have any interest in anything having knowledge that is independent of experience. Why would a Supreme Being want *that*? Perhaps some story can be told about the goodness of being at least somewhat independent and self-reliant, including in epistemic ways. And perhaps that story makes it plausible that any wholly good being would want some of the beings for whose existence the Supreme Being is responsible to have knowledge that is a priori (as it would then be independent of experience). I am dubious of such claims, and in particular the second, since knowledge that is independent of experience in the sense relevant to whether it is a priori is still very much dependent on experience, and the contingent features of one's environment, in senses irrelevant to whether it is a priori (as discussed at the start of this chapter).

But, in any case, I think that this reply misconstrues the animating idea behind the argument. It's not that a Supreme Being is supposed to want creatures to have a priori knowledge *per se*. It's that the Supreme Being is supposed to want creatures to have certain kinds of knowledge—whether mathematical, moral, modal, or otherwise—and it so happens that we simply cannot have such knowledge unless we have a priori knowledge. A Supreme Being, *working within the constraints* there are, is thus disposed to ensure that the things that this Supreme Being brought into existence have a priori knowledge.

To put the argument properly, we have to add one more element to the formal apparatus: ordinary claims of likelihood and confirmation, including the ones that play a role in my argument, need to be relativized to some specified background knowledge. John's fingerprints being on the gun raises the probability, and hence probabilistically confirms, the hypothesis that John was the murderer, *only given* our background knowledge that one can leave a fingerprint by grasping an object, and that fingerprints don't usually just appear by chance, and that not everyone shares a fingerprint, and so on. So, the formally correct statement of the relevant part of **confirmation** is this (where K is *our* background knowledge):

Confirmation: L (H | E & K) > L(H | K) iff L (E | H & K) > L (E | ¬H & K)

And likewise for the lone substantive assumption of our argument:

Likelihood of a priori: L (APK | T & K) > L (APK | ¬T & K)

And likewise, finally, for our conclusion:

A priori confirms theism: L (T | APK & K) > L (T | K)

And the critical substantive point is that K, our background knowledge, includes at least some claim of the form:

> **A priori required:** Necessarily, if some human knows X, then some human knows something a priori (where it can be the case, but need not be the case, that what needs to be known a priori if X is to be known is X itself).

This is all schematic, of course. What is substituted for X determines the precise contours of our lone substantive assumption and our conclusion; and what *should* be substituted for X is

determined, of course, *by what it is that we in fact know* about what sort(s) of knowledge require a priori knowledge. We might substitute for X the name of some particular mathematical proposition, such as "that 2 + 2 = 4" or "Fermat's last theorem." Correspondingly, our background knowledge would include the claim that *necessarily, if some human knows that 2 + 2 = 4, then some human knows something a priori*, or the claim that *necessarily, if some human knows Fermat's last theorem, then some human knows something a priori*. Or we might substitute the name of some particular moral proposition, such as "that it's wrong to bludgeon innocent people to death for no reason," or the name of some particular modal proposition, such as "that nothing can be entirely red and entirely green." If BonJour (1998) is right, we might fill in for X the name of some particular, perfectly ordinary proposition that goes beyond our past/present experiences and immediate environment, such as "that the sun will rise tomorrow." More generally, we might substitute for X some indefinite description, such as "an elementary arithmetical proposition" or "an advanced number-theoretic proposition." Correspondingly, our background knowledge would include the claim that *necessarily, if some human knows an elementary arithmetical proposition, then some human knows something a priori*, or the claim that *necessarily, if some human knows an advanced number-theoretic proposition, then some human knows something a priori*. Of course, these suggestions are not mutually exclusive: our background knowledge might well include more than one of them.

This version of the argument is in better shape than its predecessor. But it still suffers from several shortcomings. The first is that the argument makes a questionable assumption about the Supreme Being's will. For the argument seems to assume that the Supreme Being has a special interest in *human beings*. After all, there could have been—and maybe there actually are—rational beings *other* than human beings (and other than the Supreme Being) who *have* the sort of a priori knowledge that the Supreme Being allegedly wants humans to have. And there could have been—and maybe there actually are—rational beings other than human beings who *lack* the sort of a priori knowledge that the Supreme Being allegedly wants humans to have. There certainly are actual beings, period, who lack such knowledge! So, why think that the Supreme Being would seek to ensure that humans, specifically, have such knowledge, unless one thinks that the Supreme Being has a special interest in human beings? But remember that theism says nothing about any special concern that the Supreme Being has for humanity.

A second shortcoming is that there seem to be some substitution instances of **a priori required**—some specifications of which (human) knowledge absolutely requires a priori (human) knowledge—that are (a) plausibly part of our background knowledge if *any* substitution instance of **a priori required** is part of our background knowledge, and (b) plausibly such that their conjunction even with the *denial* of theism—along with the rest of our background knowledge, including our knowledge of evolutionary theory—makes it highly likely that there would be a priori knowledge. (At least so long as atheism is *consistent* with there being a priori knowledge. I shall assume that for now, and revisit the assumption in the next section.) For example, if any substitution instance of **a priori required** is part of our background knowledge, then this is plausibly one such instance: *necessarily, if some human knows that 2 + 2 = 4, then some human knows something a priori*. But the conjunction of that and evolutionary theory plausibly makes it highly likely that some human knows something a priori, *even supposing theism is false*. For evolutionary theory, even in conjunction with the denial of theism, makes it highly likely that we would know that 2 + 2 = 4. Failing to know that 2 + 2 = 4, after all, would seem to be quite a hindrance to survival and reproduction. Imagine trying to keep track of predators, counting two to your left, two to your right, and concluding that there are just three predators to contend with. Not very promising for survival! (I should note that I am setting aside the central considerations in Beilby's [2002] evolutionary argument against naturalism. These considerations would suggest that the likelihood that our cognitive faculties are reliable is quite low, given the conjunction of evolutionary theory and naturalism. So they would suggest that it's unlikely that we know much of anything at all, given the conjunction of evolutionary theory and naturalism. I set these considerations aside not because I don't find them compelling but because this chapter is supposed to be about how a priori knowledge in particular bears on theism. If Plantinga is right, then the likelihood that we would have a priori knowledge, given the conjunction of evolutionary theory and the denial of theism, is approximately equal to the likelihood that we would have knowledge, period, given the conjunction of evolutionary

theory and the denial of theism. But then the existence of a priori knowledge no more confirms theism than our having knowledge in the first place.) Since it's part of K that knowledge of 2 + 2 = 4 absolutely requires a priori knowledge, it follows that it's highly likely, given K and the *denial* of theism, that we would have a priori knowledge. It doesn't much matter that given the denial of theism, nothing deliberately made us in such a way as to have a faculty for producing a priori knowledge. We turned out to have such a faculty because we needed it to survive.

In response to this, one could further refine the argument. Perhaps the evidence in the vicinity that indeed probabilistically confirms theism is the fact that, for example, (some) humans have knowledge of nonelementary mathematics. It doesn't seem plausible, after all, that failing to know Fermat's last theorem, or even square roots, would be a hindrance to survival and reproduction. Assessing this more refined argument would take us too far afield, and in any case one has to contend with the other objections to the argument. On top of all that, it should be noted that this more refined argument is no longer an argument from a priori knowledge to theism. The a priori status of the knowledge in question plays no role whatsoever in the refined argument.

A third and final shortcoming of the argument is easy to miss but nonetheless significant. Arguments for probabilistic confirmation of a certain hypothesis always have a certain weakness: even if successful they show only that the evidence makes the hypothesis more probable than it would otherwise be. But that is consistent with the posterior probability of the hypothesis being low, or even *extremely* low, since the posterior probability of the hypothesis is partly a function of its prior probability.

Now perhaps we can address that general point as applied to our case by supplementing the argument that we've already given with considerations that support a not-too-low "intrinsic" probability for theism. Others have suggested such considerations (see Swinburne 2004). But notice that the prior probability of theism is its likelihood *given K*. And we've suggested that K includes claims to the effect that certain propositions cannot be (humanly) known except a priori. But such claims don't comport well with theism. For if there is a Supreme Being, then that Supreme Being has (or had) a whole range of options in creating human beings and endowing them with knowledge. (Indeed, such claims don't comport well even with the *possibility* of theism. For if there could have been a Supreme Being, then there could have been a being who had a whole range of options in creating human beings and endowing them with knowledge.) I would think that the Supreme Being could have *attested to* any truth that would otherwise be a candidate for being an a priori proposition, or could have *inscribed on the hearts of humanity*—so as to make available for introspection—any truth that would otherwise be a candidate for being an a priori proposition, or still other ways besides. So the prior probability of theism, that is, its likelihood given *our* background knowledge, is quite low indeed. In the best case scenario—where $L(T \,\&\, K) > 0$—our probabilistic argument succeeds, but its conclusion is not very significant. In the worst-case scenario—where $L(T \,\&\, K) = 0$—then as we've defined conditional probability, the left-hand side of **likelihood of a priori** is undefined, and so our lone assumption is false.

DEDUCTIVE BEARING

This brings us to the second and stronger way in which a priori knowledge might bear on the truth of theism.

I said above that it is hard to see how the existence of a priori knowledge could *entail* the truth of theism. Perhaps it is hard. But there *is* indeed a case to be made for such an entailment—which derives from a well-known argument due to Paul Benacerraf (1973)—and that case is not subject to all the difficulties that we raised for the probabilistic argument. (For other pro-theism arguments with similarities to the arguments in this section, see Adams 1983; Rogers 2008; Thurow 2013.)

The basic thought is this: A priori knowledge—at least a priori knowledge of synthetic truths—is knowledge about a domain of *special objects*, like numbers. But then it is quite mysterious how we could know anything about them at all. Indeed, it seems pretty clear that we *couldn't* know anything about them at all. For numbers and the like (pure sets, features, etc.) are *abstract*, in the sense of being causally inert. But then our beliefs about them, even if true, would not amount to knowledge.

More exactly: numbers and the like are abstract *if atheism is true*. For then there is nothing concrete for them to be. So, if atheism is true, then there is no (synthetic) a priori knowledge. But there is (synthetic) a priori knowledge. So, atheism is false.

Let's explicitly lay out the argument's premises:

1. There is (synthetic) a priori knowledge.
2. If there is (synthetic) a priori knowledge, then there is (synthetic) a priori knowledge about a domain of special objects, such as numbers.
3. If atheism is true, then special objects, such as numbers, are causally inert.
4. There is no a priori knowledge about objects that are causally inert.

Therefore,

Atheism is false.

Suppose that a premise analogous to (3), with "theism" replacing "atheism," is true if (3) is. Then we would have a paradox on our hands, not an argument for theism. But the analogue of (3) is not nearly as plausible as the original (3). If theism is true, then there *are* concrete things for numbers and the like to be: ideas in the mind of the Supreme Being ("divine ideas"). In deference to tradition, let us call the claim that numbers and the like are ideas in the mind of a Supreme Being *divine conceptualism* (see Leftow 2012). These ideas are, or at least could be, causally efficacious. There is no great mystery, then, about how we could come to know about those causally efficacious divine ideas. If it is possible for us to interact with the Supreme Being—and nothing about the Supreme Being would give us reason to think it's impossible—then there is no great mystery in our being able to "see" these divine ideas and what they are like. (Or at least no greater mystery than there is in our interacting with the Supreme Being in the first place.) Something like this seems to be what Augustine had in mind with his idea of an *inner light* (or, *divine illumination*) (Augustine 2010, bk. 2). Of course, nothing precludes the Supreme Being from making these things known in other ways, such as attesting to them in scripture or inscribing them on the hearts of men—unlike the probabilistic argument, we don't need to assume any such constraint on the Supreme Being—but there's also nothing precluding the Supreme Being in making these things known in *this* way.

Note well: I do not claim that divine conceptualism straightforwardly follows from theism. The conjunction of theism and the denial of divine conceptualism is a tenable—indeed, widely endorsed—position. (At least it's tenable setting aside considerations having to do with a priori knowledge!) Remember: theism, as I've characterized it, says nothing of who or what produced things that *lack* causal powers. But atheism *does rule out* divine conceptualism. (Nearly enough, at least. I think we can safely set aside a view according to which there is a Supreme Being, and numbers and the like are ideas in the mind of that being, but the Supreme Being didn't bring into existence "all this.") And that's all that's needed for the argument.

Let us briefly turn to each of the argument's premises. (Alas, my brief treatment of each of the premises can hardly do justice to the rich discussions each has provoked. But I hope it will go some way toward making them plausible.) As to the first premise: I have already said that I will assume its truth for the sake of exploring its consequences. As to the second premise: the alternative would be that all of our a priori knowledge is knowledge about ordinary things, presumably about constraints on how they are individually and how they stand in relation to one another. But there is both *phenomenological evidence* and *theoretical evidence* for the idea that at least some of our a (synthetic) priori knowledge—if we have such knowledge—really is about special *objects*, like numbers. The phenomenological evidence is that it *seems to (at least some of) us* when we come to know certain mathematical truths, for example, that we are in touch with objects different from the ordinary objects of sense experience. Thus, the great twentieth-century logician Kurt Gödel:

> I even think this comes pretty close to the true state of affairs, except that this additional sense (i.e., reason) is not counted as a sense, because its objects are quite different from those of all other senses. For while through sense perception we know particular objects and their properties and relations, with mathematical reason we perceive the most general (namely the

> "formal") concepts and their relations, which are separated from space. (quoted in Parsons 1995, 63)

The theoretical evidence is that many of the claims that we know a priori, if we know anything a priori, are expressible by sentences that seem to involve reference to and quantification over things like numbers and features. For example, it seems that we know a priori that there is exactly one prime number between 6 and 10. But then it seems we know something about *numbers*.

As to the third premise: Nominalists of a certain stripe—those who deny that there are things that are causally inefficacious but who accept that there are numbers—have tried to find some spatial, causally efficacious objects with which to identify numbers. (The possibility that such objects are *non*spatial but causally efficacious is not one that they have seriously considered, but it is one to which we will shortly return.) But any such identification seems arbitrary (Field 2016, 32); and there isn't any guarantee that there are infinitely many such objects (Hilbert 1983), let alone infinities-of-greater-cardinality-many of them.

As to the fourth and final premise: a natural defense of this premise relies on a *causal condition on knowledge*. That is, it relies on the idea that a necessary condition for S to know that p is that there is a causal connection of the appropriate sort between the fact that p and S's belief that p. (Spelling out "the appropriate sort" is nontrivial, but it's supposed to be liberal enough to allow for knowledge of the future.) Otherwise, it seems that one's belief that p is just a lucky guess, and lucky guesses are not knowledge. (One can accept such a condition without committing to a so-called *causal theory of knowledge*, where that is the view that the causal condition is both necessary *and* sufficient. For the classic presentation of such a theory, see Goldman 1967.)

This condition is admittedly somewhat controversial. David Lewis suggests that in the case of necessary truths—which are the subject of much, and perhaps all, of our a priori knowledge—the gap between true belief and knowledge vanishes, and so the causal condition is not necessary for knowledge of such truths (Lewis 1986, 113). After all, if one's belief is true, then one can't really have been *lucky* in believing the truth, in that if one held as fixed what one believes, the world *had* to cooperate. But John O'Leary-Hawthorne (1996) effectively rebuts this suggestion. Hawthorne instead considers the more general suggestion that reliabilism—according to which, roughly, S knows that p if and only if S's belief that p is the product of a reliable belief-forming process—is inconsistent with requiring a causal condition. After all, couldn't one be using a reliable belief-forming process about some entities without being in causal contact with those entities? But as Hawthorne notes, in cases in which "the reliability is not due to any sort of responsiveness to mathematical reality, direct or indirect, we balk at knowledge attribution" (1996, 193); and even the reliabilist therefore concedes the need to add some bells and whistles to accommodate the causal requirement. (The same, it seems to me, goes for the safety accounts that have grown more popular.) Hawthorne then suggests a contextualist and a conventionalist solution, but as he notes, each faces serious difficulties. This leaves us with little alternative but to accept the causal condition (and, with it, what he calls the "Transcendentalist" solution).

It seems to me that perhaps the best reply on behalf of atheism is to challenge the third premise, not by identifying numbers with some spatial objects that we already took to be causally efficacious, but by begrudgingly granting that there are *non*spatial things—including numbers—*that are in fact causally efficacious*. Since this is what Plato seems to have thought, let us refer to this as the view that Plato's heaven exists. The existence of Plato's heaven is not obviously inconsistent with atheism. (Note well that, as I've stated it, it's also consistent with divine conceptualism.)

But now we can supplement (a modified version of) this deductive argument with considerations of intrinsic probability. Let us take (a modified version of) the deductive argument to establish that Plato's heaven exists. (In premise 3 replace "atheism is true" with "Plato's heaven does not exist.") Now, which of the following is more *likely*: Plato's heaven exists and atheism is true, or Plato's heaven exists and theism is true? It seems to me that the second option is *much* more likely: set aside whatever likelihood there is that theism is true, Plato's heaven exists, and divine conceptualism is *false*, and compare just the conjunction of atheism and Plato's heaven's existing to the conjunction of theism, Plato's heaven's existing, and divine conceptualism. The latter conjunction is more parsimonious, more unified, and more powerful than the former.

There is a related argumentative route to a related conclusion—one that derives from Hartry Field's (1989) own attempt to improve on Benacerraf's argument—that does not rely on a causal condition for knowledge. The argument merely assumes that no viable view according to which (there are numbers but) Plato's heaven doesn't exist permits an explanation of the massive and striking correlations between how things stand regarding numbers and the like and our beliefs about those things—correlations that there had better be if we are to have synthetic a priori knowledge. For the only such viable view is one according to which there are numbers and they are causally *inefficacious*, and so it permits no explanation at all. (Let me just forestall confusion: Field takes his argument to present a *problem* for what he calls platonism, but that's because his platonism is platonist only insofar as it posits numbers that are mind-independent and not in space [or time], but it is anti-platonist insofar as it says of those things that they are causally inefficacious.) And so we ought to believe that Plato's heaven exists.

This conclusion is not exactly that there *is* such a thing as Plato's heaven, just that we ought to believe that there is. But it's close enough for us to continue on as before. Since we ought to believe that Plato's heaven exists, we ought to believe whichever of theism and atheism is more *likely* conditional on the existence of Plato's heaven. And as I have already suggested, theism wins that competition.

Again, I cannot do justice to the substantive assumptions of this argument, and the extensive literature that Field's (and Benacerraf's original) argument has generated (See Clarke-Doane 2017 for a helpful discussion). But I will just note that the argument that I've given is not meant to favor the conjunction of theism and the denial of Plato's heaven over the conjunction of atheism and the denial of Plato's heaven. (Thus, while Dan Baras's [2017] point is well taken, it doesn't affect my argument.) Neither of those conjunctions does well in accommodating a priori knowledge or explaining the correlations such knowledge requires, simply by dint of denying the existence of Plato's heaven (assuming, as we are, that a priori knowledge is indeed knowledge about a certain class of objects, and that those objects are not to be found in space: the further denial of Plato's heaven leaves us no option but to embrace numbers and the like that are neither spatial *nor* causally efficacious). It is meant to favor theism over atheism, by way of *affirming* the existence of Plato's heaven.

THEISM SUPPORTED

Does the existence of a priori knowledge bear favorably on theism? Yes. For if there is a priori knowledge, then there is a promising case to be made that theism is true, indeed a case that at least some of us might even know is successful.

Acknowledgments. *Thanks to Tyron Goldschmidt, David Shatz, and a reviewer for this volume for very helpful feedback on earlier drafts.*

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