

ORIGINAL ARTICLE

## Evil is still evidence: comment on Almeida

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(Received 8 November 2022; revised 6 April 2023; accepted 7 April 2023; first published online 22 May 2023)

### Abstract

Michael Almeida has recently tried to show that if S5 correctly represents metaphysical necessity, there can be no non-trivial evidence for or against the existence of the traditional God. Evidence would thus be irrelevant to the reasonability of traditional theistic belief. Almeida's argument has implications beyond its announced target: it amounts to a new argument for sweeping scepticism. Almeida's argument for the irrelevance of evidence to the existence of God would apply to any state of affairs that entails some metaphysical necessity. In S5, every state of affairs entails some metaphysical necessity, so Almeida should conclude that non-trivial evidence for or against any state of affairs is impossible. I argue that the problem is not with S5 but with inadequately motivated assumptions about evidential support. Avoiding those assumptions disables the argument for sweeping scepticism and without foreclosing the possibility of non-trivial evidence for or against the existence of the traditional God.

**Keywords:** Traditional theism; metaphysical necessity; evidential support; scepticism

### Introduction

In a challenging recent article, Michael Almeida argues that, given the most widely accepted logic for metaphysical necessity, S5, there can be no non-trivial and independent evidence for or against 'the existence of the traditional God' (Almeida (2022), 1). According to him, any possible evidence entails either God's necessary existence or impossibility, but we cannot know *which* is entailed by our evidence without knowing (already) which is true. This result would be quite interesting, though still controversial, if confined to the philosophy of religion. However, his arguments have dramatic further sceptical implications: if he is correct, much more than the existence of the traditional God is beyond the reach of evidential support or disconfirmation.

I shall neither dispute Almeida's S5 derivations<sup>1</sup> nor whether S5 appropriately represents metaphysical necessity: I assume S5, based on classical first-order logic throughout.<sup>2</sup> However, I dispute his interpretation of evidential support. The sceptical implications do not flow from S5 derivations alone: they only follow if we combine the derivations with specific assumptions about evidential support. We can keep S5 while avoiding the sceptical implications.

### Almeida's argument

We begin with a sketch of Almeida's argument. He notes that some states of affairs *seem* to bear on whether God exists: they seem to provide evidence for or against the existence of

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God. Intrinsic goods, considered by themselves, should increase the probability that there is a morally perfect being with unlimited power and knowledge while intrinsic evils, considered by themselves, should reduce the same probability. Other facts, such as the number of trees in North America, seem to have no bearing either way. However difficult it is to assess God's probability overall, we generally suppose that evidence *could* count one way or the other and that additional evidence *might* shift the current balance, making a difference in how reasonable it is to believe or disbelieve in the traditional God.

However, if Almeida's argument is correct, this is a kind of illusion. Straightforward arguments in S5 are supposed to show that our evidence cannot possibly do that – that they cannot make God's existence more or less probable. In the words of his title, 'evil is not evidence', but also, on his account, good is not evidence, and neither is anything else.

Almeida assumes a traditional conception of God as exemplifying the conjunctive property of moral perfection, omnipotence, and omniscience in all possible worlds.<sup>3</sup> As he introduces it,

We let  $Fx$  be a conjunction of properties including omnipotence, omniscience, moral perfection and so on. On traditional theistic views God exemplifies  $Fx$  in absolutely every possible world or  $\Box F_G$ . Since it is an S5 theorem that  $\Box \Box F_G \vee \Box \sim \Box F_G$ , it is also true that God exemplifies  $Fx$  essentially in every possible world or God fails to exemplify  $Fx$  essentially in every possible world. (Almeida (2022), 2, endnote omitted)

For Almeida, the traditional God is metaphysically necessary or impossible. If God exists in all possible worlds, God is a necessary being. If there is any possible world without God, there is no possible world in which God is necessary; hence, the traditional God is impossible.<sup>4</sup> Being either necessary or impossible is not distinctive of God. It is a feature of any possible state of affairs which, if it obtains, obtains by metaphysical necessity. All such states of affairs are either necessary or impossible.<sup>5</sup> For example, consider the twin prime conjecture – that there are infinitely many pairs, and therefore is no largest pair, in which the sum of a prime number and 2 yields another prime – as in the pairs, [3, 5], [5, 7], [11, 13], and so on (Weisstein (no date)). The conjecture is unproven, but it must be necessary if true or impossible if false. The twin prime conjecture cannot be merely contingently true or false.

If the traditional God is metaphysically necessary, then God's existence, with the essential properties, is entailed by any actual or possible state of affairs. Any state of affairs, no matter what, entails God's existence. Or, if God is impossible, any state of affairs, no matter what, entails God's non-existence. The existence of such entailments does not imply that we have any demonstration of God's necessity or impossibility.<sup>6</sup> The entailment holds just because no possible state of affairs can obtain while the entailed (necessary) state of affairs does not obtain. *Anything* necessary is entailed by *everything* possible. If  $\Box Q$ , then for any possible state of affairs,  $S$ ,  $S \rightarrow \Box Q$ .

Almeida's evidential puzzle comes from taking two points seriously – first, that some facts seem to confirm, disconfirm, or be irrelevant to the existence of God, and second, that metaphysical necessities are entailed by everything. He develops the puzzle in several ways; I shall sketch only one.

Suppose some state of affairs, such as 'there being 228 billion trees in North America . . . provide[s] no evidence at all for (or against) the existence of a traditional God'. Plausibly, if the number of trees is no evidence of God's existence, it does not entail God's existence. If the number of trees is no evidence against the existence of God, it does not entail God's non-existence. But it turns out that if any state of affairs does not entail God's existence, there is an S5 proof that the traditional God is impossible, and if any state of affairs does not entail God's non-existence, there is an S5 proof that

the traditional God necessarily exists.<sup>7</sup> Plainly, taking both non-entailment claims together is disastrous. The same evidentially irrelevant state of affairs would entail both the necessity and the impossibility of God. Since the arguments are valid, the non-entailment claims cannot both be true. Nor can they both be false, for that would lead to the same result: the number of trees would entail God's existence *and* non-existence. If they are neither both true nor both false, one must be true while the other is false. The number of trees must entail either God's existence or non-existence, but not both. A similar result flows from the assumption that there is some evidence for as well as some against the existence of God. Only God's existence or only God's non-existence is entailed by any evidence we have.

These results motivate Almeida's triviality solution. According to the triviality solution, (a) no possible state of affairs provides non-trivial support for the necessity or impossibility of God, nor (b) can any possible state of affairs provide independent support either way. Whatever the truth about the necessity or impossibility of the traditional God, it is entailed by every possible state of affairs. If God is necessary, we might still have supposed that some possible states of affairs could count against or be irrelevant to the existence of God. Or, if God is impossible, we might still have supposed that some possible states of affairs could count in favour of or be irrelevant to God's existence. In either case, our supposition would have been mistaken. Every possible state of affairs entails whatever is the metaphysically necessary truth about God's existence.

Since every possible state of affairs entails the metaphysically necessary truth, the entailments can only provide trivial support. When some state of affairs,  $S$ , is contingent and  $S \rightarrow \Box Q$ , it is also true of any other state of affairs,  $S^*$ , that  $S^* \rightarrow \Box Q$ . The entailments hold, regardless of what  $S$  is. The entailment of  $\Box Q$  by  $S$  is trivial because whatever state of affairs  $S$  represents makes no difference to the entailment:  $\sim S$  equally entails  $\Box Q$ . Second, although it will be true for any possible state of affairs,  $S$ , that  $S$  entails the metaphysically necessary truth, we will not be able to tell *whether*  $S$  entails God's necessity or impossibility unless we know already whether God is necessary or impossible. The entailments cannot provide independent support because we must know which is true to know what our evidence entails. (Almeida (2022), 1)

### Evidential irrelevance and scepticism

Almeida's argument is almost entirely correct. However, he draws the surprising conclusion that evil (or good) cannot be evidentially relevant to the existence of God. If he is correct, there are dramatic *further* sceptical implications. I shall later turn to the question of diagnosis. However, first, I shall indicate the sense of scepticism at stake, why Almeida's argument has further sceptical implications, and shall illustrate the scope of those implications.

Since I claim that Almeida's argument has sceptical implications, it is important to characterize scepticism. Some might characterize scepticism in terms of attitudes or practices of doubt, questioning, or disbelief, but that is not my concern. One might doubt without being a sceptic or might be a sceptic without doubting.<sup>8</sup> As I shall use the term and its cognates, scepticism is a philosophical claim about knowledge or epistemic support within a domain or, more precisely, about the absence or deficiency of one or both. I take scepticism to involve express or implied denial that there is knowledge of or support for some claim or class of claims. To be of philosophical interest, it must also be scepticism about knowledge or support concerning claims that we might otherwise have supposed can be known or supported.<sup>9</sup> It is sufficient for scepticism regarding a domain for it to be impossible for evidence or reasons to make a difference to rational belief within that domain. This is the sense in which I take Almeida's position to be sceptical and his arguments to have sceptical implications.

If Almeida's arguments are sound, evidence cannot bear on the question of God's existence. No possible evidence could make belief in God's existence more or less reasonable. In claiming that, on Almeida's view, evidence cannot bear on God's existence, I do not claim that he supposes there is no evidence for or against God's existence. Since every state of affairs trivially entails the metaphysically necessary truth, either every possible state of affairs is evidence for the existence of God or else every state of affairs is evidence against the existence of God. Crucially, though, this is trivial evidence: we cannot tell whether it is evidence for God's necessity or impossibility unless we already know whether God is necessary or impossible. Since the evidence is trivial, it cannot bear on the question of God's existence in the sense of making a difference to rational belief. The thesis that no possible state of affairs can provide more than trivial confirmation or disconfirmation for, and therefore that none can make it more or less reasonable to believe in, the existence of God is what I call *Evidential Irrelevance<sub>G</sub>*.

Further sceptical implications follow because Almeida's arguments do not depend on any features that distinguish the existence of God from other metaphysically necessary or impossible states of affairs. Only God's necessity or impossibility figures in Almeida's argument to establish the triviality and non-independence of the entailments. Suppose the argument for Evidential Irrelevance<sub>G</sub> is sound. In that case, it should apply wherever we find the same features – wherever we find that some state of affairs is either necessary or impossible. Evidential Irrelevance<sub>G</sub> generalizes to all cases in which any state of affairs is either metaphysically necessary or impossible. I shall call the generalization *Evidential Irrelevance* (without the subscript); Evidential Irrelevance<sub>G</sub> is only a special case. The argument that works for God should work for any state of affairs that obtains by metaphysical necessity.<sup>10</sup>

According to S5, there are many metaphysically necessary states of affairs: metaphysical necessities are pervasive. Consider a posteriori necessities (the very *term* for which might seem framed to dispute Evidential Irrelevance). True identity claims between rigid designators are necessary, while false identity claims are impossible. True *non-identity* claims are also necessary (my coffee cup is not identical to the desk upon which it sits), and false ones are impossible (the aforementioned coffee cup is not possibly the same thing as the aforementioned desk). Our world is replete with what appear to be prosaic and empirically determinable metaphysical necessities.

Consider some more examples. Continuing the Kripkean theme, consider the observation that determined that Hesperus (the Evening Star) was the very same object as Phosphorus (the Morning Star): both names turned out to designate the same thing, the planet Venus (Kripke (1980), 28–29 and *passim*). The identity of Hesperus and Phosphorus was an empirical discovery, or so it seems. Hesperus and Phosphorus were observed, trajectories were plotted, arguments were made as to how best to explain the observations, and so on – but all to no avail if Evidential Irrelevance is correct. The identity of Hesperus and Phosphorus, if actual, is metaphysically necessary and, if not actual, is metaphysically impossible. Every possible state of affairs trivially entails the necessity or impossibility of that identity. So, according to Evidential Irrelevance, no possible evidence could make it even slightly more or less reasonable to think that Hesperus is the same object as Phosphorus since the entailments from any state of affairs we might invoke as evidence are trivial and not independent of the metaphysically necessary truth.<sup>11</sup>

Consider another family of cases: *any* state of affairs entails *some* metaphysical necessity. Tilly is a dog (and an excellent walking companion). Being a dog, she is possibly a dog and therefore necessarily possibly a dog. It is also necessary, for anything, that it is either necessarily possibly a dog or not necessarily possibly a dog. Since that is true for anything, it is true for Tilly. She is necessarily possibly a dog or not necessarily possibly a

dog. How shall I tell which is true? I might have supposed that ordinary empirical evidence – inspection by myself, by others, by veterinarians – would suffice. However, according to Evidential Irrelevance, no evidence non-trivially supports any metaphysical necessities, so why should I think that she is necessarily possibly a dog rather than that she is *not* necessarily possibly a dog? But if she is not necessarily possibly a dog, then, necessarily, she is not a dog.<sup>12</sup> Doubts about non-trivial confirmation for metaphysical necessities infect ordinary knowledge claims, such as that Tilly is a dog: we should not be confident that she is a dog because that would entail that she is necessarily possibly a dog.<sup>13</sup> Tilly's story provides a recipe for casting doubt on any claim of fact. Any state of affairs,  $S$ , entails  $\Box\Diamond S$ . If  $\Box\Diamond S$  is true, so is  $\Box\Diamond S \vee \sim\Box\Diamond S$ .  $\sim\Box\Diamond S$  entails  $\Box\sim S$ , which entails  $\sim S$ . If there is no non-trivial confirmation or evidence for any metaphysical necessity, then there is none that can distinguish  $\Box\Diamond S$  and  $\Box\sim S$  and so, none for any factual claim whatsoever. Surely, it is better to accept that ordinary evidence enables us to know well enough that Tilly is a dog and therefore to know well enough that she is necessarily possibly a dog. If so, ordinary evidence can confirm or disconfirm metaphysical necessities.

Finally, Evidential Irrelevance calls into question all our derivations in S5. Though S5 theorems are metaphysically necessary, we can only know that an S5 theorem is true by way of an *apparently* flawless course of reasoning. We can distinguish actually flawless from apparently flawless courses of reasoning only by doing more reasoning, more double-checking, more subjection of our work to informed criticism, and so forth – and all of these processes are subject to the same kinds of doubt about their evidential relevance. This is reminiscent of the ‘cognitive instability’ Sean Carroll notes concerning Boltzmann brains – that arguments from contemporary cosmology that we are probably Boltzmann brains cannot be trusted because, if we were Boltzmann brains, we would have no reason to trust contemporary cosmology (Carroll (2017), 21–23). Similarly, S5 derivations provide cognitively unstable support for Evidential Irrelevance because, if we assume Evidential Irrelevance, we have no reason to trust S5 derivations.

### Against evidential irrelevance

I shall not go through these examples, one by one, but each lends itself to the construction of an extended modus tollens having this form:

1. If Evidential Irrelevance is true, no possible state of affairs can provide non-trivial or independent evidence for any metaphysical necessity. [Premise]
2. If no possible state of affairs can provide non-trivial or independent evidence for any metaphysical necessity, then no possible evidence can make it more or less reasonable to believe in any metaphysical necessity. [Premise]
3. Evidence (and therefore possible states of affairs) can make it more or less reasonable to believe in some metaphysical necessity (as per examples). [Premise]
4. Therefore, some possible state of affairs can provide non-trivial or independent evidence for some metaphysical necessity. [2, 3]
5. And therefore, Evidential Irrelevance is not true. [1, 4]

I consider that argument sound: examples of evidential support for metaphysical necessities are more compelling than arguments for Evidential Irrelevance. However, Almeida might think my third premise false instead. He might somehow explain my examples without presupposing that evidence is relevant to metaphysical necessities. I do not wish to engage in a mere contest over intuitions or deny Almeida's conclusion just in order to run a modus tollens against his premises. Fortunately, we can do more

by examining the argument for Evidential Irrelevance itself more closely. Almeida proposes

the triviality solution to the evidential puzzle. According to the triviality solution, independent evidence for or against the existence of God is impossible. If it is true that  $\Box F_G$ , then every state of affairs in every possible world trivially entails  $\Box F_G$ , and so every state of affairs in every possible world confirms  $\Box F_G$ . If it is true that  $\sim\Box F_G$ , then every state of affairs in every possible world trivially entails  $\sim\Box F_G$  and so every state of affairs in every possible world confirms  $\sim\Box F_G$ . There is no independent evidence for or against  $\Box F_G$  in any possible world. (Almeida (2022), 1)

The argument given is not transparent. The conclusion appears to be that ‘independent evidence for or against the existence of God is impossible’, but the connection of the conclusion to the available premises is unclear. The available premises have to do with the facts that every possible state of affairs trivially entails either  $\Box F_G$  or else  $\sim\Box F_G$ , and therefore that every possible state of affairs trivially confirms either  $\Box F_G$  or else  $\sim\Box F_G$ . However, neither premise mentions evidence.

I think we can identify a gap in Almeida’s argument. Let us suppose that  $\Box F_G$ . How can we move from ‘state of affairs S trivially entails and therefore trivially confirms  $\Box F_G$ ’ to the conclusion that there is no independent evidence for or against  $\Box F_G$ ? Using S to range over possible states of affairs, it seems the argument would have to go like this:

1.  $\Box F_G$  [Premise]
2. S [Premise]
3. If  $S \rightarrow \Box F_G$ , then S trivially confirms  $\Box F_G$ . [Premise]
4. If there is independent evidence for or against  $\Box F_G$ , then something non-trivially confirms or disconfirms  $\Box F_G$ . [Premise]
5.  $\forall S (S \rightarrow \Box F_G)$  [1]
6.  $S \rightarrow \Box F_G$  [2, 5]
7. S trivially confirms  $\Box F_G$ . [3, 6]
8. Therefore, nothing non-trivially confirms or disconfirms  $\Box F_G$ . [7, ?]
9. And therefore, there is no independent evidence for or against  $\Box F_G$ . [4, 8]

I see no need to object to the premises. We can assume  $\Box F_G$  without begging any questions since assuming  $\sim\Box F_G$  instead allows a parallel argument for an equivalent conclusion.<sup>14</sup> (2) is uncontroversial since S represents only that some possible state of affairs obtains. We can take (3) to define ‘trivial confirmation’ and (4) to define ‘independent evidence’. I also agree that (9) follows from (4) and (8).

However, the argument is still not valid. (8) does not follow from (7) alone because the fact that some state of affairs, S, trivially confirms  $\Box F_G$  does not imply that no state of affairs (including S itself) can provide non-trivial confirmation for  $\Box F_G$ . Nothing else in the premises is suited to do the job of ruling out non-trivial confirmation. The triviality of the confirmation of  $\Box F_G$  by S consists in the fact that S entails  $\Box F_G$  and that the entailment holds without respect to the state of affairs designated by S. Any other possible state of affairs equally entails  $\Box F_G$ . Perhaps, Almeida thinks that since  $\Box F_G$  is trivially entailed by every state of affairs, no (other) state of affairs can provide non-trivial confirmation for anything. The confirmatory resources of all states of affairs are, so to speak, exhausted in trivially entailing  $\Box F_G$ . However, that would be a mistake. All that follows if all states of affairs trivially entail and therefore trivially confirm  $\Box F_G$  is that no state of affairs can



trivially entail or confirm  $\sim\Box F_G$ . It does not follow that no state of affairs can provide confirming or disconfirming evidence for  $\Box F_G$  otherwise than by virtue of trivial entailment.

Almeida's argument has essentially the same problem when expressed in terms of epistemic probability. Using ' $P(\Box F_G|S)$ ' . . . to express the epistemic probability of  $\Box F_G$  given the evidence in  $S$ ' (Almeida (2022), 1), Almeida shows that the following theorem is true (*ibid.*, 4):

$$\forall SP(\Box F_G|S) = 1 \vee \forall SP(\sim\Box F_G|S) = 1$$

That is, given any possible state of affairs, either the probability of God's necessity or of God's impossibility is 1. According to Almeida, 'every state of affairs in every possible world constitutes conclusive evidence for  $\Box F_G$  or every state of affairs in every possible world constitutes conclusive evidence for  $\sim\Box F_G$ ' (*ibid.*).

I have no quarrel with Almeida's derivation, but he should not speak of conclusive evidence here – at least, not without qualification. Almeida employs a standard account of epistemic probability according to which ' $P(\Box F_G|S)$ ' . . . measures the extent to which  $S$  confirms  $\Box F_G$ ' (*ibid.*, 8). More formally and generally,

[t]he epistemic probability of  $A$  given  $B$  – notated  $P(A|B)$  – is a relation between the propositions  $B$  and  $A$ . It is the degree to which  $B$  supports  $A$ , or makes  $A$  plausible. Entailment is a limiting case of this relationship; if  $B$  entails  $A$ , then  $P(A|B) = 1$ . It constrains rational degrees of belief, in that, if  $P(A|B) = n$ , then someone with  $B$  as their evidence ought to be confident in  $A$  to degree  $n$ . (Climenhaga (2020), 2)

Normally, we would identify an epistemic probability of 1 with conclusive evidence, but also, normally, in doing so, we would know whether our evidence entails the hypothesis. I take Climenhaga to assume that we *know* of the entailment when  $B$  entails  $A$ . Otherwise, it would be unclear why, if  $P(A|B) = 1$ , someone with  $B$  as their evidence ought to be confident in  $A$  to degree 1. A known entailment can constrain rational degrees of belief. An unknown entailment, even if it exists, cannot.

If we know that being a square entails being a quadrilateral, then observing a square provides conclusive evidence for the existence of a quadrilateral. If, by contrast, we do not know that being a tesseract entails being a hypersolid, we have no reason to regard the detection of a tesseract as conclusive evidence for the existence of a hypersolid. The entailment of  $\Box F_G$  (or  $\sim\Box F_G$ ) by  $S$  is more like the tesseract case than the square case since the relevant entailment is not known to obtain.

Alternatively, consider a case that admits more detail and a plausible alternative answer. This case will also be one in which  $B$  entails  $A$ , but it is unknown what is entailed: The postulates of Euclidean geometry entail some value for the trillionth digit in the decimal expansion of  $\pi$ . I do not know what the entailed value is. How can the degree of support for the unknown correct answer constrain rational belief?

Let  $T$  be the proposition that states the actual value of the trillionth digit of  $\pi$ . Let  $H$  be a hypothesis that the value identified by  $T$  (the  $T$ -value) is 3. Let  $E$  be the conjunction of the postulates of Euclidean geometry. Then,  $E \rightarrow T$  is true. If the  $T$ -value is 3, then it is also true that  $E \rightarrow H$ , but if the  $T$ -value is not 3, then  $E \rightarrow \sim H$ . We know there is an entailment without knowing which is entailed. Does the formalism of epistemic probability require that we think that  $P(H|E)$  is equal to either 1 or 0, depending on whether  $H$  is true or false (and therefore on whether  $E \rightarrow H$  or  $E \rightarrow \sim H$ )?

There is a plausible alternative answer: we should be able to treat  $P(H|E)$  as 0.1 since we cannot bring to bear any knowledge that makes a hypothesized  $T$ -value of 3 more or less probable than any other digit to match the actual  $T$ -value. We could even run a kind of

experimental trial in which randomly generated digits are paired with arbitrary but checkable locations in the decimal expansion of  $\pi$ . I predict that bets that assign a probability of 0.1 to random digits matching digits of  $\pi$  at arbitrary locations within its decimal expansion will do better, on average and over the long term, than bets that assign probabilities of 0 or 1. If our formalism for epistemic probability will not allow the same result, that is a reason for suspecting that the formalism is inadequate and needs to be qualified or supplemented in some way.

If the entailment of  $\Box F_G$  or  $\sim\Box F_G$  by some state of affairs,  $S$ , amounts to conclusive evidence, it is *trivially* conclusive evidence – we do not know whether  $S$  conclusively supports  $\Box F_G$  or  $\sim\Box F_G$  unless we know in some other way which is true. Having  $S$  as our evidence does not '[constrain] rational degrees of belief' concerning  $\Box F_G$ .

By framing the argument in terms of epistemic probabilities, we get to (trivially) conclusive evidence for (or against)  $\Box F_G$ . However, the sense in which the evidence is conclusive is just that it mirrors trivial entailment and trivial confirmation. Just as trivial entailment and trivial confirmation do not rule out non-trivial confirmation, trivially conclusive evidence does not rule out non-trivial evidence in favour of  $\Box F_G$  or  $\sim\Box F_G$ . Trivially conclusive evidence for  $\Box F_G$  only rules out trivially conclusive evidence for  $\sim\Box F_G$ . So, some state of affairs might provide trivially conclusive evidence for  $\Box F_G$  or  $\sim\Box F_G$  and also provide non-trivial evidence whether  $\Box F_G$  is true.

In either version of the argument for Evidential Irrelevance, what is shown is that whether the traditional God is metaphysically necessary or impossible, every possible state of affairs stands in certain evidential relations to the metaphysically necessary truth – specifically, that every state of affairs trivially entails, trivially confirms, and therefore trivially provides conclusive evidence for that necessary truth. What has not been shown in either version is that there are no *other* evidential relations in which a state of affairs might stand to a metaphysically necessary truth.

Almeida's argument does not work because he has not ruled out other evidential relations. He assumes that if any state of affairs is evidence for some supposed metaphysical necessity, then (a) the evidence must entail the necessity, and (b) the evidence only qualifies as evidence in virtue of entailing the necessity. These are the assumptions about evidential support that combine with the S5 derivations to yield sceptical conclusions.

We can reinforce this diagnosis by considering Almeida's remarks at the close of his discussion of the triviality solution:

In S5 there are no states of affairs in any world that constitute independent evidence for  $\Box F_G$  or constitute independent evidence for  $\sim\Box F_G$ . A state of affairs  $S$  constitutes evidence for  $\Box F_G$  only if  $\Box F_G$  is true. In this case  $S$  trivially entails  $\Box F_G$  and so  $P(\Box F_G|S) = 1$ . And  $S$  constitutes trivial evidence for  $\sim\Box F_G$  only if  $\sim\Box F_G$  is true. In this case  $S$  trivially entails  $\sim\Box F_G$  and so  $P(\sim\Box F_G|S) = 1$ . The discovery that  $S$  is true, for any  $S$  whatsoever, does not itself constitute any evidence at all for or against the existence of the traditional God. (Almeida (2022), 6)

Given the parallel construction in the paragraph's second to fifth sentences, I suspect the second sentence should have been 'A state of affairs  $S$  constitutes *trivial* evidence for  $\Box F_G$  only if  $\Box F_G$  is true.' If so, he is talking only about trivial evidence throughout the paragraph, which would not rule out some state of affairs being *non-trivial* evidence for or against  $\Box F_G$ .

Even if that is not what he meant,<sup>15</sup> we should note his concern with the triviality of the support for  $\Box F_G$  or  $\sim\Box F_G$  by any state of affairs and with the absence of independent evidence. Why is the support trivial? When  $\Box F_G$  is true, its entailment-based support from a state of affairs  $S$  is trivial because any contrary state of affairs,  $S^*$ , would equally support



$\Box F_G$ : being entailed by S cannot, in principle, make any difference in evidential support. It is only because S entails a metaphysical necessity that we can be sure that any other state of affairs would equally entail the same necessity. If  $\Box F_G$  is true, every possible state of affairs equally entails  $\Box F_G$ , but that does not guarantee that no S can provide non-trivial support. No S can differ from any  $S^*$  in entailing  $\Box F_G$  – that suffices for the triviality of entailment as support for  $\Box F_G$  – but some S and some  $S^*$  may differ in degrees of non-trivial support for  $\Box F_G$ , though not by way of entailment.

Second, Almeida explains his concern that nothing provides independent evidence for or against  $\Box F_G$  in this way: we do not know whether an arbitrary state of affairs entails  $\Box F_G$  or  $\sim\Box F_G$  unless we already know which is true. That is fair enough as long as we are only considering metaphysical entailments. But normally, independent evidence is just evidence that we understand to bear on the conclusion without requiring that we know or believe the conclusion already. That there cannot be any such thing – that his own examples of intrinsic goods or intrinsic evils, respectively, raising or lowering the probability of the existence of the traditional God do not qualify as independent evidence – is supported only by the assumption that support must consist of entailment.

Almeida's argument assumes (a) that evidence for a given necessity must entail the necessity and (b) that evidence only qualifies *as evidence* in virtue of entailing the necessity. His argument does not warrant these restrictive assumptions. We should consider other evidential relations.

### Likelihood as an evidential relation

A Bayesian likelihood framework can help to flesh out what can be meant by other evidential relations. *Likelihood* is a technical term designating the probability of evidence given a hypothesis. Since the hypothesis is given when we are trying to assess the probability of the evidence, there is no issue raised by the fact that the relevant hypotheses for Almeida's argument are assumed to be metaphysically necessary.<sup>16</sup> An item of evidence in relation to a hypothesis is normally a contingent state of affairs that will or may have different probabilities, given different hypotheses. Different possible states of affairs may also have different probabilities, given the same hypothesis. By assuming a metaphysical necessity as our hypothesis, we may be able to determine that possible items of evidence have different probabilities given the same hypothesis. In general, evidence that is more probable on one hypothesis than on another favours the hypothesis which makes it more probable.<sup>17</sup>

Here is a simple illustration.<sup>18</sup> Suppose that Superman and Clark Kent are identical. If true, that is metaphysically necessary, so there will be no cases in which they are observed together but distinct – say, encountering one another in the same room or at the same gathering. Trickery or mistakes will still be possible. Superman could be distinct from a life-like Clark Kent robot. A Clark Kent lookalike might shake hands with the real Superman. And so on. But a *genuine* case in which both are present and distinct at the same time will be impossible. If we carefully observe and find no such cases over an extended period, our course of observations is more probable if Clark Kent and Superman are in fact identical. (Never being observed together need not make the identity *much* more probable: I have never been observed in the same room with Superman, either.) If, on the other hand, we observe carefully and find a case in which they are apparently distinct, that observation is less probable if Clark Kent and Superman are identical. At a minimum, some more complicated and therefore less probable arrangement (e.g. with the robot or the lookalike) is needed to make it appear that Clark Kent and Superman are distinct if they are actually identical. The robot, the lookalike, or something else is needed to make a mistake plausible. By contrast, identity readily explains the

absence of joint appearances without need for auxiliary hypotheses.<sup>19</sup> Our actual evidence may be more probable on one hypothesis than on the other and so would favour the hypothesis which makes it more probable.

Of course, all the evidence described is still compatible either with the identity or with the non-identity of Clark Kent and Superman. Special explanations might account for an illusion or failure to observe. Other things might not be equal: there might be a greater risk of one kind of mistake than another. But the compatibility of the evidence with either hypothesis does not mean that the two different evidential situations equally or only trivially support whichever hypothesis is true. Such complications and challenges are just part of the ordinary business of gathering and considering evidence: they provide no reason to think it impossible for a state of affairs to give non-trivial evidential support to one hypothesis over the other.<sup>20</sup> If each hypothesis is necessary if true, then our evidence may support something metaphysically necessary.

Consider another example. Suppose we had an apparently flawless articulation of a modal ontological argument (MOA). A flawless modal ontological argument would be a proof that the greatest possible being, maximal at least in knowledge, power, and goodness, necessarily exists and thus would be a proof of traditional theism as Almeida understands it. It would proceed solely from true premises and would contain no logical error. If there were a flawless MOA, it would be a sound argument, so the God of traditional theism would exist. For us to be reasonably persuaded of its soundness, however, we would need more than the formal properties of true premises and logical validity. In particular, the true premises from which the MOA proceeded would need to be premises that we found convincing – in fact, difficult or impossible to reject – in their own right. We would also want the MOA to be ‘surveyable’ in the sense that we could understand each step, assess how it is supported by any previous steps and how it, and the other steps, jointly support all subsequent steps. And we would need every step beyond the premises, under the strictest scrutiny we can muster, to appear validly derivable from what has gone before. If we had that, we would have an apparently flawless MOA. So far as we could tell, it would contain no flaw, no weakness, no doubtful premise, and no doubtful inferential step.

Now, we *might* have an apparently flawless MOA. Having it in hand would be a contingent state of affairs. I do not maintain that we ever will have such an argument in hand, but I see no reason why we could not. Further, it is epistemically possible (if we do not know  $\sim\Box F_G$ ) that an apparently flawless MOA is actually flawless. And if it is actually flawless, God necessarily exists. All of that seems possible if God does necessarily exist.

Actual flawlessness for an MOA would be a timeless property of the abstract argument: the MOA is either flawless or not. Apparent flawlessness, though, is relative to a course of investigation and so can change. Our assessment of even an apparently flawless MOA might change over time. Flaws might be newly discovered, or newly alleged flaws might meet convincing rebuttals. Imagine an assiduous and intelligent course of investigation conducted over a year, a decade, a century. If the investigation turned out to be consistently supportive of the MOA, that would narrow the gap between *apparently flawless* and *flawless*. The gap would not close entirely. The argument might be flawed in ways we are unable or unequipped to detect. Nevertheless, the ongoing and consistently supportive investigation would make it more reasonable to believe in the flawlessness, and therefore in the soundness, of the argument. And if it becomes more reasonable to believe that there is a sound MOA, it becomes more reasonable to believe in the traditional God (and less reasonable to deny it).

Note what this would mean. Having a flawless MOA in hand is an epistemically possible state of affairs. This epistemically possible state of affairs is metaphysically *impossible* unless the traditional God exists. So, if the traditional God does not exist, it is impossible for us to have a flawless MOA in hand. Thus, having a flawless MOA in hand is more probable if God exists than if God does not exist – some chance versus no chance. Depending

on how things go, investigating an apparently flawless MOA can make it more or less reasonable to believe that a candidate MOA is actually flawless. So, investigation can alter the probability that we should assign to a state of affairs that would be impossible if God did not exist and thus can alter the probability that we should assign to the existence of the traditional God.<sup>21</sup>

### Concluding remarks

Almeida argues that no state of affairs can provide non-trivial evidence bearing on the existence of the traditional God, so no evidence can make belief in the traditional God more or less reasonable. That might not be overly disturbing if we suspect the issue is beyond our grasp. A natural response might be to turn to other questions to which we hope our cognitive capacities are better suited. However, it turns out that if Almeida's reason for thinking that no evidence can bear on the existence of God is correct, there *are* no questions to which our cognitive capacities are better suited. His reason for doubt applies to every state of affairs that entails any metaphysical necessity. Since, in S5, every state of affairs entails some metaphysical necessity, no evidence could make it more or less reasonable to hold any belief. We should avoid such far-reaching scepticism if we can. Fortunately, we can, without abandoning either S5 or ordinary evidence.

The arguments in S5 show that every state of affairs trivially entails, trivially confirms, and trivially provides conclusive evidence for anything that is metaphysically necessary. If there were nothing more to evidential support than what can be expressed in terms of trivial entailment, trivial confirmation, and trivially conclusive evidence, Almeida would be correct: trivial entailments, understood as such, cannot alter our evidential situation or provide independent evidence for or against anything metaphysically necessary.

My counterproposal can be summarized in three points. First, no compelling argument has shown that trivial entailments exhaust possible evidential relations. Almeida's arguments, when carefully examined, allow for non-trivial evidential support that does not consist of relations of trivial entailment. Second, *likelihood* (the probability of evidence given a hypothesis) can explain how a state of affairs that is not known to entail a hypothesis can still serve as evidence for it. To use an earlier illustration, the state of affairs in which Clark Kent is never observed together with Superman is more probable if Clark Kent *is* Superman than if they are two separate individuals. All observations equally entail whatever is metaphysically necessary, but not all observations are equally probable, given what is metaphysically necessary. Third, by transferring the focus from trivial entailments to likelihoods, we can respect the intuitions that some states of affairs can provide evidence for, evidence against, or can be irrelevant to the existence of the traditional God,<sup>22</sup> but we do not have to dismiss S5 in order to accommodate ordinary evidential support.

Almeida tries to dissolve his evidential puzzle by assuming that all evidential support for metaphysical necessities consists of trivial entailments which cannot be known to obtain independently of whatever is the metaphysically necessary truth. It is better, I suggest, to dissolve it by recognizing that evidential support can be independent of entailment relations. That will have the salutary consequence that we are not precluded, in the philosophy of religion or elsewhere, from making progress by consideration of evidence.

**Acknowledgements.** I am grateful for discussion with Gayle Dean and Felipe Leon, as well as for feedback from two reviewers for *Religious Studies*.

### Notes

1. Almeida also claims striking implications for weakening S5 to S4 or K $\sigma$ p (Almeida (2022), 6–7), but I shall not address those arguments.

2. An anonymous reviewer – hereafter ‘(Reviewer)’ or ‘the reviewer’ – raises questions about the logic presupposed, to the effect that ‘[t]here are no logical truths or mathematical truths that are necessary in any independent sense’ and pointing out, among other things, that ‘mathematical structures based on classical or constructive or, for that matter, paraconsistent logics will vary in their mathematical truths’ (Reviewer (2022)). I see no need to dispute this. Different logics will license different inferences and have different theorems.

I think Almeida’s central and most interesting argument assumes S5 as a normal extension of first-order classical logic. I follow him in this. (Note that Almeida is explicit about the use of S5 but does not trouble to distinguish different possible underlying logics or to identify, as opposed to use, a logic.) For many purposes, classical logic is convenient and familiar. Like the reviewer, I doubt that ‘it is a logical truth that there are no non-empty domains’, but we can revisit questions of presupposed logical systems if it turns out that some issue in connection with Almeida’s argument critically depends upon some non-classical logic that, arguably, we should be using instead.

3. Elsewhere, Almeida treats necessary existence – existence in all possible worlds – as *among* God’s essential properties: ‘the essential properties of [God] include omnipotence, omniscience, perfect goodness, and necessary existence’ (Almeida (2012), 29).

4. I shall generally speak of God (or the traditional God) being necessary or impossible. When symbolic representation is employed, I shall follow Almeida and use  $\Box F_G$  for God’s necessity and  $\sim\Box F_G$  for God’s impossibility.

5. More precisely, they are either necessarily necessary, and therefore necessary, or necessarily not necessary, and therefore impossible. (Something that would be necessary if it were actual, but which is necessarily not necessary, is impossible.)

6. These are metaphysical entailments between states of affairs rather than demonstrations in which a set of premises logically entail a conclusion. When there is a demonstration from true premises, there is a metaphysical entailment between the states of affairs represented by the premises and the conclusion, but when there is a metaphysical entailment, we may not have or be able to construct a demonstration.

7. For details, see Almeida (2022), 2–4.

8. Since doubt is an attitude or psychological state of experienced uncertainty while scepticism is a philosophical position about knowledge or epistemic support, the presence or absence of either can be combined with the presence or absence of the other.

9. We may have no knowledge or epistemic support for or against the existence of intelligent life in a distant galaxy. But that would not be philosophically interesting. It reflects only the fact that we are not well placed to gather evidence.

10. I think we should already be suspicious that Evidential Irrelevance looks to be self-undermining: what is the impossibility of finding evidence for or against metaphysical necessities or impossibilities if it is not itself a metaphysical impossibility? For the present, I set this issue aside.

11. The reviewer raises similar issues about my examples of a posteriori necessities including such things as the identity of H<sub>2</sub>O with water and the identity of Hesperus with Phosphorus. The reviewer constructs arguments on my behalf and objects that a critical step in each of the arguments he has constructed is false. In the water–H<sub>2</sub>O case, the reviewer makes the somewhat confusing claim that ‘ $\Box(\text{water} = \text{H}_2\text{O})$  does not entail that  $\text{water} = \text{H}_2\text{O}$  is true in every possible world’, but suggests that the critical premise would be true if ‘propositions like  $\text{water} = \text{H}_2\text{O}$  can be true in worlds in which there is no water’. With respect to the corresponding premise for the Hesperus–Phosphorus case, he says that ‘[t]he only available response is to argue that Hesperus necessarily exists’. He takes neither of these to be credible. Both depend on some assumption that if something is true in all possible worlds, there must be something – water or Hesperus – ‘in’ each possible world for it to be true of. I am not convinced. If an identity is never false in any possible world – if there is no possible world in which water exists but is not identical to H<sub>2</sub>O nor any in which Hesperus exists but is not identical to Phosphorus, I do not see that never being false in any possible world falls short of anything needed for the identity of water with H<sub>2</sub>O or the identity of Hesperus with Phosphorus in every possible world. (If water need not exist in every possible world to be identical to H<sub>2</sub>O in all possible worlds, that may suggest as well that there are identities, and hence necessities, entirely inaccessible to us because not exemplified in the actual world but which nonetheless hold throughout all possible worlds. The identity of Twin Earthian ‘water’ with XYZ might be an example.)

More importantly, though, since the reviewer’s proposed arguments do not fully mirror my own, I refer readers to my more general discussion of Evidential Irrelevance.

12. Letting ‘D’ represent ‘Tilly is a dog’, it is an S5 theorem that  $\sim\Box\Diamond D \rightarrow \Box\sim D$ .

13. The reviewer suggests on my behalf an argument that purports to demonstrate a contradiction from the existence of evidence both for and against Tilly being a dog. That was not my argument. Instead, I argue that the state of affairs in which Tilly is a dog entails her being necessarily possibly a dog. However, according to Evidential Irrelevance, no evidence can more than trivially support any metaphysically necessary truth, so no

evidence can show or make it more probable that she is necessarily possibly a dog rather than not necessarily possibly a dog. Thus, no evidence can make it probable that she is a dog, since a being that is not necessarily possibly a dog is not a dog in any possible world and therefore not possibly a dog at all. Alternatively, if evidence can make it probable that Tilly is a dog, it can also make it probable that she is necessarily possibly a dog and so, as I argue in the next section, Evidential Irrelevance is false.

14. (8) in the parallel argument would be that nothing non-trivially confirms or disconfirms  $\sim\Box F_G$ . That's equivalent to (8) above since non-trivial confirmation of  $\sim\Box F_G$ , would be non-trivial disconfirmation of  $\Box F_G$ , and non-trivial disconfirmation of  $\sim\Box F_G$ , would be non-trivial confirmation of  $\Box F_G$ .

15. If Almeida really meant that '[a] state of affairs S constitutes [any] evidence for  $\Box F_G$  only if  $\Box F_G$  is true', that is not supported by his arguments. In many cases, a false conclusion may yet be supported by evidence. If I toss a coin and get eight heads in a row, that is evidence that the coin is not fair. Nevertheless, the coin may be fair: in one trial out of 256, a fair coin may be expected to produce a run of eight heads in a row.

16. See the discussion of epistemic probability and trivially conclusive evidence above and note 20 below.

17. See Sober (2008), sec. 1.2, 1.3. The reviewer objects that the move to likelihood makes no important difference to the argument . . . Since it is true that

- (i)  $P(\Box F_G | S) = 1$  &  $P(\Box F_G) = 1$  or
- (ii)  $P(\sim\Box F_G | S) = 1$  &  $P(\sim\Box F_G) = 1$ ,

it follows that either  $P(S | \Box F_G) = P(S)$  or  $P(S | \sim\Box F_G) = P(S)$ . So neither  $\Box F_G$  nor  $\sim\Box F_G$  can affect the likelihood of any proposition S. We therefore have no evidence either for or against  $\sim\Box F_G$  or  $\Box F_G$ . (Reviewer (2022))

There are two problems here. First, the arguments that establish that  $P(S | \Box F_G) = P(S)$  from (i) or that  $P(S | \sim\Box F_G) = P(S)$  from (ii) do not establish that  $P(S)$  from (i) is equal to  $P(S)$  from (ii). If  $P(S)_{(i)}$  can differ from  $P(S)_{(ii)}$ , likelihood may make a difference. Second, these arguments do not engage with the *prima facie* reasons given below for thinking that likelihood may make a difference. To sketch one example briefly, we know that a flawless modal ontological argument (or MOA) is impossible if the traditional God does not exist. Would Almeida or the reviewer agree that a flawless MOA is also impossible if the traditional God does exist? That would not be plausible, but it would be what to expect if no state of affairs, S, can have different probabilities conditional upon  $\Box F_G$  or  $\sim\Box F_G$ .

18. Nothing essential to the argument depends on the use of comic-book characters for illustration. The same points could be made with Hesperus and Phosphorus or with other real-world cases.

19. Similar arguments could be framed for non-identities – for example, between Superman and Bruce Wayne. Apparent distinctness at the same place and time is easily explained if they are in fact non-identical. A case of apparent identity – where Bruce Wayne appears to strip off clothing and makeup, reveals Superman's visage and outfit, and then flies away under his own power – would require a more complicated, and therefore less probable, story as to how it was faked if Superman is not identical to Bruce Wayne.

20. Almeida might object that an obvious generalization of his argument about the probability of  $\Box F_G | S$  (Almeida (2022), 4) shows that the epistemic probability to be assigned to any purported metaphysical necessity, given any state of affairs as evidence, must be either 1 or 0. Since updating on probabilities, respectively, of 1 or 0 yields probabilities of 1 or 0, no probabilities of states of affairs given a hypothesized metaphysical necessity can favour or disfavour that hypothesis. (The hypothesized necessity already has a probability of 1 or 0.) The problem with this argument is that there is only a proof that a purported metaphysical necessity (or its denial) must have the disjunctive probability, 1 or 0. That is not a proof that the probability is definitely 1 or that it is definitely 0. An epistemic probability should be relative to what we know and so should be allowed a prior value that reflects our ignorance. It should be no more problematic to assign an intermediate probability to an unknown metaphysical necessity than to assign an intermediate probability to an unknown but already settled fact, such as whether an already tossed, but not yet revealed, coin has come up heads. (See also the earlier discussion of trivially conclusive evidence.)

21. Similarly, there might be an apparently flawless proof of God's impossibility. Investigation might narrow the gap between apparent and actual flawlessness, thus licensing a change in the probability that should be assigned to God's impossibility.

22. The likelihood framework also makes sense of the possibility that some state of affairs, such as the number of trees in North America, is evidentially irrelevant to the existence of God. We know of no reason why the number of trees in North America would be more probable if God existed or more probable if God did not exist. Whatever the number of trees, it will still trivially entail whatever is metaphysically necessary, but that only confirms the point that evidence is neither exhausted nor constituted solely by trivial entailments.

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