# Contingent A Priori Knowledge

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*Abstract*: I argue that you can have a priori knowledge of propositions that neither are nor appear necessarily true. You can know a priori contingent propositions that you recognize as such. This overturns a standard view in contemporary epistemology and the traditional view of the a priori, which restrict a priori knowledge to necessary truths, or at least to truths that appear necessary.

## 1. An Intriguing Possibility

The possibility of contingent a priori knowledge intrigues philosophers partly because it promises to help solve difficult philosophical problems and partly because it is intrinsically fascinating.

One notorious epistemological problem concerns whether we could know that sense perception is reliable.[1] Even if sense perception is reliable, it is not necessarily reliable. It could have been unreliable. So we have to gather information to know whether sense perception is actually reliable. Gathering such information requires us to use sense perception. But using it presupposes its reliability. Many think this creates a serious problem.[2] Can we really come to know that sense perception is reliable by proceeding in a way that

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[1] Alston 1993 treats the topic extensively.
[2] E.g. Fumerton 1995, Vogel 2000 and Cohen 2002.

presupposes its reliability? Arguably this renders our inquiry hopelessly circular.[3] But then it becomes difficult to see how we ever could come to know that sense perception is reliable, and a deep and troubling form of skepticism looms.

The possibility of contingent a priori knowledge exposes a weakness in this reasoning. Sense perception could have been unreliable, but this doesn't entail that we must use sense perception to learn that it is reliable. We might know this contingent truth a priori. If I am right, skeptics cannot foreclose this possibility by claiming that a priori knowledge is restricted to necessary truths.

Aside from promising to help solve stubborn philosophical problems, the possibility of contingent a priori knowledge is interesting and important in its own right. It would reveal something deep and important about the relationship between mind and world if we could, just by thinking hard and without relying on any sensory information about what is happening around us or within our own minds, come to know that some contingent claim is actually true. (Notice that this differs from innate knowledge of contingent truths, should there be any. Innate knowledge does not require even thinking hard—the mind simply comes furnished with it.) I find such a possibility fascinating, as have many of philosophy's greatest minds. And while some may not share my fascination, hopefully we all recognize this topic's enduring importance in modern philosophy

Once we establish that such knowledge is possible, we will sure-

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[3] Bergmann 2004 argues that that this type of circularity is not necessarily bad.

ly then want to trace its boundaries as best we can. This latter project does not occupy me here. My goal is to establish that it is possible in the first place.

## 2. Kripke's Argument

Some philosophers express surprise that the standard view is still standard. They suppose that several decades ago Saul Kripke proved that contingent a priori knowledge is possible. Whereas Kant showed that a priori knowledge extends beyond analytic truths to encompass some synthetic truths, Kripke showed that it extends beyond necessary truths to encompass some contingent truths.

Kripke suggested that you could know a priori that a particular stick $s$ is one meter long at a certain time $t$, despite the fact that it is obviously only contingently true that $s$ is one meter long at $t$.[4] You could know this a priori if you were, at that very time, using $s$ to fix the reference of the term 'meter'.

This example fails because it trades on a subtle confusion.[5] We

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[4] Kripke 1980: 56.

[5] The following criticism may resemble Casullo's 1977: 155 ff, but it is actually importantly different. Casullo's criticism (p. 155 ff.) involves distinguishing '$S$ is one meter long at $t_0$' from 'The length of $S$ at $t_0$ is one meter', and implementing Keith Donellan's 1966 distinction between attributive and referential use of definite descriptions. My criticism does not presuppose Donellan's distinction, and thus is not held hostage to developments in the philosophy of language. (Note: neither does my criticism presuppose that Donellan's distinction is inapt.) Donellan 1977 offers his own criticism of Kripke's examples. Also compare BonJour 1998: 12–13, whose criticism of Kripke

must distinguish two relevant truths. First, it is true that a stick used to fix the reference of a unit of measurement will measure exactly one such unit at the instant the reference is fixed.[6] Doubtless you can know this a priori; but the truth in question is also necessary. Second, it is true that *s* is one meter long at *t*. Doubtless this truth is contingent; but it is not something you could know a priori. The appearance of contingent a priori knowledge is generated only if we fail to distinguish these two salient truths, mistakenly running together the *apriority* of the first and the *contingency* of the second. You could of course know that *s* is one meter long at time *t*, by virtue of knowing (a) that any stick used to fix the reference of a unit of measurement will measure exactly one such unit at the instant the reference is fixed, and (b) that *s* is being used at *t* to fix the reference of 'meter'. But knowledge of (b) depends essentially on sense experience, so it is obviously not a priori. Consequently the knowledge that *s* is one meter long at *t* is not a priori either.

Kripke's example never persuaded me, for the reason just given. Those who are persuaded by Kripke's example will find in my argument further, independent evidence for the possibility of contin-

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both essentially resembles mine and predates it by several years.

6　Actually this is not quite true, for one might fix the referent of 'schmeter' by saying, 'Let "schmeter" designate that length equivalent to one-tenth the present length of this stick' while holding up a stick. The stick in this example would have been used to fix the reference of 'schmeter', yet would not thereby measure one schmeter, but rather exactly ten. We could get around this problem by stipulating that we are concerned with only *standard* reference-fixing rituals, wherein a unit of measurement is fixed as equal to the *entire* length of an object. For ease of exposition, I ignore these details in the text.

gent a priori knowledge.

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The remainder of this paper divides into three sections. First I present a version of the standard view (BonJour's). Then I present my argument. The argument demonstrates how my alternative view emerges from some very plausible claims about knowledge. Finally I respond to several objections. Along the way we'll see how another important challenge to the standard view, suggested by John Hawthorne and even considered by BonJour, fails.

Before proceeding, let me briefly address an issue that may be on some readers' minds. In addition to restricting a priori knowledge to necessary truths, many proponents of the standard view also say that a priori justification is *infallible* and *rationally unrevisable* (by experience, at least). These claims are implausible, as several theorists have persuasively argued.[7] I won't rehearse their arguments, but the following line of reasoning persuades me. Other things being equal we ought to prefer a more unified treatment of a priori and empirical justification. So since empirical justification is neither infallible nor rationally unrevisable, other things being equal we ought to prefer a theory of a priori justification that says it is likewise neither infallible nor rationally unrevisable.

Moreover establishing the possibility of contingent a priori knowledge will provide further evidence that fallible and rationally revisable a priori justification is possible. If you can be a priori justi-

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[7] See Jeshion 2000, BonJour 1998: Ch. 4.4, BonJour 2001, Plantinga 1993: 110–113, and Casullo1988.

fied in believing something that is possibly false, then you might be a priori justified in believing something that actually *is* false. And if you might be a priori justified in believing something that actually is false, then of course you might later discover evidence that what you believe is false, whereupon you would no longer be (as) justified in believing it, and so might rightly revise your opinion.

## 3. The Standard View, BonJour Style[8]

On BonJour's view, you a priori know that Q only if you are a priori justified in believing Q. Justification is the source of apriority. So

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[8] Representing the standard *contemporary* view: Chisholm 1977: 46 tells us, "whatever is a priori is necessarily true." According to Chisholm 1977: 43, S knows *p* a priori only if *p* is axiomatic for S; *p* is axiomatic for S only if *p* is an axiom; and *p* is an axiom only if it is necessarily true. BonJour 1998: 107 tells us that the a priori concerns "the way that reality *must* be." Plantinga 1993: 106 tells us, "all of what we know a priori is necessarily true." Bealer 1999: 30 tells us that we can have a priori knowledge of *p* only if it "presents itself as necessary." Huemer 2007: 37 says, "I am inclined to agree that all apparent rational insights seem necessary," but compare p. 43.

Representing the *traditional* view: Kant 1996: 44 tells us that "a priori cognitions" are "universal cognitions . . . characterized by intrinsic necessity." Hume 1993: section IV tells us that propositions knowable a priori (or, as Hume puts it, knowable "by the mere operation of thought, without dependence on what is any where existent in the universe") are such that their denial "implies a contradiction," which of course indicates that truths known a priori are necessary. Leibniz 1973: 98 takes a slightly more nuanced view, though the difference matters not for *human* knowledge. He tells us that, for all cognizers *except God*, truths knowable a priori are necessary: "existential or contingent propositions differ entirely from [necessary propositions]. Their truth is understood a priori by the infinite mind alone."

let's examine BonJour's theory of a priori justification.[9]

You are **justified** in believing Q just in case you have a reason[10] that makes it sufficiently likely that the belief is true. ('Sufficiently' will be left vague.) You are **a priori justified** in believing Q just in case you are justified in believing Q and your reason for believing Q does not depend on any positive appeal to experience of contingent features of the actual world, but rather depends upon "pure thought alone."[11] BonJour writes,

> the relevant notion of experience should be under-
> stood to include any sort of process that is perceptual
> in the broad sense of (a) being a causally conditioned
> response to particular features of the world and (b)
> yielding doxastic states that have as their content pu-
> tative information concerning such particular, contin-
> gent features of the actual world as contrasted with
> other possible worlds.[12]

Put simply, your belief that Q is a priori justified just in case it is justified and based solely on **intuition**.[13] Any experience required

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9 BonJour 1998: Chapters 1 and 4, esp. pp. 8–11, 100–13.

10 Some might prefer 'evidence' to 'reason'. It matters not for present purposes which we choose.

11 BonJour 1998: 7. BonJour (1998: 114) also places procedural conditions on the manner in which one considers the proposition, e.g., with care, and with due consideration to the fact that it appears necessary. I ignore these for present purposes.

12 BonJour 1998: 8.

13 Here I overlook an important distinction between propositional and doxastic justification, which may be safely ignored for present purposes. I also overlook one other important matter. BonJour's ultimate

to acquire the concepts needed to understand Q doesn't undermine the apriority of justification.

A proposition apt to be intuited is "**rationally self-evident**," which means that "its very content provides, for one who grasps it properly, an immediate accessible reason for thinking that it is true."[14] Simple arithmetical, logical, and conceptual truths are the clearest examples of self-evident propositions: that 2 + 2 = 4, that <Q & (Q only if P)> entails <P>, that scarlet is not a shade of blue, etc.

Note two crucial features of this view. First, BonJour's admirable explanation of the concept of a priori justification does not state or even suggest that the proposition in question must be, or seem to be, necessarily true. This is evident from my presentation in this

official characterization of intuition (or as he sometimes refers to it, "rational insight" or "a priori insight") *builds in* reference to the apparent necessity of the intuited proposition. Intuitions provide "direct or immediate insight into the truth, indeed the necessary truth, of the relevant claim . . . . They are thus putative insights into the essential nature of things or situations of the relevant kind, into the way that reality in the respect in question *must* be." See BonJour 2005: 99. But notice that BonJour can adequately articulate the concept of a priori justification *without* mentioning necessity. Moreover, from the present perspective it would simply *beg the question* to insist on the apparent necessity.

One final caveat. BonJour often uses a mere 'if' when characterizing the nature of a priori justification. If he genuinely intends to establish only a sufficient condition—i.e. if there are *other ways* to achieve a priori justification—then insisting on apparent necessity would not beg the question. However, as the proposed analysis quoted just below in the main text indicates, BonJour intends to provide jointly sufficient *and necessary* conditions. So I do not think he can properly insist upon the condition in question, at least in the present context.

[14] BonJour 1998: 102.

section up till now. As further evidence, consider also these passages from early in BonJour's seminal book on the topic:

> Historically, most epistemologists have distinguished two main sources from which the epistemic justification of a belief might arise. It has seemed obvious to all but a very few that many beliefs are justified by appeal to one's sensory (and introspective) *experience* of the world. But it has seemed equally obvious to most that there are other beliefs, including many of the most important ones that we have, that are justified in a way that does not depend at all on such an appeal to experience, justified, as it is usually put, by reason or pure thought alone. Beliefs justified entirely in the latter way are said to be justified a priori, while beliefs justified at least partially in the former way are said to be justified empirically or a posteriori.[15]

> In summation, I propose to count a proposition *p* as being justified a priori (for a particular person, at a particular time) if and only if that person has a reason for thinking *p* to be true that does not depend on any positive appeal to experience or other causally mediated, quasi-perceptual contact with contingent features of the world, but only on pure thought or reason, even if the person's ability to understand *p* . . . derives,

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[15] BonJour 1998: 2.

in whole or in part, from experience.[16]

These passages do not specify the modal status of the proposition in question.[17]

Second, the definition of self-evidence does not restrict self-evident propositions to necessary truths. Its content need only provide a reason for thinking that it is true, and clearly one can have a reason for thinking that a claim is true without also having a reason for thinking that it is *necessarily* true.[18]

These two points merit special emphasis. They indicate that we should not be the least bit surprised if some contingent propositions turn out to be viable candidates for a priori knowledge. Nothing in the intuitive conception of a priori justification suggests otherwise.

BonJour is often treated as representative of the standard view,[19] as I have treated him here. But I should note that at one point he says something suggesting that he might accept a priori justification for some contingent truths.[20] Yet this comes only very

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[16] BonJour 1998: 11.

[17] Of course, one might argue that the formulations imply that the proposition appears to be *possibly* true. The important point is that they imply neither that the proposition is nor appears to be both possibly *and* necessarily true. (All necessarily true propositions are possibly true, but not vice versa.) They do leave open the possibility that the proposition is, and appears, *both* possibly true *and* possibly false.

[18] Compare Audi 1999: 211–212.

[19] E.g. Casullo 2002: 101, 104. Unlike other proponents of the standard view, BonJour doesn't think a priori justification must be infallible and rationally unrevisable.

[20] BonJour 1998: 208–209. It isn't exactly clear which proposition he thinks is a priori justified: that *it is highly probable that* in the actual

late in BonJour's discussion, is subject to interpretive difficulty, and contradicts what he says elsewhere in the chapters and articles dedicated to explaining and defending his view. He says, "a priori justification occurs when the mind directly or intuitively sees or grasps or apprehends a necessary fact about the nature or structure of reality."[21] Perhaps most pointedly, he says that a suitable intuition "must involve a genuine awareness by the person in question of the necessity or apparent necessity of the proposition in something like the strong logical or metaphysical sense."[22] We will return to this issue below.

## 4. My Argument

Here is my argument:

1. If you have a non-accidentally justified true belief that Q, then you know that Q. (Premise)

2. If you know that Q and your justification for believing Q is a priori, then you a priori know that Q. (Premise)[23]

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world there is a non-chance explanation for the truth of a standard inductive premise, or, that there *actually is* a non-chance explanation for the truth of a standard inductive premise. (A standard inductive premise states that *m/n* observed *As* are *Bs*.) If the former, then BonJour has not conceded that there could be a priori justification for contingent truths, because he says the truth in question is necessary. If the latter, then BonJour has conceded the point. But as I will explain below, even if BonJour is genuinely conceding the point, the example he uses arguably shouldn't convince us that his concession is advisable.

[21] BonJour 1998: 15 - 16.
[22] BonJour 1998: 114. See also BonJour 2005.
[23] Present purposes require only a sufficient condition. If you want a

3. Therefore if you have a non-accidentally justified true belief that Q and your justification is a priori, then you a priori know that Q. (From 1, 2)

4. If your justified belief that Q is based solely on an intuition that Q, then your justification is a priori. (Premise)

5. It is possible for you to be non-accidentally justified in believing some contingent proposition solely on the basis of an intuition. (Premise)

6. Therefore it is possible for you to have contingent a priori knowledge. (From 3–5)

Line 2 is a straightforward and intuitive sufficient condition for a priori knowledge, which my opponents and I can share. Line 4 merely states a sufficient condition for a priori justification, and is assumed in much of the literature. Again my opponents and I can both accept line 4. (Please note that since line 4 merely states a sufficient condition for a priori justification, it doesn't assume that all a priori justification derives from intuition or self-evidence.)

Before looking more closely at lines 1 and 5, let me caution against a potential error. I have been asked whether line 5 alone constitutes a repudiation of the standard view, and hence whether the rest of the argument is superfluous. Short answer: no. A mo-

definition, then I propose: You a priori know that Q =$_{def}$ You know that Q and your justification for believing Q is a priori. (We'll need to add a wrinkle to handle cases of epistemic overdetermination, along with a specification of how the belief is based, which I leave to your ingenuity.) Compare Kitcher's 1980: 9–10 analysis. Kitcher speaks of warrant, whereas I speak of justification. In Casullo's (2002: Section 2) terminology, mine is a reductive and purely epistemic analysis of a priori knowledge.

ment's reflection reveals that line 5 by itself does not generate a conflict with the traditional view. To do that, we must supplement it with further assumptions regarding *knowledge*. The argument provides this.

Regarding line 1, some epistemologists might argue that non-accidentally justified true belief is sufficient *and necessary* for knowledge.[24] They might be correct, but my purposes require only sufficiency.

I will not offer an exhaustive account of the difference between epistemically relevant and irrelevant luck (accidentality).[25] But I must say enough so that we can all agree that the protagonist in my example below does not suffer from the epistemically relevant variety, which I will do now.[26]

Some accidents are epistemically relevant, but many are not. We usually distinguish them effortlessly. For example, Sid believes that one of pockets is torn because he happened to glance in the mirror at just the right angle. Otherwise he wouldn't have had the visual evidence that his pocket is torn. There is obviously something accidental about Sid's coming to have the visual evidence that he does. It needn't have turned out that Sid glanced in the mirror when he did, at the angle he did. The same can be said for the justification

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[24] Compare Unger 1968. Unger gives a full-blown analysis. But he leaves out justification, speaking instead of it not being an accident that the subject gets things right.

[25] For an extensive discussion, see Pritchard 2005: Part II. For a promising solution to the problem of epistemic, as well as moral, luck, see Greco 2006.

[26] Section 5 addresses residual worries about probabilistic grounds, which are closely related to epistemic luck.

for nearly every empirical belief.[27] But the mere fact that Sid *needn't* have had the experience doesn't spoil his knowledge. Otherwise only necessary experiences—whatever *that* is supposed to mean—could ground knowledge.

The original Gettier cases and Carl Ginet's barn-façade case provide examples of epistemically relevant accidents.[28] We focus here on Ginet's barn-façade case because it involves a non-inferential belief. This puts us in a position to see that pernicious epistemic luck of this sort does not afflict the protagonist in my example below, forestalling a potential objection to my defense of line 5.

Here is Ginet's case. Henry is driving through the countryside. At a certain point, a roadside barn catches his attention. Optimal viewing conditions obtain. On the basis of the barn-look, he forms the justified true belief that there is a barn along the roadside. But Henry is in Fake Barn Country, where numerous barn façades populate the land. There are many, many façades but only a handful of

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[27] It is controversial whether *cogito* beliefs (e.g., the belief you would express by uttering 'I exist', or the one you would express by uttering 'I am thinking') count as empirical. Even if they are, there still is something accidental about your having evidence for them—after all, you might not have been thinking at the moment—indeed, you might not even have existed. We could argue about these special cases, but the outcome won't adversely affect the discussion in the main text, precisely because these special exceptions prove the rule regarding "the justification for *nearly* every empirical belief."

[28] Gettier 1963. We learn of Ginet's barn-façade case through Goldman 1976: 772 ff. I myself think Ginet's case differs crucially from Gettier's, but I'll bypass that controversial point here. For an argument that the subject in Ginet's example *does* know that there is a roadside barn, see Turri forthcoming. See also Lycan 2006 and Sosa 2007.

real barns in the area. If a façade had caught Henry's attention, he would have falsely believed it was a roadside barn.

Many philosophers intuit that Henry doesn't know that there is a barn along the roadside. What explains the intuition? One plausible explanation is that the connection is extremely tenuous between Henry's reason (the barn-look) and his belief's truth. In Fake Barn Country the barn-look does not make it likely that Henry is looking at a barn.

The right example should convince us of 5. John Hawthorne provides examples that he thinks suffice.[29] His example of The Explainer is the most plausible, so we'll focus on it.

The Explainer is a disembodied being who, prior to having any sensory experience, engages in a priori reflection about which microphysical theories would best explain various possible "experiential life histories." For one of the possible life histories, L, The Explainer comes to justifiedly believe that theory T would best explain it. The Explainer's belief that T best explains L, Hawthorne suggests, is a priori justified because he forms it just by thinking hard, uninformed by sensory experience. Let's grant that The Explainer can know a priori that T best explains L. The Explainer then contemplates his impending embodiment. Based on his a priori knowledge that T best explains L, he infers the material conditional 'If I undergo experiential life history L, then T is true'. If true, this conditional will be only contingently true, because it is possible for the best explanation to be false. Hawthorne judges it plausible that

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[29] Hawthorne 2002.

if the conditional turns out to be true, then The Explainer knows that it is.

We might object on the grounds that we lack good reason to believe that the best explanation is more likely true than not. Take the set of possible worlds where L occurs (the 'L-worlds'). Suppose T explains L at a *plurality* of them (call these 'T»L-worlds'). This makes T the most likely and so best explanation of L. But T»L is still **unlikely** given L (in the same sense of likelihood). A plurality of L-worlds are T»L-worlds, but **most L-worlds are *not* T»L-worlds**. (It might even turn out that most L-worlds are not T-worlds.[30]) Knowledge clearly requires a stronger truth-connection than this, or so you might reasonably maintain.

Similar reasoning suggests that The Explainer's belief is not non-accidentally justified. The truth connection here is just too tenuous. Most L-worlds are not T»L-worlds, even though The Explainer's world happens to be a T»L-world. This is relevantly similar to inhabiting an area where most things that look like barns are not barns, yet you happen to be looking at the one barn in the entire county.[31]

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[30] Call a world where T and L are both true a 'T&L-world'. The T»L-worlds form a proper subset of the T&L-worlds. Not all T&L-worlds are T»L-worlds. Consider an analogy. Divine command ethicists say that *God's commanding us to not steal* (T) explains why stealing is wrong (L). But divine command ethics could be false (not T»L) even though stealing is wrong and God does command us to not steal (T&L). You can consistently maintain that stealing is wrong, that God commands us to not steal, and that stealing's wrongness is explained by its bad consequences, *not* by God's commands.

[31] Many externalists might reject this reasoning. Suppose that even though most L-worlds are not T»L-worlds, the actual world and all

Properly addressing these concerns requires providing a suitable account of explanation, and what it is for a hypothesis to best explain some data—a monumental undertaking, to say the least.

I have a further concern about the example. Many parties to the debate care about the possibility of *human* contingent a priori knowledge. Hawthorne's bizarre case is irrelevant to this. Leibniz conceded that God had a priori knowledge of contingent truths. Others might well concede the possibility of superhuman or divine contingent a priori knowledge, yet deny it is humanly possible. Even granting everything Hawthorne says about The Explainer, this issue remains unsettled. (My example below establishes that it is humanly possible.)

BonJour at one point makes a suggestion similar to Hawthorne's. The example forms part of BonJour's ambitious attempt to solve the problem of induction by explaining how we could be a priori justified in accepting the following principle:

> If $m/n$ of observed cases of *A* have been cases of *B*,
> given suitable variation of the collateral circumstances
> and the absence of any further relevant information,
> then it is likely or probable that, within some reason-
> able measure of approximation, $m/n$ of all cases of A

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nearby worlds are T»L-worlds. Thus *not easily* would T fail to explain L. This might suffice for knowledge on many externalist views. Internalists, such as BonJour or Chisholm, would of course object. To the greatest extent possible, I aim to bypass the internalist/externalist controversy here, so I want to avoid relying on assumptions or examples that only externalists would accept. In any event, examples *much simpler* than Hawthorne's would suffice from an externalist perspective.

are cases of B.[32]

The intuitive thought behind this suggestion, BonJour explains, "is that an objective regularity of a sort that would make the conclusion of a standard inductive argument true provides the *best explanation* for the truth of the premise of such an argument."[33]

But we have already seen a potential problem with this. If we suppose, along with BonJour and most other epistemologists, that a good epistemic reason for believing Q must at least make Q more likely than not, then we shouldn't conclude that the mere fact that a hypothesis best explains the data constitutes a good epistemic reason for believing the hypothesis. Accordingly we shouldn't accept that it could, by itself, provide a priori justification or knowledge.

So a proponent of the standard view will likely mistrust examples featuring explanatory reasoning. Fortunately we needn't rely on such examples to validate 5. Consider this most unlikely case:

> (**MOST UNLIKELY**): Sam considers whether the most unlikely possible event is not presently occurring. By 'the most unlikely possible event', Sam intends to designate whatever was, at the immediately preceding instant, t - 1, the possible event most unlikely to occur at the next instant, t, which is the mo-

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[32] BonJour 1998: 206.
[33] BonJour 1998: 207. BonJour emphasizes 'explanation' but not 'best'. I suspect this is a mere typographical error (if it weren't *the best,* then why would it matter?). In any event, the italics for 'best' are mine.

ment at which her deliberation occurs.[34] Sam understands the proposition in question. Solely in virtue of that understanding, it seems to her — i.e. she intuits — that the proposition is true, though not necessarily so. On the basis of this intuition, she believes that the most unlikely possible event is not presently occurring. Her belief is true.

Note that Sam does not reason her way to the belief that the most unlikely possible event is not occurring. Her belief is non-inferential, based on the intuition, not other beliefs.

The example features a proposition that is overwhelmingly likely to be true *as a matter of conceptual necessity.* This crucial feature makes it relevantly similar to standard examples of a priori knowledge of necessary truths. It explains why Sam can be non-accidentally justified in believing that it is not occurring, just by considering it and without relying on sensory or introspective experience.

It is doubtful that sensory or introspective experience even *could* bolster Sam's justification here. What sort of experience could be relevant? Experience could not provide any evidence for thinking that the event is somehow *more* unlikely to occur. Sam already understands it to be *the most unlikely* possible event. Granted experience can give us evidence that certain events are *impossible.* For example experience informs us that Hesperus and Phosphorus are

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[34] Perhaps this is best described in terms of an event *type*. But I'll ignore this because it doesn't seem to affect the basic line of thought.

one and the same heavenly body, from which we infer that Hesperus could not possibly collide with Phosphorus. But experience cannot do this in the present case because you could never acquire any evidence, experiential or otherwise, for thinking that the the most unlikely *possible* event (when picked out under that very description) is *impossible.*

The present case does not relevantly resemble Gettier or Ginet cases. Sam inhabits a perfectly ordinary environment, leisurely reflecting on matters of personal interest. (For any extension or modification you might conceivably propose that would turn it into a Gettier or Ginet case, I will explicitly enter the proposal's negation into the case's description.) Whereas we could rig an environment so that the barn-look is a counter-indication of real barns, it is impossible to rig an environment so that an event's being the most unlikely possible event is a counter-indication of its not occurring.[35]

Before turning to objections, let me clarify one point. It could turn out that if Sam were to pick out the event satisfying the description 'the most unlikely possible event' under some other description, then she wouldn't be a priori justified in believing that it is not occurring. Suppose that the most unlikely possible event is for the most massive object in the universe to quantum tunnel. Such an event is improbable to an unfathomable degree. But to be justified in believing that it is not occurring, you would have to know something about the actual physical laws and how massive the most massive object is. Had the physical laws been different, the

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[35] I imagine one objection to this, which I consider below. A minor adjustment completely avoids any worries.

most massive object might have been quite likely to quantum tunnel at any moment. Likewise, even holding the actual physical laws constant, if the most massive object was a quark, it would not be very unlikely for it to quantum tunnel. We need experience and observation to learn such things.[36]

## 5. Objections Answered

One might object that there is no such thing as the most unlikely possible event. For any contingent event of probability $n$, there is always another possible event of probability $n - m$ (where $0 < m < n < 1$). Take any compossible contingent events $e$ and $e'$, and the event that is their co-occurrence, e''. The probability of $e''$ will be less than that of either $e$ or $e'$. Since there are indefinitely many compossible events, there will be no end to the process. Thus there will never be a possible event than which no other event is more unlikely. I meet this objection by stipulating that Sam is concerned with non-conjunctive or atomic events, such as $e$ and $e'$.

Another objection is that it might turn out that there is, as a contingent matter of fact, *no* most unlikely possible event. This is a problem of uniqueness. There might be two or more events that share the title 'event than which no other event is more unlikely',

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[36] You might disagree, claiming that we *can* indeed know such things without the aid of sensory experience, but only when entertained under a certain sense. Perhaps I have just described such a case. Granting this would not hinder my cause, so I will let it pass without further remark. In any event, a responsible treatment of the nature of belief and its objects falls beyond this paper's scope.

but none that is *the* most unlikely. And we cannot plausibly adjust the example so that Sam believes *no event, than which no other event is more unlikely, is occurring*. For if there are enough events satisfying this description, it might be *very likely* that at least one such event is occurring. And it is not plausible that Sam could be a priori justified in believing that only a relatively few events satisfy that description. I meet this objection by adjusting the example through conditionalizing Sam's belief. And by that I mean she believes: IF there is a unique most unlikely possible event, THEN it is not occurring. This material conditional will be true just in case either (a) there is no such unique event, or (b) there is but it is not occurring. Either way, it is only contingently true. Sam could be non-accidentally justified in believing this conditional simply in virtue of understanding it.

A further objection questions whether the most unlikely possible event must be unlikely. Recall that 'the most unlikely possible event' designates whatever was, at the instant immediately preceding, $t$ - 1, the possible event most unlikely to occur at the next instant. Suppose for the sake of argument that at $t - 1$ the entire future state of the world at $t$ was determined, except for whether a single electron will veer left or right at a certain juncture. Suppose further that the likelihood of its veering left is .49 and of its veering right .51. Now the electron's veering left is the most unlikely possible event. But an event whose probability of occurring is .49 is *not* unlikely. (It's not likely either, but that's beside the point.) So Sam's belief is at best only *accidentally* justified. In response we can simp-

ly modify the example. Let Sam believe that if there is a unique most unlikely possible event whose probability of occurring is at most one in a quintillion, then that event is not presently occurring.

Some will object to the case on the following grounds. Knowledge is the norm of assertion. So if it is out of line for Sam to assert the proposition in question, then Sam does not know that proposition. And it would be out of line for Sam to assert that proposition. Therefore Sam does not know.

My response is twofold. First, we must specify the content of the knowledge account of assertion (KA). The argument is invalid if we take Timothy Williamson's official formulation, "one must: assert $p$ only if one knows $p$,"[37] which states only a necessary condition. There could be *other* necessary conditions for appropriate assertion that one fails to meet. And this is no artifact of Williamson's formulation: KA incorporates only a necessary condition as standardly formulated.[38] Perhaps my opponent would be willing to upgrade the necessary condition into a biconditional, and then run the argument.[39] That would make the argument valid, but still not sound.

This brings me to my second response. Sam would not be out of line to assert the proposition in question. So long as it does not turn out that the most unlikely possible event was then occurring — as is stipulated in the case — we have no grounds for reproaching her.

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[37] Williamson 2000: 243.

[38] E.g. Weiner 2005 states the essence of the view as follows: "we should assert only what we know."

[39] DeRose 2002: 180 says, "one is well-enough positioned to assert that P iff one knows that P."

Some philosophers will disagree, notably V.H. Dudman.[40] Dudman contends, "what is needed for assertibility" is the "absence of possibility to the contrary." Anything short of that and "assertibility goes out of the window."[41] But the present case is a devastating counter-example to that thesis. If asked whether the most unlikely possible event is occurring, Sam needn't hedge and assert that it is *almost certainly* not occurring. She may assert that the most unlikely event is not presently occurring. The flat-out assertion is entirely appropriate.[42] If Dudman reproached Sam, "Pardon me, Miss, but you of course meant that it is *almost certainly* not occurring," she could rightly respond, "Oh, *come on*! It's not occurring, and we all know it."

A related objection focuses on the statistical or probabilistic nature of Sam's grounds for judgment. Some might argue that manifestly statistical grounds cannot suffice for knowledge.[43] They might offer this as an explanation for why you cannot know that you will lose (or have lost) a fair lottery, when all you have to go on is the long odds. If they are right, then one would suspect that the manifestly statistical nature of Sam's grounds prevent her from knowing that the most unlikely possible event will not occur.

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[40] Dudman 1992.

[41] Dudman 1992. See also Williamson 2000: 246 – 7.

[42] See also DeRose 1996: esp. 577 – 8. A gentle reminder to the reader: nothing said here commits me to any specific theory of assertability. I merely record what is obviously true in the present case.

[43] Cohen, 1988: esp. 106 ff. Cohen does not say that this is necessarily true. He says only that when the grounds are merely statistical, we are "reluctant to attribute knowledge" (106). Strictly speaking, then, Cohen need not disagree with anything said here.

I respond that manifestly statistical grounds can suffice for knowledge. At least sometimes we know that we have lost (will lose) the lottery, despite the statistical nature of our grounds. Here I can do no better than to quote Hawthorne on the matter:

> [M]any philosophers . . . [seem] to have lost sight of certain features of our ordinary practice. Try raising the possibility of lottery success to people who are planning out their lives. Very often, they will respond with 'You know that's not going to happen' or 'I know full well that I'm not going to get that lucky'. Similarly, when someone is deliberating about whether to buy a lottery ticket, ordinary people will often say 'You know you are wasting your money'. Granted we sometimes make knowledge claims using a tone indicating that we are not to be taken literally. But I see no good evidence that this is always going on in these cases.[44]

Keith DeRose presents another relevant case.[45] Suppose someone points out that newspapers sometimes transpose a game's score, though this is very, very rare. He then asks me whether the Bulls won last night. Newspaper in hand, I consult the sports section, and see that it says 'Knicks 83, at Bulls 87'. I then reason as follows: The paper says they won, and the paper almost certainly did not make a mistake, so the Bulls won. I thereby come to know that the Bulls won, and this despite the fact that my grounds are merely probabil-

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[44] Hawthorne 2004: 18.
[45] DeRose 1996.

istic. Everyone knows that newspapers are not perfect, that they sometimes make mistakes. And yet we can learn who won last night's game just by checking the paper. Many of us do this quite often.[46] We rarely explicitly consider the fact that newspapers sometimes make mistakes, even as we form beliefs based on what we read in them. And it is implausible that being careful enough to consider this automatically robs us of our knowledge.

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None of the objections canvassed here withstands scrutiny. I conclude that we can have contingent a priori knowledge. The question facing us now is not whether such knowledge is possible, but its extent.[47]

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[46] DeRose's case is over a decade old by now. Most people reading this paper would probably now get the results by checking a website. An exactly analogous case could be constructed for a website.

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