ORIGINAL RESEARCH

Assertion and the "How do you know?" challenge

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Abstract

One of the central arguments for the knowledge norm of assertion appeals to the fact that it is typically legitimate to respond to an assertion with "How do you know?", intended as a challenge to the assertion. The legitimacy of the challenge is taken as evidence in favor of the idea that permissible assertion requires knowledge. In this paper, I argue that if the legitimacy of "How do you know?" challenges supports a knowledge norm for assertion, it also supports the controversial KK thesis. I further argue that data from assertion prompts likewise supports KK. This is an unwelcome consequence for many proponents of the knowledge norm of assertion who reject KK. At the same time, it constitutes new evidence from conversational patterns in favor of the KK thesis.

Keywords Assertion · Presupposition · Questions · KK thesis · Epistemic norms

1 Introduction

A standard way to challenge a speaker's assertion is to ask "How do you know?". The challenge is typically a legitimate one. What makes it legitimate, many have argued, is that there is a knowledge norm for assertion[1]:

KNA: One may assert p only if one knows p.[2]

How does KNA explain the legitimacy of the challenge? In two related ways. First, since a question of the form "How p?" presupposes p, the question "How do you know p?" presupposes that the addressee knows p. The questioner is entitled to make that presupposition because, given KNA, the speaker's assertion invites the supposition that the speaker knows. Second, the question is not only legitimate as a question but

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[1] See Unger (1975, pp. 263–265), Williamson (2000, pp. 252–253), Turri (2010), Benton (2011), Benton (Forthcoming), and Kelp and Simion (2017). For criticism of the "How do you know?" argument, see Lackey (2007), Kvanvig (2009), McKinnon (2012), and Mandelkern and Dorst (Forthcoming).

[2] Here and elsewhere in the paper, 'may' and 'permissible' are meant to denote epistemic permissibility.

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also as a challenge. The pattern of challenging a speaker's assertion by asking "How do you know?" suggests that an assertion will not be accepted unless it is also accepted that the speaker knows. By asking "How do you know?", the challenger is looking for evidence that the speaker knows. The challenger may even suspect that the speaker does not know, in which case the speaker's failure to provide an acceptable answer will demonstrate the impropriety of the assertion. This, too, is explained by KNA.[3]

The "How do you know?" argument remains central to the case for KNA.[4] In this paper, I argue that it has an unwelcome consequence for many for its proponents, although others may be happy to accept it. I argue that if we are to infer the conditions for permissible assertion from the legitimacy of the "How do you know?" challenge, then we ought to accept the KK thesis, i.e., that one knows p only if one knows that one knows p. This suggests that the acceptance of KNA and the rejection of KK, a combination of views made popular by Williamson (2000), may be incompatible.

The idea, briefly, is this. The pattern of "How do you know?" challenges shows not only that speakers are expected to know their assertions, but also that they are expected to provide an answer as to how they know. To provide such an answer, the speaker must either assert or presuppose that she knows. Since a speaker may assert whatever she may presuppose, a speaker can answer how she knows the content of her assertion only if she may assert that she knows it. This implies the following constraint on permissible assertion:

AAK: One may assert p only if one may assert that one knows p.

Given a knowledge account of assertion, and certain highly plausible background assumptions, AAK entails the KK thesis. "How do you know?" challenges thus support the KK thesis. Other than making trouble for those who accept KNA but reject KK, the present argument adds to recent linguistic considerations in favor of KK.[5]

In the rest of the paper, I provide a more detailed formulation of this argument. In Sect. 2, I argue that, given the pattern of challenges to assertion, reasoning similar to that of the "How do you know?" argument for KNA supports a weaker version of AAK, namely, that one may assert only what may either presuppose or assert that one knows. Then, in Sect. 3, I argue that one may presuppose whatever one may assert. This strengthens the result of Sect. 2 and entails AAK. In Sect. 4, I argue that AAK is supported by further conversational patterns that have been taken to support KNA. Finally, in Sect. 5, I argue that KNA and AAK jointly entail the KK thesis. Throughout this paper, I assume that the original "How do you know?" argument for KNA works and that there is a knowledge norm for assertion.

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[3] In response to this argument, one may raise the following worry: Don't we often just mean "What are your reasons for thinking that?" when we ask someone how they know? If so, the "How do you know?" data may not, after all, support KNA. See Douven (2006), Lackey (2007), Kvanvig (2009) for versions of this objection, and see Williamson (2009), Benton (2011) for replies. I'm assuming throughout this paper that the "How do you know?" argument for KNA is sound, so I will not discuss this objection. However, I say more about how this idea is relevant to the present argument towards the end of Sect. 2.3.

[4] Benton (forthcoming).

[5] Recent linguistic considerations in favor of KK include Dorst (2019), Haziza (forthcoming).

2 The challenge and its consequences

In this section I argue for a weaker version of AAK:

 APK: One may assert *p* only if one may presuppose or assert that one knows *p*.[6]

Here is the argument:

(P1) One may assert *p* only if one can acceptably answer the "How do you know?" challenge.
(P2) One acceptably answers the "How do you know?" challenge only if one's answer is permissible.
(P3) One acceptably answers the "How do you know *p*?" challenge only if one either asserts or presupposes that one knows *p*.
(C1) One can acceptably answer the "How do you know *p*?" challenge only if one may assert or presuppose that one knows *p*. [(P2), (P3)]
(C2) One may assert *p* only if one may assert or presuppose that one knows *p*. [(P1), (C1)]

The rest of this section clarifies and defends the premises of this argument.

2.1 In defense of P1

(P1) states that one may assert that *p* only if one can provide an acceptable answer to the "How do you know?" challenge. The intended meaning of "acceptable" will be clarified below.

As noted in Sect. 1, there are, roughly, two ways in which the data from "How do you know?" challenges is taken to support KNA. In both of these ways, I argue, the data also supports (P1). The first is that the question "How do you know?" presupposes that the addressee knows. A questioner who asks this assumes, or at least pretends to assume (in case the questioner doubts it), that the speaker knows. What makes this assumption legitimate? The thesis that assertion has a knowledge norm. The speaker's assertion invites the assumption that she knows, and the questioner on the basis of this assumption can legitimately ask "How do you know?".

But that the speaker knows is not the only assumption the questioner must make. The questioner must also assume that the speaker is in a position to give some sort of answer to this question. The assumption does not have to be that the speaker knows the complete answer to the question, but at least that the speaker is in a position to provide a partial answer, or to say something in favor of some subset of answers. Without such an assumption, the question is not legitimate. For instance, suppose that Ann knows that Bob knows nothing about chess. If she approached Bob and asked "What is the best way to play against the Sicilian opening?", her question would not be appropriate,

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[6] A standard distinction is between speaker and sentence presupposition. Sentence presupposition is, roughly, presupposition that is triggered by the semantic constituents of the sentence in a given linguistic context. A speaker presupposes *p*, I will assume, when (but perhaps not only when) the speaker uses a sentence that presupposes *p*. APK is about speaker presupposition. I say more about the relevant notion of speaker presupposition in Sect. 3. Thanks to an anonymous referee for pointing out the need to clarify this distinction.

and that is because she knows that Bob is not in a position to give even a partial answer to this question. So, some sort of assumption about what the addressee is in a position to say is required for a question to be appropriate. Since "How do you know?" is an appropriate challenge to an assertion, the assumption is a legitimate one. What makes it legitimate to assume that the asserter can provide some sort of full or partial answer to the "How do you know?" question? (P1) does. The speaker's assertion invites the assumption that she can provide some sort of answer as to how she knows—even a very incomplete one, such as "I don't really remember, maybe I learned it in school", which might be acceptable in some contexts. The questioner who asks "How do you know?" acts on this assumption, together with the assumption that the speaker knows.

But does asking a question always require the assumption that the addressee can provide some answer? Suppose Ann knows that Bob is lying about being able to speak French. To show that he is lying, she might ask him, for example, "What does *menteur* mean?", because she knows perfectly well that he will not be able to answer.[7] However, the fact that the questioner does not believe that the addressee can provide an answer to the question does not mean that there is no such assumption at play. When a questioner challenges an assertion by asking "How do you know that p?", the questioner pragmatically presupposes that the addressee knows that p even when the questioner knows perfectly well that the addressee does not know that p. Still, the presupposition is made just for the purpose of posing the challenge, perhaps with the intention of demonstrating that it is false. In Ann's case, she too pragmatically presupposes that Bob can provide an answer, only for the purpose of posing the question, with the intention of demonstrating that he cannot provide an answer. I say more about such "pretend" presuppositions at the end of Sect. 3.

The important point for now is that such pragmatic presuppositions, whether believed or not, are acceptable only in some cases and not in others—"How do you know p?" is not appropriate if the speaker did not assert or imply p, and Ann's question about French would not be appropriate if Bob was lying about speaking German instead. There is something about making an assertion of p that makes the presupposition that the speaker knows p, and that he can provide some answer as to how he knows, acceptable. Just as KNA explains the acceptability of one presupposition, (P1) explains that of the other.

The second way in which the "How do you know?" challenge is taken to support KNA is based on the idea that it is a challenge and not just an information-seeking question (although, of course, it may also be used in that way). This suggests that a speaker's assertion will not be accepted in a conversational context unless it is accepted that the speaker knows. Williamson (2000, p. 252) describes the "How do you know?" challenge as follows:

> The questioner politely grants that the asserter does know p, and merely asks how, perhaps suspecting that there is no answer to the question. If not only knowledge warranted assertion, the absence of an answer would not imply the absence of a warrant; why should the question constitute even an implicit challenge?

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[7] I'm grateful to an anonymous referee for raising this concern.

The absence of an answer implies the absence of a warrant because the speaker who fails to answer the "How do you know?" challenge fails to demonstrate or give reasons to accept that she knows. Similarly, Benton (forthcoming) writes:

> Successful substantiation of one's knowledge is the clear standard for whether the conversation proceeds as if the asserted claim stands. . . . What is noteworthy is that interlocutors will make a judgment about one's knowledge, and if deemed not knowing, the conversational "score" normally won't reflect one's asserted claim.

Thus facts about what speakers in practice accept tell us about the norm of assertion. Speakers are challenged with "How do you know?" because their assertions will be accepted only if their interlocutors accept that they know.

Similar reasoning supports (P1). If the questioner accepts that the speaker knows, the questioner also accepts that the speaker is able to provide an acceptable answer to the challenge. Otherwise, asking "How do you know?" would not be a way for the questioner to gauge whether a speaker knows. It thus follows that assertions are accepted only if it is accepted that the speaker can provide an acceptable answer to the challenge. An answer is acceptable if, given this answer to the challenge, the speaker's original assertion is accepted. That is, it is an answer such that the challenger accepts that the speaker knows given that answer. This does not, by itself, place overly stringent demands on asserters. In some contexts, an answer such as "I probably learned it in school" or "I think that Ann told me that" may be acceptable. (I say more on what an acceptable answer requires in Sects. 2.2 and 2.3.) But some answers are clearly unacceptable in this sense. For instance:

(1) Ann: Carlo won the contest.
    Bob: How do you know that he won?
    Ann: ?? I don't know that he won.[8],[9]

(2) Ann: Carlo won the contest.
    Bob: How do you know?
    Ann: ?? Just a hunch.

In each case, Ann's answer is clearly not an acceptable one, and if that is all that she says in response to the challenge, any reasonable speaker will reject her original assertion as unwarranted.

2.2 In defense of P2

According to (P2), an acceptable answer is one that is permissible. What does it mean for an answer to the challenge to be permissible? If the answer is an assertion, it must

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[8] Benton (2011), Benton (forthcoming) takes the incoherence of such exchanges to support KNA.

[9] Greco (2015) argues that KK is required to explain the infelicity of the answer in such cases. He writes that, on the view that accepts KNA but rejects KK, "while [speakers who know P without knowing that they know] will be able to permissibly assert that P, if their permission to assert that P is challenged, they will not be able to permissibly defend themselves." Although I am sympathetic to Greco's view, I think this is mistaken, since speakers in such cases can defend themselves without asserting knowledge, e.g., by providing reasons for P. Cases like (1) do not support KK on their own.

be a permissible assertion. If the answer is a guess, a conjecture, or a prediction, it must be a permissible guess, a permissible conjecture, or a permissible prediction. For simplicity, I will assume here that the answer is always an assertion, but nothing of substance will hang on this.[10]

The idea behind (P2) is this. In defending the permissibility of one's assertion, it is not legitimate to offer another assertion that is itself impermissible. Any reasonable speaker will accept an answer to the "How do you know?" challenge only if she considers the answer itself to be a permissible one—one that does not violate the same norms. After all, for the initial assertion to be accepted she must also accept the answer to the challenge. Two conversational patterns support this idea.

The first is that the answer to the challenge can always be challenged. For example:

(3) Ann: Carlo got the job.
    Bob: How do you know that?
    Ann: Dana was the only other candidate, and she took another job.
    Bob: And how do you know *that*?

An absence of an answer to the second challenge implies not only the absence of a warrant for the second assertion, but also for the first:

(4) Ann: Carlo got the job.
    Bob: How do you know that?
    Ann: Dana was the only other candidate, and she took another job.
    Bob: And how do you know *that*?
    Ann: ?? Oh, I don't know that.

In such cases, a competent speaker will reject both assertions as unwarranted.

The second pattern is that answers which are clearly false, or clearly not known by the speaker, are never acceptable. Consider, for instance:

(5) Ann: Carlo won the race.
    Bob: How do you know that?
    Ann: You told me that.

Suppose that Bob knows that he did not. Then he would not accept Ann's assertion. In general, it seems that if the questioner knows that the answer to the challenge is false, then the asserter has failed the challenge and her assertion will not be accepted.

For a different example, consider a lottery case where all that is known is that Carlo's lottery ticket had only slim chances of winning:

(6) Ann: Carlo is going to be upset.
    Bob: How do you know that?
    Ann: His lottery ticket lost.

Ann's answer is not permissible, and a typical hearer such as Bob will not accept it, as Ann does not know that the ticket lost and asserts that only on probabilistic

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[10] Is (P2) is really necessary for the main argument of this section? It is, because without (P2) the conclusion (C2) becomes: One may assert *p* only if one asserts or presupposes *Kp*, instead of: One may assert *p* only if one *may* assert or presuppose *Kp*. That is, the speaker's assertion or presupposition of *Kp* must itself be permissible. Only the latter can get us to KK.

grounds. But if the answer itself is not accepted, then, plausibly, her original assertion will also not be accepted. On the knowledge account of assertion, Ann's assertion that the lottery ticket lost is criticizable.[11] If Ann's answer to the challenge is criticizable, and she does not offer any other answer, then it seems that her original assertion is criticizable as well.

What these patterns show is that answers that are clearly impermissible are not acceptable, and that the permissibility of an answer, as an assertion, may itself be challenged before that answer is accepted. This suggests that the practice of assertion has the following rule, which challengers are implicitly following: accept an answer to the challenge only if the answer itself is in accordance with the norms of assertion. The thesis that an answer to the challenge is acceptable only if it is permissible provides a good explanation for this.

2.3 In defense of P3

(P3) states that a speaker who acceptably answers a challenge to an assertion that p must either assert that she knows p or presuppose it. Before I defend this, here are some preliminaries on questions and answers.

On the standard semantics of questions, which I will assume here, questions determine a set of mutually exclusive and exhaustive possible answers. Each possible answer is a proposition that is a complete answer to the question. For instance, polar questions of the form "p?" always determine a set of two possible answers: $\{p, \text{not-}p\}$. The question "What year did WWI start?" determines a set in which every possible answer is of the form "WWI started in X", where 'X' denotes a year. Questions can also have presuppositions: if every possible answer to a question entails p, then the question carries the presupposition that p. For instance, if I ask you "When did Ann leave?", I am presupposing that Ann left.

A question of the form "How p?" determines a set of possible answers of the form "X is how p".[12] For instance, the question "How does Ann pay her bills?" determines a set in which every proposition is of the form "X is how Ann pays her bills". Thus a question of the form "How p?" carries the presupposition that p, since "X is how p" itself carries the presupposition and thus entails that p.[13]

There are, of course, different ways of answering a question, and not all of them involve providing one of the possible answers of the question. Asked at what hour Ann left, one may reply "I don't know", "I can't tell you", "She never did", "Between 5pm and 10pm", and so on. Say that if one provides one of the possible answers to

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[11] Williamson (2000, p. 246).

[12] This is somewhat simplified, but that's the general idea. For a discussion of the semantics of how-questions, see Jaworski (2009) and Sæbø (2016). One may worry that the semantics of how-questions is not understood well enough to make such assumptions about it. But all I am assuming here about semantics is that "How p?" presupposes p, and nothing beyond that about its set of possible answers. This assumption is part of the "How do you know?" argument for KNA made by Williamson (2000), Williamson (2009) and others. As for the pragmatics of how-questions, I'm assuming that they are largely similar to other types of questions. In particular, that they can be answered (either fully or partially), declined, or have their presuppositions resisted. Thanks to an anonymous referee for raising these points.

[13] See Wiśniewski (2015) and Cross and Roelofsen (2020) for an overview of the semantics of questions.

the question, e.g., "Ann left at 5pm", one gives a *full answer*. Say that if one provides an answer that narrows down the set of possible answers, or favors some answers over others, e.g., "Ann left between 5pm and 10pm", or "Ann probably left at 5pm", one gives a *partial answer*. Say that if one declines to answer, e.g., by saying "I don't know", "I don't remember", "I can't say", one gives a *declining answer*. Finally, if one does not accept the presupposition of the question, e.g., by saying "Ann never left", "I don't think she left", "Are you sure she left?", say that one gives a *presupposition-resisting answer*.

To defend (P3), I will argue as follows: a presupposition-resisting answer is not an acceptable answer to the "How do you know?" challenge; all of the other types of answers in response to the challenge involve either a presupposition or an assertion of knowledge; and thus one acceptably answers the challenge only if one presupposes or asserts that one knows.

A presupposition-resisting answer cannot be an acceptable answer to the challenge precisely because it resists the presupposition that the asserter knows *p*. For instance, all of the following ways of resisting the presupposition seem bad as answers to the challenge:

(7)   Ann: Carlo won the race.
      Bob: How do you know that he won the race?
      Ann: ?? I don't know that he won.\ I doubt that I know that he won.\ I don't think that I know that he won.\ Who said that I know that?\ Are you sure that I know that? \ What makes you think that I know that?

If that's the only type of answer that Ann can provide to the challenge, it seems reasonable to reject her assertion as unwarranted.

The only ways of responding to the challenge without resisting the presupposition is by providing one of the other three types of answers. Thus an acceptable answer must be of one of these types. Any answer of the three non-resisting types involves either an assertion or a presupposition of knowledge. A full or partial answer may involve an explicit assertion of knowledge. For instance:

(8)   Ann: Carlo won the race.
      Bob: How do you know that he won the race?
      Ann: I know that because he told me. \ I watched the race, so I know.

If the speaker does not explicitly assert that she knows, in giving one of the three non-resisting types of answers, she still presupposes that she knows. To see this, consider that for each type it is unacceptable to deny the presupposition:

(9)   Ann: Carlo won the race.
      Bob: How do you know that?
      Ann: # He told me, but I don't know that he won the race.

(10) Ann: Carlo won the race.
      Bob: How do you know that?
      Ann: # I probably saw it on the news, but I don't know that he won the race.

(11) Ann: Carlo won the race.
    Bob: How do you know that?
    Ann: # I don't quite remember, maybe I heard it somewhere, but I don't know that he won the race.
(12) Ann: Carlo won the race.
    Bob: How do you know that?
    Ann: # I can't tell you, but I don't know that he won the race.

In each of these cases the denial of the presupposition seems incoherent. This suggests that the asserter's answer carries the presupposition that she knows the content of her original assertion. This is what we would expect given the standard view of the semantics of questions. Thus an acceptable answer to the challenge is one that does not resist its presupposition, and thus one that involves either an assertion or a presupposition of knowledge.

Let us consider an objection to the claim that an acceptable answer to the "How do you know?" challenge must be one that either asserts or presupposes knowledge. Sometimes one responds to "How do you know p?" with one's justification or reasons for believing p, and these might seem not to presuppose that one knows p.[14] For instance, responses such as the following seem felicitous:

(13) Ann: Carlo won the race.
    Bob: How do you know that?
    Ann: Dana told me that he won, but I suppose it's possible he didn't.

(14) Ann: Carlo won the race.
    Bob: How do you know that?
    Ann: He seemed very happy, but maybe he didn't win.[15]

Such cases show, it may be argued, that an asserter's reply to an "How do you know that p?" challenge can sound perfectly fine without either asserting or presupposing knowledge that p.

But while Ann's responses sound fine in these examples, they are nonetheless not acceptable answers to the "How do you know?" challenge. By answering as she does, Ann takes back or at least weakens her commitment to her original assertion. To better see this, note that it would be infelicitous to repeat her original assertion after responding in one of these ways. For instance:

(15) Ann: Carlo won the race.
    Bob: How do you know that?
    Ann: Dana told me that he won, but I suppose it's possible he didn't. # Still, he won the race.

(16) Ann: Carlo won the race.
    Bob: How do you know that?
    Ann: He seemed very happy, but maybe he didn't win. # But he won.

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14 I'm grateful to both referees for raising this point.

15 Thanks to one of the referees for examples on which these are based.

This is not so in cases where there is no such weakening of one's original assertion. Consider:

(17) Ann: Carlo won the race.
       Bob: How do you know that?
       Ann: Maybe Dana told me. Honestly, I don't remember. Still, he won the race.

Here, there is no problem repeating the original assertion, even though the response to the challenge itself is quite weak. What accounts for this difference is that in (13) and (14) the asserter retracts or at least weakens her original assertion with her reply, while in (17) she does not. So the answers to the challenge in (13) and (14) are not, after all, acceptable answers, because once they are given the challenged assertion is no longer offered for acceptance.[16]

What about cases where the asserter does not add something like "but maybe not p"? Is there a presupposition of knowledge in such cases, even though the asserter only provides reasons for believing that p in response to the challenge? There are reasons to think that presuppositions of knowledge exist in such cases. As examples (9)-(12) show, even a partial answer that only provides reasons for believing p, in response to "How do you know p?", is made infelicitous in conjunction with an outright denial of knowledge that p. This data can be explained by the thesis that any partial answer, even those that only provide reasons for p, in response to "How do you know p?", carries the presupposition that the speaker knows that p.

Further considerations support the claim that such answers presuppose knowledge, or at least are like presupposing knowledge in a crucial sense. It seems that whenever a speaker acceptably answers the "How do you know?" question by providing a complete or partial answer, including reasons-to-believe answers, the speaker can add at the beginning "How do I know? ...". For instance, the speaker in the previous examples could have replied as follows:

(18) Ann: Carlo won the race.
       Bob: How do you know that?
       Ann: How do I know? He seemed very happy.[17]

(19) Ann: Carlo won the race.
       Bob: How do you know that?
       Ann: How do I know? Maybe Dana told me. Honestly, I don't remember.

It seems, then, that if answering the question "How do you know p?" with "q" is acceptable, then so is answering with "How do I know? q." The latter explicitly presupposes that the speaker knows p. Thus, answering "How do you know p?" with a complete, partial, or just a reason-providing answer q is permissible only if presupposing knowledge of p is. So even if we reject the claim that such answers do not presuppose knowledge of p, they do require, as acceptable answers to "How do you know p?", whatever is required for acceptably presupposing knowledge of p. This is enough for the argument of this section to still go through.

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[16] Recall that an acceptable answer to the challenge is one that would ordinarily tend to get the original assertion accepted.

[17] It may not be possible to felicitously add "How do I know?" in this way to retracting or weakening answers as in (13) and (14), but those are not *acceptable* answers.

In sum, "How do you know?" challenges suggest that *p* may be asserted only if the speaker may either presuppose or assert that she knows *p*. In the next section, I will strengthen this claim by arguing that a speaker may assert whatever she may presuppose. The result will be that one may assert only what one may assert that one knows, which, I will later argue, entails the KK thesis.

3 The norms of presupposition

In this section I argue for the following claim:

PA: If one may presuppose *p*, one may assert *p*.

Like assertion, presupposition is subject to a knowledge norm. That is, one may presuppose *p* only if one knows *p*.[18] Those who accept KNA may already agree. Still, let me make a case for it here by arguing that the central arguments for KNA extend to presupposition.

First, a knowledge norm for presupposition can explain the absurdity of Moorean phenomena involving presuppositions, for instance, presupposing *p* while denying knowing *p*. Consider:

(20) # Ann's sister is in town, but I don't know that Ann has a sister.
(21) # I don't know if Ann has a sister, but where does Ann's sister live?
(22) # I'm surprised that it's raining, but I don't know that it's raining.
(23) # I don't know if it's raining, but does it surprise you that it's raining?

In (20) and (21), the phrase "Ann's sister" triggers the presupposition that Ann has a sister. Using that phrase while denying knowledge of the presupposition is infelicitous. The factive predicate 'surprise' in (22) and (23) triggers the presupposition that its complement is true. Conveying this presupposition while denying knowledge of it results in infelicity as well. Why would these be infelicitous? Like Moorean assertions, the conjunctions of what is presupposed and what is asserted in these examples could be true yet sounds absurd. If KNA is what explains the former, it seems that a knowledge norm for presupposition is what explains the latter.

Second, lottery presuppositions are just as bad as lottery assertions. If all that Ann knows is that your lottery ticket had slim chances of winning, the following seem equally bad:

(24) Your ticket lost.
(25) Bob is not aware of the fact that your ticket lost.
(26) Are you surprised that your ticket lost?

Proponents of KNA take the intuitive inappropriateness of (24) as evidence for KNA: it seems bad to assert something you believe on mere statistical grounds. In (25) and (26) the same proposition is conveyed, but by presupposing rather than by asserting it. It seems just as bad to presuppose something you believe on mere statistical grounds. To the extent that (24) is impermissible, the latter are as well.

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[18] See García-Carpintero (2020) for an argument that presupposition is constituted by a common knowledge norm. See Hawthorne (2012) on a knowledge requirement for presupposition.

Third, and finally, presuppositions are also subject to "How do you know?" challenges:

(27) Ann: Carlo's sister is in town.
      Bob: How do you know that Carlo has a sister?
(28) Ann: It was sunny before it rained.
      Bob: How do you know it rained?
(29) Ann: Why didn't you come to the party last night?
      Bob: How do you know I didn't?

The "How do you know?" reply in these cases is appropriate, even though it challenges in each case the speaker's presupposition rather than an assertion. In the case of assertion, such replies support KNA. By the same token, these cases support a knowledge norm for presupposition. Thus, to the extent that KNA arguments are successful, these arguments support:

> **KNP:** One may presuppose p only if one knows p.

This does not yet get us PA. If, for instance, assertion requires epistemically more than knowledge, then PA may be false even if both KNA and KNP hold. But is there any reason to think that assertion requires more than knowledge? Some KNA proponents defend the claim that knowledge is sufficient for epistemically permissible assertion. Namely:

> **KNA-Suff:** If one knows p, one may assert p.

If KNA-Suff holds, PA follows. Given that permissible presupposition requires knowledge, and knowledge is sufficient for permissible assertion, one may assert whatever one may presuppose. It is natural for someone who accepts a knowledge account of assertion, which we are assuming here, to accept KNA-Suff.[19] Nevertheless, there have been objections to KNA-Suff, so let us see whether they provide any reason against PA. Brown (2010) offers counterexamples involving high-stakes cases. Here is one:

> A husband is berating his friend for not telling him that his wife has been having an affair even though the friend has known of the affair for weeks.
>
> Husband: Why didn't you say she was having an affair? You've known for weeks.
>
> Friend: Ok, I admit I knew, but it wouldn't have been right for me to say anything before I was absolutely sure. I knew the damage it would cause to your marriage. (p. 555)

Thus the following assertion is, on Brown's view, not permissible in this case:

(30) Your wife is having an affair.

But if so, then so are the following:

(31) It is regrettable that your wife is having an affair.
(32) Did you know that your wife is having an affair?

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[19] For explicit defense, see Benton (2016) and Simion (2016).

In these two examples, the speaker presupposes rather than asserts the addressee's wife is having an affair. If the case is such that knowledge of the affair is insufficient for epistemically permissible assertion, because of the high stakes involved, it seems pretty clear that conveying it as a presupposition is at least as bad.

Lackey (2011, 2016) presents counterexamples to the sufficiency thesis that involve second-hand knowledge. Here is one of her cases:

> My neighbor Ken is a connoisseur of fine dining. . . . This afternoon, he told me that the food at a new local restaurant about which I was previously quite unfamiliar, Quince, is exquisite, though being in a hurry prevented him from offering any details or evidence. . . . While talking to my friend Vivienne later in the day, she was fretting over where to take her boyfriend to dinner for Valentine's Day. I promptly relieved her stress by truly asserting, "The food at Quince is exquisite." (2011, p. 260)

Lackey argues that this assertion is epistemically impermissible because an assertion of this kind—a judgment on the quality of food at a certain restaurant—requires more than just second-hand knowledge. If so, then the following utterances by the same speaker should be impermissible as well:

(33) Few people are aware that the food at Quince is exquisite.
(34) You might be surprised how exquisite the food at Quince is.

Here the speaker presupposes rather than asserts that the food at Quince is exquisite. Conveying this as a presupposition seems no more epistemically appropriate than conveying it by assertion.

So, the only reasons for thinking that knowledge is insufficient for assertion, and thus for not accepting PA, work just as well as reasons for thinking that knowledge is insufficient for presupposition. Thus, PA remains very plausible, even if KNA-Suff does not hold.

One might object to PA as follows. By hypothesis, the "How do you know?" challenge is permissible and presupposes that the addressee knows. But since the challenge is permissible even if the questioner is skeptical that the addressee knows, the questioner may permissibly presuppose that the speaker knows without knowledge, and without having the required epistemic position for asserting that the speaker knows. However, there is a sense in which the questioner in this case does not really presuppose the presupposition of the sentence. Consider first a different example. Suppose Ann does not hold the door for Bob, and Bob is annoyed at this. Bob then says to Ann:

(35) Thanks for holding the door!

Here there is a sentence presupposition, that Ann held the door, and the utterance is felicitous even though this presupposition is obviously false. Clearly, this has much to do with the fact that Bob's utterance is sarcastic. The utterance involves a kind of pretense: the speaker is pretending that the addressee held the door, and is pretending to thank her for it, in order to make a point.[20] Similarly, in the "How do you know?" case, the questioner who intends the question as a challenge, and does not really believe that

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[20] See Camp (2012) for an analysis of this example along these lines.

the speaker knows, pretends that the speaker knows and asks how she knows in order to challenge the speaker's assertion. This is partly the difference between asking "How do you know?" as a challenge and asking it as a genuine information-seeking question. In the former case, the questioner merely pretends to accept the presupposition of the question, while in the latter case the questioner genuinely accepts it.[21] PA (and KNP) does not apply to speech acts that involve this kind of pretense, just as KNA does not apply to sarcastic statements. What is important for the main argument in this paper is that PA apply to the kind of presuppositions that are involved in the asserter's answers to the "How do you know?" challenge. Clearly, the asserter does not merely pretend that she knows when she permissibly answers this question. The asserter who answers the question "How do you know?" without resisting the presupposition of the question, in essence accepts the presupposition and takes on a commitment to it. It is to this sort of commitment that PA applies, which is absent in cases of sarcasm and skeptical questions.

4 Asserting knowledge

In the previous two sections, I argued for the following claims:

APK: One may assert p only if one may presuppose or assert Kp.[22]

PA: If one may presuppose p, one may assert p.

These jointly entail:

AAK: One may assert p only if one may assert Kp.[23]

In the next section, I will argue that AAK entails the KK thesis, given plausible background assumptions, although it should not be difficult to see that AAK is going to be problematic for those who accept the knowledge norm of assertion but deny KK.[24]

For now, I want to argue that AAK is supported by further considerations that have been offered as evidence for KNA. Turri (2010) notes that, if we are wondering about whether p, and we want to prompt someone to make an assertion as to whether p, we can ask either "p?" or "Do you know whether p?". By contrast, we do not typically ask "What do you believe about p?" for this purpose. What explains this? Benton (forthcoming) writes:

> KNA can explain this by noting that knowledge is the standard for permissibly asserting in answer to such questions; so the former question requests an

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[21] Cases of sarcasm and challenge questions are not the only ones in which we find this kind of pretense. For another example, consider a therapist who knows that the friend that her patient keeps talking about is not real. She might ask: "How is Steve this week?", knowing that the presupposition that Steve exists is false. This too is a case of pretense: the therapist pretends that Steve exists in asking this question. Thanks to an anonymous referee for this example.

[22] 'Kp' denotes that the agent in question knows p.

[23] To be clear, the logical form of APK is meant to be: one may assert $p \rightarrow$ (one may presuppose $Kp \vee$ one may assert Kp). Given that $p \rightarrow (q \vee r), q \rightarrow r \vdash p \rightarrow r$, APK and PA entail AAK.

[24] DeRose (2002, Sect. 2.3) considers AAK and rejects it on the basis of KNA and the denial of KK. He concedes, however, that "it's hard to come up with clear counter-examples to [AAK]" (p. 185).

assertion which, given KNA, implicitly expects a knowledgeable answer. It is practically interchangeable with the latter question, since the latter directly asks for a knowledgeable answer, by citing that standard. (p. 6)

Given this, there is another argument for AAK, independent of considerations about "How do you know?" challenges. Here is the argument:

(P1') If one may assert p, one may answer "p?" by asserting p.

(P2') If one may answer "p?" by asserting p, one may answer "Do you know whether p?" by asserting p.

(P3') If one may answer "Do you know whether p?" by asserting p, one may answer it by asserting "Yes, p."

(P4') By asserting "Yes, p" in response to "Do you know whether p?" one asserts Kp.

(C1') If one may assert p, one may assert Kp.

(P1') is obvious. (P2') relies on the KNA explanation of prompts given by Benton above. (P3') seems hard to deny. The same holds for similar questions: "Do you have the time?" is answerable by "It's 6", "Yes, it's 6", and even "Yes, I do. It's 6". (P4') relies on the idea that to answer a polar question with "Yes" is to assert a positive answer to that question. The positive answer to "Do you know whether p?" is "I know whether p". To assert that one knows whether p and that p is to assert that one knows p. AAK follows.

5 The KK thesis

Given a knowledge account of assertion, AAK entails the KK thesis:

KK: If Kp, then KKp.

Here is how. First, given KNA, AAK entails an indefinitely iterated knowledge version of KNA:

KNA*: One may assert p only if $KK...Kp$.[25]

It is not difficult to see that KNA* is in tension with the denial of KK. It would seem that little is assertible if KNA* holds but KK does not. Nevertheless, let me explicitly argue that KK follows from KNA*.

A plausible assumption given a knowledge account of assertion is that knowledge is sufficient for assertion, that is:

KNA-Suff: If Kp, one may assert p.

Given KNA-Suff, KNA* entails KK. Supposing that KK does not hold, there are cases where one knows p but does not know that one knows p. In such a case, one may assert

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[25] To see this, let 'Ap' mean 'one may assert p'. Note first that KNA ($Ap \rightarrow Kp$) and AAK ($Ap \rightarrow AKp$) entail $Ap \rightarrow KKp$. This and AAK jointly entail $Ap \rightarrow KKKp$. This and AAK jointly entail $Ap \rightarrow KKKKp$. This can be repeated indefinitely, yielding KNA*.

p given KNA-Suff. This implies the falsity of KNA*. So if KNA* holds, KK does as well.[26]

One may perhaps wish to resist the assumption of KNA-Suff. In that case, here is another argument from KNA* to KK. Consider the following assumption:

Sensitivity: If it is a norm that one may assert *p* only if C, then ordinary speakers are sensitive to this norm. That is, they can at least occasionally detect violations of the condition C that would not also be violations of some weaker condition D.

I take Sensitivity to be hard to deny. If there is a condition C that is purported to be a requirement on permissible assertion, but no one can detect assertions made in the absence of C, then C could not be a norm of assertion: no one would criticize speakers that assert in the absence of C, no one would challenge speakers as to whether C, etc. After all, the norms of assertion are about the kind of assertions ordinary speakers find permissible. If it turns out that speakers detect violations of C only when they detect violations of some weaker condition D, then it is D, not C, that is required by the norms of assertion. For example, if it turned out that speakers detect assertions made in the absence of knowledge only when they are made in the absence of belief, then what speakers would really be sensitive to is a belief condition, not a knowledge condition. Finally, if there is some E that is equivalent to C, it would follow that E too is a condition on permissible assertion. But if speakers can detect violations of C then they can also detect violations of E simply by detecting the absence of C. For example, if permissible assertion requires knowledge, then it also requires knowledge and the truth of some complex tautology. But speakers can detect a violation of the latter just by detecting a lack of knowledge.[27]

Sensitivity, then, provides another way in which KNA* leads to KK. If KK does not hold, there are higher-order KK failures that ordinary speakers cannot detect, e.g., 8th-order knowledge without 9th-order knowledge. So no ordinary speaker would be able to detect violations of KNA* that would not also be violations of some weaker norm such as KNA. It follows that speakers can detect violations of KNA* only if KK holds: then KNA* would be equivalent to KNA and only assertions made without first-order knowledge would violate KNA*. So, given Sensitivity, if KNA* holds, KK does too.

6 Conclusion

I have argued that KK is supported by conversational patterns, given a knowledge account of assertion. "How do you know?" challenges show that speakers who assert *p* are committed not only to knowing *p* but also to being able to answer such challenges, and, in particular, to answer how they know. The answer need not be an explicit assertion of knowledge, but nevertheless, given its presupposition of knowledge, it

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[26] This argument also goes through with weaker versions of KNA-Suff, e.g., that third-order knowledge is sufficient for permissible assertion, which would be harder to deny. Given that KK failures, if they occur at all, can also occur at that level, KK again follows from KNA*.

[27] Thanks to an anonymous referee for discussion on these points.

has similar permissibility conditions to assertions of knowledge. Assertion prompts further support the claim that it is permissible to assert that one knows *p* whenever it is permissible to assert *p*. The result is new evidence for KK, and for the incompatibility of the acceptance of KNA and the rejection of KK.[28]

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