A PROPOSITION IS EPISTEMICALLY POSSIBLE IF AND ONLY IF ITS NEGATION IS NOT OBVIOUS

Chris TWEEDT

ABSTRACT: According to a prominent account of epistemic possibility endorsed by John Hawthorne and Jason Stanley ("H-S Account"), a proposition q is epistemically possible for a subject just in case what the subject knows doesn't obviously entail not-q. I argue that H-S Account is false by its own lights by first showing that H-S Account entails a different account of epistemic possibility—q is epistemically possible for a subject just in case not-q is not obvious to that subject ("Obvious Account")—and then showing that H-S Account is false on the basis of Obvious Account. Obvious Account is good news for fallibilists. H-S Account is in tension with fallibilism, which requires that fallibilist adherents of H-S Account do extra work to relieve the tension. Obvious Account, however, does not require any of this work; it is straightforwardly compatible with fallibilism. Obvious Account also has implications for the truth of concessive knowledge attributions (CKAs)—statements of the form: 'I know p, but possibly q', where q obviously entails not-p. Obvious Account allows some CKAs to be true, whereas H-S Account does not.

KEYWORDS: epistemic modality, epistemic possibility, obviousness, fallibilism, concessive knowledge attributions

I argue that a prominent account of epistemic possibility endorsed by John Hawthorne and Jason Stanley ("H-S Account") is false by its own lights; it entails a different account of epistemic possibility that can then be used to show that H-S Account is false. According to H-S Account, a proposition q is epistemically possible for a subject S if and only if what S knows does not obviously entail not-q.[1] The account that I argue H-S Account entails, "Obvious Account", is as follows: q is epistemically possible for a subject S if and only if not-q is not obvious to S. Obvious Account is good news for fallibilists. H-S Account is in tension with fallibilism, which requires that fallibilist adherents of H-S Account do extra work to relieve the tension. Obvious Account, however, does not require any of this work; it is straightforwardly compatible with fallibilism. An additional upshot has to do with the truth of concessive knowledge attributions (CKAs)—statements of the form: 'I know p, but possibly q', where q obviously entails not-p. Obvious Account allows some CKAs to be true, whereas H-S Account does not.[2]

[1] This view is endorsed in Stanley (2005) and Hawthorne (2004), (2012). A similar view was originally endorsed by Hintikka (1962).

[2] However, for an attempt to show that H-S Account is compatible with CKAs, see Anderson

In what follows, I first describe the differences between H-S Account and Obvious Account and the implications of that difference for both the truth of CKAs and fallibilism (Section 1). I then argue for Obvious Account in the remainder of this article (Sections 2-5). In Section 2, I provide some simplifications for the somewhat technical argument in the following sections. In Section 3, I argue that H-S Account entails one direction of the biconditional that constitutes Obvious Account, and in Section 4, I argue that H-S Account entails the other direction of the biconditional. In Section 5, I show how H-S Account is false on the basis of Obvious Account. If the argument in this article succeeds, H-S Account is false by its own lights—it entails an account that provides the basis for its own falsity—and this conclusion has implications for fallibilism and the truth of CKAs.

1. H-S Account, Obvious Account, CKAs, and Fallibilism

Here, again, is H-S Account:

> **H-S Account**: q is epistemically possible for S if and only if what S knows doesn't entail, in a way that is obvious to S, not-q.[3]

For example, suppose I know that the fork in front of me is metal, and suppose it's obvious to me that *The fork is metal* entails *The fork is not plastic*. If H-S Account is correct, it *isn't* epistemically possible for me that the fork is plastic. Since it's obvious to me that *The fork is metal*, which I know, entails *The fork is not plastic*, I can rule out that the fork is plastic, and thus it isn't epistemically possible for me that the fork is plastic. This result—that it isn't epistemically possible for me that the fork is plastic—is a desideratum for proponents of H-S Account.

This desideratum is evidenced by proponents of H-S Accounts' position that concessive knowledge attributions (statements of the form: 'I know p, but possibly

(2014).

[3] This account is found in Stanley (2005), but it is also endorsed by John Hawthorne.
Stanley (2005), 128: "(Epistemic Possibility*) It is possible$_A$ that *p* is true if and only if what A knows does not, in a manner that is obvious to A, entail not-*p*."
Hawthorne (2004), 26: "It is possible that *p* for S at *t* (There is a chance that p for S at t) iff *p* is [obviously] consistent with what S knows at *t*." Hawthorne suggests the square bracket insertion to allow the truth of 'Goldbach's conjecture might be true and might be false' when I say it even if what I know entails that Goldbach's conjecture is, say, true. The truth of Goldbach's conjecture may be entailed by what I know, but since it's not *obviously* consistent with what I know, its falsity is still epistemically possible for me. I discuss the choice of 'obviously' (instead of, e.g., 'knowingly') in the square brackets in the main text.
Hawthorne gives a necessary condition in his (2012), 493: "[I]n its core epistemic use, 'Might P' is true in a speaker's mouth only if the speaker does not know that not-P."

q', where q obviously entails not-p) are false. For example, assuming that it's obvious to me that *The fork is plastic* entails *The fork is not metal,* if I utter, "I know the fork is metal, but it's (epistemically) possible it's plastic," the statement sounds odd, as do many (perhaps almost all) other CKAs. Proponents of H-S Account have a ready explanation for this odd-soundingness: CKAs sound odd because they're straightforwardly false.[4] Proponents of H-S Account take q's epistemic possibility for a subject to rule out the subject's knowing p, if q entails not-p in a way that's obvious to the subject. The truth of CKAs, then, entail that H-S Account is false. Opponents of H-S Account give other explanations for the odd-soundingness of CKAs other than their falsity, where these explanations concern the uttering of the statement rather than the semantic content of the statement; the uttering of the statement violates norms of assertion or conversational maxims.[5]

H-S Account also seems to be at odds with fallibilism, the view that knowledge is compatible with a chance of error.[6] There are various ways to formulate fallibilism, many of which involve refining what it means for there to be a chance of error.[7] One view is that 'chance of error' refers to epistemic possibility,

[4] The view that CKAs are false is held by DeRose (1991, 597), Lewis (1996, 550), Hawthorne (2004, 24-24), Stanley (2005, 128), Huemer (2007), and Fantl & McGrath (2009, 15-16), among others. Not all of the aforementioned philosophers endorse H-S Account, but those who do endorse H-S Account (notably Hawthorne and Stanley) believe H-S Account provides an explanation for the odd-soundingness of CKAs. Stanley (2005) gives a proof: Suppose for *reductio* that a CKA is true for S. That is, suppose that S knows p, that q is epistemically possible for S, and that q entails, in a manner that is obvious to S, not-p. Since S knows p and q is epistemically possible for S, according to H-S Account, p does not entail, in a manner that is obvious to S, not-q. But we supposed for *reductio* that q does entail, in a manner that is obvious to S, not-p. Contraposing that supposition, p does entail, in a manner that is obvious to S, not-q. Contradiction. So, CKAs are false. And they are contradictory, since the argument applies to all possible substitution instances for any CKA.

[5] For example, Patrick Rysiew (2001) and Rysiew and Dougherty (2009), (2011) offer warranted assertability maneuvers (WAMs) to explain the infelicity of CKAs. A WAM is a way of explaining away the intuition of falsehood of a statement by appealing to general rules of conversation, such as norms of assertions of Gricean maxims (Grice 1975). The WAM explains how the second conjunct of the CKA is pragmatically inappropriate (even if true) in most ordinary circumstances in which it's asserted. Those who endorse this move often take it to be vindicated by appeal to examples of CKAs that do not sound odd (Rysiew and Dougherty 2009). For discussion: Dodd (2010) disagrees (sec. 6) and Rysiew and Dougherty (2011) reply in secs. 3 & 4. Hawthorne (2012) argues that CKAs are contradictory even if sometimes felicitous in non-core uses of the relevant terms.

[6] There is almost universal agreement among contemporary epistemologists that at least this rough characterization of fallibilism is true. For the characterization, see, e.g., Dodd (2011, 1), Rysiew and Dougherty (2009, 127), Dougherty (2011), and Reed (2012).

[7] For a discussion of the various ways to formulate Fallibilism, see, e.g., Dougherty (2011) and Reed

in which case fallibilism is just the view that, possibly, the subject knows p while not-p is epistemically possible for the subject. Such a formulation seems straightforwardly false by virtue of H-S Account, according to which if the subject knows p, not-p is not epistemically possible for the subject (since p obviously entails its double negation).[8] Fallibilism is thus in tension with H-S Account.

One way to resolve the tension is to develop an alternative formulation of fallibilism. Stanley (2005), for example, develops a view according to which the epistemic possibility relevant to the formulation of fallibilism is relative to one's evidence rather than to one's knowledge, whereas the epistemic possibility relevant to H-S Account is relative to one's knowledge. Another way to resolve the tension is to endorse an account of knowledge according to which whether one knows, or what epistemic possibilities are significant enough to rule out one's knowledge, depends on the context or salience to the subject. On some of these views, knowledge can be fallible while H-S Account is still true. H-S Account can be true because, given that the subject knows p and p obviously entails not-q to the subject, not-q is still epistemically possible for the subject, where what is epistemically possible for the subject is relative either to the context or what is salient to the subject. Knowledge can be fallible, because fallibilism can be reformulated: knowledge is compatible with an epistemic possibility of error were the context different or were different factors salient.[9]

In the following sections, I clarify what's required for the inclusion of each of the parts of H-S Account by providing reasons for the inclusion of each of its parts. After doing so, I show how H-S Account requires Obvious Account:

Obvious Account: q is epistemically possible for S if and only if not-q is not obvious

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(2012).

[8] Throughout, I assume that some logical operations, such as double negation and contraposition, can be performed *salva veritate* within an intensional context such as epistemic possibility or epistemic necessity. This is because I'm operating within the framework used by Hawthorne and Stanley. Stanley, for example, performs contraposition and assumes that this operation can be done *salva veritate* in the context of epistemic possibility when demonstrating that H-S Account requires the falsity of CKAs. For the view that epistemic possibility and epistemic necessity create intensional contexts, see Rossi and Ozgun (2023). Of course, some kinds of operations can be performed *salva veritate* even within intensional contexts.

[9] One of these views is developed by John Hawthorne (2004). David Lewis (1996) likewise develops a view about what counts as knowledge/epistemic possibility on the basis of what I have here called "H-S Account." Of course, there might be other reasons to endorse a non-standard account of knowledge or a different account of epistemic possibility. The point here is just that relieving the tension between H-S Account and fallibilism is one of them, and if H-S Account is false, there is one fewer reason to develop the aforementioned kinds of accounts.

A Proposition is Epistemically Possible if and only if its Negation is not Obvious to S.

As I show later, H-S Account is false on the basis of Obvious Account. For now, it's worth showing how Obvious Account has different upshots for the truth of CKAs and fallibilism.

First, CKAs can be true according to Obvious Account. They can be true in cases in which the speaker knows p, q obviously entails not-p, but not-q isn't obvious to the speaker. For example, perhaps I know that the fork in front of me is metal, and perhaps it's obvious to me that *The fork is plastic* entails *The fork is not metal*, but it's not obvious to me that it's not plastic. Perhaps I can even *know* the fork isn't plastic without it being *obvious* to me that it's not plastic.[10] In this case, then, I can know the fork is metal without it being obvious to me that it's not plastic. So, in this case, if Obvious Account is true, I can truly utter the CKA, "I know the fork is metal, but it's (epistemically) possible it's plastic."

For another example, I may hear from many sources that the road ahead is closed and on that basis come to know that it's closed, but I may still express a truth when I say, "I know the road is closed, but it's (epistemically) possible it's not." I might utter that statement if it's not obvious to me that the road is closed. Since Obvious Account allows some CKAs to be true, the truth of Obvious Account is a point in favor of the view according to which odd-soundingness of CKAs is due to a violation of norms of assertion or conversational maxims rather than CKAs' falsity.

Second, Obvious Account presents no threats to fallibilism. According to Obvious Account, it is obviousness, not knowledge, that's incompatible with a possibility of error. If there are or could be propositions that are known but not obvious to a subject, a subject could know a proposition while the proposition's negation is epistemically possible for the subject. Using the road example above, my knowledge that the road ahead is closed might be compatible with the (epistemic) possibility that the road is open, as long as it is not obvious to me that the road is closed. So, if the argument in the remainder of this article is successful, there's no need to relieve any tension between fallibilism and epistemic possibility. If H-S Account is false and Obvious Account is true, there's no conflict between epistemic possibility and fallibilism. One doesn't need to develop an alternative account of fallibilism or to endorse a different account of knowledge or epistemic possibility in order to make fallibilism compatible with H-S Account.

To preview the following sections, in the next section I make a preliminary simplification to avoid an unwieldy number of negations (Section 2). Then I provide

[10] I argue that there are or could be propositions that are known but not obvious in Section 5. For now, this is an assumption to show the different upshots between H-S Account and Obvious Account given that this assumption is true.

reasoning for inclusion of the parts of H-S Account to show that H-S Account is false. I do this first by examining the inclusion of the parts of H-S Account to show that H-S Account requires Obvious Account (Sections 3-4). To show that H-S Account requires Obvious Account, I aim to establish that the left-to-right direction of the biconditional that constitutes Obvious Account in Section 3. Then, in Section 4, I aim to establish the right-to-left direction of that biconditional. I then show that H-S Account is false on the basis of Obvious Account in Section 5.

2. A Preliminary Simplification

Before beginning, in this section I simplify to avoid an unwieldy number of negations. The simplification involves assuming that epistemic possibility and epistemic necessity are duals. That is, if not-p is not epistemically possible for S, then p is epistemically necessary for S, and vice versa. This assumption is merely for simplicity, and all the work that follows can be done (though in a more complex way) without it.

Using this duality assumption, if we convert H-S Account, we get an account of epistemic *necessity*. The result is H-S Account*:

> **H-S Account***: q is epistemically *necessary* for S if and only if what S knows entails q in a way that's obvious to S.

In what follows, then, I examine H-S Account* by providing reasoning for the inclusion of each of its parts in order to show that H-S Account* requires Obvious Account. Throughout the process, I refer to the desideratum for H-S Account: in the fork example, it's epistemically impossible for me that the fork is plastic. To show that H-S Account* does satisfy the desideratum in the fork example: since I know the fork is metal and it's obvious to me that *The fork is metal* entails *The fork is not plastic,* according to H-S Account* it's epistemically necessary for me that the fork isn't plastic. If we apply the dual rule again, it's not epistemically possible for me that the fork is plastic.

3. The Left-to-Right Direction of Obvious Account

In this section, I provide the reasoning for inclusion of the parts of H-S Account* to establish the left-to-right direction of Obvious Account. To begin to reason for inclusion of the parts of H-S Account*, let's start with Same Proposition*:

> **Same Proposition***: q is epistemically necessary for S if and only if S knows q.

Using the dual rule, Same Proposition* is equivalent to:

> **Same Proposition**: q is epistemically possible for S if and only if S does not know

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not-q.

Why don't proponents of H-S Account* accept Same Proposition* instead of H-S Account*? The answer is that Same Proposition* simply doesn't do enough work on its own. Same Proposition* doesn't connect the known proposition *The fork is metal* with the proposition *The fork is not plastic* in the fork example (and other examples of the same form). Proponents of H-S Account* want an account of epistemic modality that connects distinct propositions. To be sure, Same Proposition* could be paired with a closure principle—this idea is addressed next in this section—but for now note that Same Proposition* on its own doesn't deliver the correct desideratum in the fork example. In the fork example, possibly, I know the fork is metal and (by Same Proposition*) *The fork is metal* is epistemically necessary for me, but Same Proposition* does not deliver any verdict about whether it's necessary for me that the fork isn't plastic. That's because Same Proposition* by itself doesn't involve any mention of the distinct proposition *The fork is not plastic* or any other proposition that's entailed by *The fork is metal*. It might be that I know the fork is metal and it's obvious to me that *The fork is metal* entails *The fork is not plastic,* but Same Proposition* on its own doesn't deliver a verdict about whether *The fork is not plastic* is necessary for me, known by me, or anything else. So, if Same Proposition* is all we have to go on, it's left open whether it's epistemically possible for me that the fork is plastic even if I know the fork is metal, violating the fork case desideratum of proponents of H-S Account.[11]

[11] An additional problem for Same Proposition is that it makes it so that propositions that subjects don't even consider are epistemically possible for those subjects, even if those unconsidered propositions contradict propositions that are, to the subject, obviously entailed by what the subject knows. Carey (2023) gives the following example: "Suppose, for example, that Holmes knows that Adler has stolen his pipe. Holmes is perfectly capable of deducing from this that someone stole his pipe, but he has not bothered to do so. So, Holmes has not formed the belief that someone stole his pipe. As a result, he does not know that someone stole the pipe. According to [Knowledge Account], then, it is still epistemically possible for Holmes that no one stole the pipe (that is, that it is not the case that someone stole the pipe), even though it is not epistemically possible for Holmes that Adler did not steal the pipe." (Carey 2023, 3.a., quoted in Rossi and Ozgun 2023, 4) H-S Account solves this problem as long as it's obvious to Sherlock Holmes that *Adler stole my pipe* entails *Someone stole my pipe*. Note that it might be that an entailment is obvious to a subject even if the subject has not formed a belief about the entailment. If that's the case, obviousness would be epistemically stronger but doxastically weaker than knowledge. Whether obviousness to a subject requires belief, however, is controversial, and for that reason I attempt to avoid that debate in this article, though if it is true, the argument in this article becomes easier. It would be easier, for example, to establish that propositions can be obvious to a subject without being known by the subject in Section 5 if knowledge, but not obviousness, were to require belief.

H-S Account* solves Same Proposition*'s problem by connecting distinct propositions that entail each other, like *The fork is metal* and *The fork is not plastic*, and it does so by using obviousness—if what one knows entails q *in a way obvious to S*, then q is epistemically necessary for S. So, if I know that the know the fork is metal and *The fork is metal* entails *The fork is not plastic,* and it does so *in a way obvious to me,* then *The fork is not plastic* is necessary for me, which satisfies the desideratum of proponents of H-S Account.

Why, though, does H-S Account* use *obviousness* to connect distinct propositions? Why must *The fork is metal* entail *The fork is not plastic* in a way that is *obvious* to the subject? To answer that question, let's consider what would occur if an account used a relationship other than obviousness to connect what one knows, p, to a different proposition, q. Let's consider, for example, Knowledge Account:

> **Knowledge Account**: q is epistemically necessary for S if and only if what S knows entails q *to S's knowledge*.

Knowledge Account also doesn't deliver the correct results in some cases. To show this, let's lay out how a proposition, q, would be epistemically necessary for S according to Knowledge Account. It is as follows: for some p,

a) S knows p and

b) S knows that p entails q.

To use the fork example again, according to Knowledge Account, if I know the fork is metal, then *The fork is not plastic* is epistemically necessary for me if and only if I *know* that *The fork is metal* entails *The fork is not plastic.*

Knowledge Account is inadequate, because knowledge isn't closed under known entailment.[12] That is, it's possible that S knows p, S knows that p entails q, but S doesn't know q. Since knowledge isn't closed under known entailment, it is possible that I know the fork is metal and I know *The fork is metal* entails *The fork is not plastic*, but I fail to know *The fork is not plastic*. And if I don't know that the fork isn't plastic, it's not epistemically necessary for me that the fork isn't plastic. So, even if Knowledge Account is true, it might be that *The fork is plastic* is epistemically possible for me in the fork example, violating the desideratum for proponents of H-S Account.

[12] It is a widespread view among epistemologists that knowledge is not closed under known entailment. See, for example, Hawthorne (2004), 32, Dretske (2005), and Kvanvig (2006). That knowledge is closed under known entailment is defended in Hawthorne (2005), and Berto and Hawke (2021) defend knowledge under known implication.

Further, even if knowledge is closed under known entailment, if an entailment can be known by S without being obvious to S, H-S Account entails the falsity of Knowledge Account. This is because, assuming I know p, H-S Account requires a connection stronger than knowledge of the entailment between p and q (namely, obviousness) in order for q to be epistemically necessary for a subject. In the fork case, for example, if I know that the fork is metal and I know that *The fork is metal* entails *The fork is not plastic* without it being obvious to me that *The fork is metal* entails *The fork is not plastic*, Knowledge Account requires that *The fork is not plastic* is epistemically necessary for me. H-S Account, however, requires that *The fork is not plastic* is *not* epistemically necessary for me, and this is because, according to H-S Account, for q to be epistemically necessary for me requires that the entailment be obvious to me, not just known by me.

In fact, every attempt to modify Knowledge Account by implementing a different closure principle will, according to H-S Account, be false, as long as that closure principle doesn't require that the entailment between p and q is obvious to the subject. H-S Account requires that the entailment between p and q is obvious to the subject for q to be epistemically necessary for the subject. Other principles that replace Knowledge Account by connecting a known proposition p and a proposition q with a principle that doesn't require that the entailment between p and q is obvious to the subject—competent deduction, for example—will be false as long as the competent deduction between p and q is not both necessary and sufficient for *p entails q is obvious to the subject*.

To review, Same Proposition* is inadequate because it doesn't connect distinct propositions—the proposition the subject knows, p, with a distinct proposition q. Knowledge Account is inadequate because it does not connect the distinct propositions strongly enough. Although Knowledge Account connects the proposition the subject knows, p, with a distinct proposition q, this connection is only via known entailment. Knowledge of *p entails q*, however, even given the subject's knowledge of p, is not strong enough to ensure that q is epistemically necessary for the subject.

As we know, H-S Account (and H-S Account*) uses obviousness, not knowledge, as the epistemic state that the subject needs to have toward *p entails q* in the account of epistemic possibility. In H-S Account*, *p entails q* is *obvious* to the subject, not just *known* by the subject.[13] To figure out why, let's first see what's

[13] Throughout, I use the following propositions interchangeably: *p entails q in a way that is obvious to S* and *it is obvious to S that p entails q*. This language parallels the interchangeable use of the following propositions: *p entails q to S's knowledge* and *S knows that p entails q*. If the reader objects to the interchangeability, one can simply replace *it is obvious to S that p entails q* with *p*

required for whatever epistemic state the subject needs to have toward *p entails q* in order for q to be epistemically necessary for the subject given that the subject knows p.

Using the fork example, let's lay out how to ensure that S's knowledge that the fork is metal plus some additional connection between *the fork is metal* and *the fork is not plastic* is robust enough to entail that it's epistemically necessary for S that the fork is not plastic. An account *can* ensure that what S knows, p, guarantees that another proposition, q, is epistemically necessary for S only by following this method:

1. First, list what S knows,
2. Second, connect the items in the list from (1) with q in this way: it's *epistemically necessary* for S that at least one item from the list in (1), or a conjunction thereof, entails q.
3. Last, q is epistemically necessary for S just in case both 1 and 2 are satisfied.

That is, the connection between distinct propositions in whatever account we endorse needs to be an epistemically necessary connection. It needs to be epistemically necessary for S that what S knows entails q.

Why does the entailment between distinct propositions need to be epistemically necessary for the subject? Because even if S knows p, and even though p does, in fact, entail q, if it's epistemically possible for S that what S knows doesn't entail q, then, possibly, not-q is epistemically possible for S. Any account that doesn't require that the entailment between what S knows and a distinct proposition be epistemically necessary would deliver the wrong result in the fork example. If S knows the fork is metal and *The fork is metal* entails *The fork is not plastic* in a way that's not epistemically necessary to S, then, possibly, it's epistemically possible for S that the fork is plastic. That's the wrong result.

So, whatever epistemic state the subject has toward the entailment between what the subject knows, p, and the distinct proposition, q, needs to be a state that suffices for epistemic necessity toward that entailment. Proponents of H-S Account* have identified this state, embedded within the account: *obviousness*. According to H-S Account*, q is epistemically necessary for S if and only if what S knows entails q *in a way that is obvious to S*. And, as was just established, epistemic necessity is required of whatever epistemic state S has toward *p entails q*. Obviousness, then, suffices for epistemic necessity.

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entails q in a way that is obvious to S throughout the paper without affecting argumentation, except that Obvious Account would be modified as follows: q is epistemically possible for S if and only if it is not the case that q in a way that is obvious to S.

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Those who developed H-S Account had the option of advocating for Knowledge Account or any other account that involves an epistemic state weaker than obviousness toward *p entails q*. Proponents of H-S Account needed S to be in a state toward *p entails q* that doesn't fall short of epistemic necessity, though, and, when faced with the options, proponents of H-S Account embedded this epistemic state in their account: obviousness. So, let us follow suit and acknowledge, with proponents of H-S Account, that if a proposition q is obvious to S, then q is epistemically necessary for S.

Converting to epistemic possibility by using the duality assumption, a proposition's negation is not obvious to S if that proposition is epistemically possible for S.

Left to Right: q is epistemically possible for S only if not-q is not obvious to S.[14]

4. The Right-to-Left Direction of Obvious Account

The main conclusion from the previous section is that obviousness is sufficient for epistemic necessity. This was shown on the basis of the inclusion of obviousness in H-S Account*. The conclusion of this section is that epistemic necessity is sufficient for obviousness, again on the basis of H-S Account*. That is, if a proposition is epistemically necessary for a subject, then the proposition is obvious to the subject.

The conclusion of this section is thus the right-to-left direction of Obvious Account:

Right to Left: q is epistemically possible for S if not-q is not obvious to S.

Equivalently:

Right to Left*: q is epistemically necessary for S only if q is obvious to S.[15]

To show that H-S Account entails Right to Left* (and thus also Right to Left), I argue that the denial of Right to Left* entails the falsity of H-S Account*.

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[14] The proof is as follows. Assume: if q is obvious to S, then q is epistemically necessary for S.
Replace 'q' with 'not-q': If not-q is obvious to S, then not-q is epistemically necessary for S.
By contraposition: If not-q is not epistemically necessary for S, then not-q is not obvious to S.
Applying the dual rule: If q is epistemically possible for S, then not-q is not obvious to S.

[15] The proof is as follows. Assume: q is epistemically possible for S if not-q is not obvious to S.
Equivalently: If not-q is not obvious to S, then q is epistemically possible for S.
Replacing 'not-q' for 'q' and using double negation in the antecedent: If q is not obvious to S, then not-q is epistemically possible for S.
By contraposition: If not-q is not epistemically possible for S, q is obvious to S.
Applying the dual rule: If q is epistemically necessary for S, q is obvious to S.
Equivalently: q is epistemically necessary for S only if q is obvious to S.

To begin, here's H-S Account* again:

> **H-S Account***: q is epistemically necessary for S if and only if what S knows entails q in a way that's obvious to S.

For some setup for the rest of this section, it's worth noting that it was shown in the previous section that a connection at least as strong as epistemic necessity toward *p entails q* is needed to secure the results that satisfy the desideratum in the fork case and to overcome the problems with Same Proposition* and Knowledge Account. H-S Account* needs S's epistemic state toward *p entails q* to be sufficient for the epistemic necessity of *p entails q* for S.

To show that H-S Account* requires Right to Left*, let's first consider what would happen if Right to Left* were false. That is, let's consider what would happen if a proposition that's epistemically necessary for S were not to be obvious to S.

We have one way to undertake this consideration, according to H-S Account*. This way is to use the one proposition we've shown that, according to H-S Account* needs to be epistemically necessary for S according to H-S Account*: *p entails q*. (The argument in this section, then, relies on argumentation from the previous section.)

Let's consider, then, what would happen if *p entails q* were epistemically necessary for S but not obvious to S. Let's suppose for *reductio* that 1) H-S Account* is true, 2) *p entails q* is epistemically necessary for S, and 3) *p entails q* is not obvious to S. As part of our consideration, let's name some other epistemic state besides obviousness—let's call it "certainty"—and (to satisfy 2) stipulate that when S is certain that p entails q, *p entails q* is epistemically necessary for S. Further (to satisfy 3) let's stipulate that when S is certain that p entails q, *p entails q* is not obvious to S. Suppose also that S knows p and that S is certain that p entails q.

Given these suppositions, is q epistemically necessary for S? According to H-S Account, the answer is no. q is epistemically necessary for S only if what S knows entails q in a way that's *obvious* to S. Assuming S knows p, no other epistemic state toward *p entails q* besides obviousness—not even certainty, as we've stipulated it—suffices for q being epistemically necessary for S. Any other state besides obviousness toward *p entails q* would run into the same problems that Same Proposition* and Knowledge Account face; they would not secure the desideratum in the fork case, that it's epistemically necessary for S that the fork is not plastic. That desideratum is secured only if it's *obvious* to S that *The fork is metal* entails *The fork is not plastic*.

If we were to assume, along with the rest of our assumptions for *reductio*, that q is epistemically necessary for S, a contradiction would result. This assumption would make the right side of H-S Account* true, which entails that what S knows entails q in a way that's *obvious* to S, which contradicts assumption 3) above, that *p entails q* is not obvious to S.

By using the one proposition that needs to be epistemically necessary for S according to H-S Account*, *p entails q*, I hope to have shown that H-S Account shows that obviousness is the only epistemic state that can satisfy this role of epistemic necessity. So, according to H-S Account, if *p entails q* is epistemically necessary for S, then *p entails q* is obvious to S. We have, then, a reason from within H-S Account* itself for the view that if a proposition is epistemically necessary for S, then it's obvious to S.

Any alleged counterexample to Right to Left* would involve some other epistemic state that supposedly suffices for epistemic necessity and which does not require that the proposition is obvious to the subject. We could then ask what would happen if the subject were to be in that state toward *p entails q*. The same problems would beset this new state as beset certainty as it was stipulated above. Any such state would either make it so that the desideratum is not satisfied in the fork example—the same problem that beset Same Proposition* and Knowledge Account—or, if we assume that q is epistemically necessary for S, the right side of H-S Account* would be true, which contradicts assumption 3) that was used for *reductio*, that the state does not require that *p entails q* is obvious to the subject. We are left with Right to Left*, then, as the conclusion:

Right to Left*: q is epistemically necessary for S only if q is obvious to S.

Of course, if every state that entails epistemic necessity is coextensive with obviousness, then Right to Left* is still true.

To summarize, I've argued that proponents of H-S Account should, by their own lights, endorse the following account, which is just a combination of the conclusions of these last two sections, Left to Right* and Right to Left*:

Obvious Account*: q is epistemically necessary for S if and only if q is obvious to S.

I've shown that Obvious Account* is required in the very formulation of H-S Account*, by the inclusion of obviousness as the state required of the subject toward the entailment between what the subject knows and the distinct proposition.

To more directly parallel H-S Account, we can convert Obvious Account* back to Obvious Account by reapplying the duality assumption:

Obvious Account: q is epistemically possible for S if and only if not-q is not obvious to S.[16]

[16] One might have the same issues with Obvious Account as with Same Proposition*, viz. that the account does not connect distinct propositions. One can remedy this issue by endorsing a view similar to Obvious Account but which connects distinct propositions:

Now that I've shown that H-S Account entails Obvious Account, in the next section, I show that H-S Account is false on the basis of Obvious Account.

5. H-S Account Is False on the Basis of Obvious Account

The first step of the argument in this section is to note that there are (or, weaker: there could be) some propositions that are, to S, obviously entailed by propositions S knows but which are themselves not obvious to S.

For one simple example, let's stipulate that, to S, every proposition obviously entails itself. In this simplified example, there are (or could be) some propositions that S knows but which are not obvious to S, even though these propositions obviously entail themselves. Examples might include the truth of a complicated formula or a proposition one needs to reason to every time one considers it. In this example, the truth of the complicated formula is known by S and obviously entails itself, but the truth of the complicated formula is not itself obvious to S.

For another example, let's return to the fork example. In that example, I know that the fork in front of me is metal, but suppose it's neither obvious to me that it's metal nor that it isn't plastic—it takes a few examinations to come to know that it's metal, and my epistemic state is still more tenuous than it would be were it obvious to me. After all, there is some very convincing plastic flatware. But suppose it's obvious to me that *The fork is metal* entails *The fork is not plastic.* In that case, there is a proposition—*The fork is not plastic*—that I know and which is obviously entailed by a proposition I know (*The fork is metal*) but which is itself not obvious to me.

Another example, shown above, is *p entails q*. When describing the inclusion of parts of H-S Account*, it was inadequate to formulate an account according to which q is necessary for S if S knows p and S knows that p entails q. H-S Account* requires a stronger connection between p and q, one in which q is necessary for S if S knows p and p entails q in a way that is obvious to S. If S's *knowledge* that *p entails q* requires that *p entails q* in a way that is *obvious* to S, then there would be no need for an epistemic state connection stronger than knowledge toward *p entails q*. The need for an epistemic state stronger than knowledge toward *p entails q* shows that even according to proponents of H-S Account, S can know a proposition (namely, *p*

(Obvious Account Revised) p is epistemically possible for S if and only if not-q is not obviously entailed by what is obvious to S.

One would then need to maintain that every proposition obviously entails itself and that obviousness is closed under obvious entailment. Establishing that closure principle, however, is another project.

entails q) without that proposition being obvious to S. So, some propositions can be obviously entailed by propositions known by S without themselves being obvious to S.

The second stage of the argument is to note that in all of these examples, there's a proposition that's not epistemically necessary according to Obvious Account* but which is epistemically necessary according to H-S Account*. These propositions (This complicated formula is true, The fork is not plastic, p entails q) are not epistemically necessary for S according to Obvious Account* because they aren't obvious to S (even if they're obviously entailed by what's known to S), but they are epistemically necessary to S according to H-S Account* because they're obviously entailed by propositions known to S. So, Obvious Account* entails results incompatible with H-S Account*. If Obvious Account is true, then, H-S Account is false.

In slightly more formalized terms, S can know some propositions that are not obvious to S. Using p as the variable for those propositions, let us assume S knows p but p is not obvious to S. Since p obviously entails p, according to H-S Account* p is epistemically necessary for S. But since p isn't obvious to S, according to Obvious Account* p is *not* epistemically necessary for S. When a proposition is obviously entailed by a proposition S knows but is not itself obvious to S, then, according to H-S Account*, that proposition is epistemically necessary for S, but according to Obvious Account*, that proposition is not epistemically necessary for S.

But H-S Account* entails Obvious Account*, as was demonstrated in Sections 2-4. H-S Account entails Obvious Account, which contradicts H-S Account, as long as there are, or could be, some propositions that are known by S but not obvious to S. As was shown above, there are, or could be, such propositions. Even more, the possibility of knowing a proposition without that proposition being obvious to the subject—namely, *p entails q*—is what underlies the reasoning for inclusion of the parts of H-S Account.

In short, according to H-S Account, the negation of propositions that are obviously entailed by what we know are epistemically impossible for us, but according to Obvious Account, the negation of propositions that are obviously entailed by what we know can be epistemically possible for us, so long as those propositions are not obvious to us. I conclude, then, that H-S Account is false by virtue of what H-S Account requires: q is epistemically possible for S if and only if not-q is not obvious to S.

6. Conclusion

I've argued that H-S Account is false by its own lights and that it entails an account of epistemic possibility that both entails the falsity of H-S Account, makes it so that some CKAs can be true, and prevents the need to relieve tension between fallibilism and one's view of epistemic possibility. I've done this by focusing on the epistemic state the subject must have toward the entailment between distinct propositions in H-S Account—one proposition, p, representing what the subject knows, and a distinct proposition q. I've argued that according to H-S Account the attitude the subject needs to have toward these propositions needs to suffice for epistemic necessity between these propositions. By identifying obviousness as the epistemic state that the subject needs to have toward this entailment, proponents of H-S Account have assumed an account of epistemic possibility in the very formulation of H-S account—Obvious Account. But the account assumed by H-S Account itself—Obvious Account—entails the falsity of H-S Account. H-S Account tells in favor of its own falsity and in favor of Obvious Account, which also delivers different results than does H-S Account about fallibilism and CKAs.[17]

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