

# More on Epistemic Modals

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I respond to comments by David Barnett and Roy Sorensen on my paper 'Epistemic Modals'.

## 1. Reply to Barnett

We can roughly distinguish between two questions:

- (1) What is the compositional semantics of an epistemic modal clause?
- (2) What sort of informational content do utterances of epistemically modalized sentences communicate?

The questions are obviously related, but they should not be conflated, at least not well in advance of theory.<sup>1</sup> Very roughly, the first is a question of semantics, the second of pragmatics (or of the semantics–pragmatics interface). The puzzle about supposition and epistemic modality I raised in section 1 of Yalcin 2007 was primarily used to motivate a specific answer to the first question—the semantic question. As for the second question, I said little about it until later in the paper. When I finally came to defend a view about it, it was on the basis of more abstract considerations: certain views about consequence (Sect. 4), judgements about the truth values of certain unembedded epistemic modal sentences, and the idea, already suggested by others, that a plausible formal pragmatics for unembedded epistemic modal talk could be given without having to assume that these sentences have an informational content in any usual sense. But my treatment of the second question was tentative. This is because my view was (is) that answers to it turn on considerations of a more global character, and are, unfortunately, not easy to settle with a quick puzzle.

With this background, let me turn to Barnett (this volume). As Barnett understands me, I use the puzzle that appears in section 1

<sup>1</sup> Theorists who have pressed this distinction in various ways include Dummett (1973, 2002), Stalnaker (1978), Lewis (1980), Stanley (1997), and Yalcin (2007).

of Yalcin 2007 to reject what he calls *the natural view about 'might'*. The natural view is that

... to say that it might be that S is to say something about one's epistemic state (and perhaps also about the epistemic states of those around one).

Barnett goes on to argue that there exists a version of the natural view that is safe from my puzzle.

There are two problems here. First, as I understand it, the natural view is an answer to question (2) above. But I did not rest any case against the natural view on the puzzling facts about embedded epistemic contradictions. (Had I done that, the paper would have been a lot shorter.) My immediate use of the puzzling embedding facts was, again, to motivate a view about what a compositional semantics for epistemic modals should look like. It is a further question what sort of informational content epistemic modal sentences tend to communicate when used unembedded in context. While an answer to that question might be constrained by the true compositional semantics of English, it is not settled by it. (Not on my view, at least.)

Second, I think Barnett need not have gone to the trouble of arguing that there exists a version of the natural view that is safe from my puzzle. I did that already in the paper, under the heading 'the diagonal view' (Sects 4 and 5 of Yalcin 2007). So on Barnett's main point, we are agreed: the facts about the puzzle I discuss—the embedding behaviour of epistemic contractions under 'suppose' and the like—are technically compatible with some version of the natural view of the informational content of unembedded epistemic modal sentences. This was why I discussed the diagonal view at length, treating it as the main alternative to the view I preferred, and it is why my reasons for doubting the natural view went over and above the puzzle about embedding epistemic contradictions.

It is perhaps worth stressing that Yalcin 2007 was intended as a contribution to a certain specific body of semantic and pragmatic theory. The facts about embedding that the paper began with drew my interest because of their impact on this body of theory—in particular, because they seemed puzzling from the perspective of a relational intensional semantics for modals.

Barnett describes the view he favours as follows:

... versions of the natural view simply need to accommodate the idea that, when uttered within the scope of a supposition, 'it might be that S' typically expresses a claim about the speaker's *suppositional* epistemic state; whereas, when uttered outside the scope of a supposition, 'it might be

that *S*' typically expresses a claim about the speaker's *categorical* epistemic state. (Barnett 2009, pp. 774–5)

This strikes me, not as a theory of what 'it might be that *S*' expresses, but as a description of the desiderata for such a theory. We still need to see a compositional semantics that generates the desired predictions in a systematic and comparatively elegant way. Barnett indicates in a footnote that he is operating in abstraction from possible worlds semantics. Fine with me; but I worry that he is operating in abstraction from any semantics. Maybe semantics for the proposal he has in mind seems totally obvious to him. I am afraid it is not obvious to me.

In the final paragraph of his paper, Barnett suggests that 'might-statements are relative to a perspective, and that perspective is not always indifferent to the linguistic context'. That sounds plausible. The semantics for epistemic modals and attitude verbs I gave captures this idea in a fairly precise way. If we think of a perspective as representable by a state of information, then epistemic modal clauses just do serve to place conditions on perspectives. And the perspective is not always indifferent to linguistic context, since attitude verbs and conditional environments can induce these perspectives to shift.

## 2. Reply to Sorensen

### 2.1 *The KK principle and meta-agnosticism*

The equivalence  $\diamond\diamond\phi \leftrightarrow \diamond\phi$  holds on the formal semantics for epistemic modals that I endorse (understanding the diamond as schematic for an epistemic possibility modal). Am I thereby committed to the KK principle, as Sorensen (this volume) seems to suggest? Not yet. The KK principle is a principle that governs 'knows' (better, '*i* knows' for some given agent *i*). It involves a different kind of operator, the knowledge operator. Can we assume without question that knowledge operators and epistemic modals are inter-substitutable or inter-definable? We cannot, at least not without begging all the questions of Yalcin 2007. (The motivating puzzle of that paper, after all, came from striking cases where epistemically modalized clauses *fail* to pattern with knowledge ascriptions. The name 'epistemic modal' is truly unfortunate.) Sorensen can continue iterating knowledge operators without interference from my semantics for epistemic modals. It does not render such iteration redundant — at least,

not without the assumption of further logical principles linking knowledge operators and epistemic modals, principles I did not discuss.<sup>2</sup>

As I understand Sorensen, meta-agnosticism is definitionally incompatible with the KK principle. Sorensen aims to persuade us that meta-agnosticism is a logically possible view. If it is, then the KK principle is false, together with any view entailing that principle. But my view does not entail the KK principle. So it is not incompatible with meta-agnosticism.

At most, my view bears on whether the meta-agnostic can express his view by iterating epistemic possibility modals. Should we care about this issue, as long as the view is expressible with knowledge operators, or in some other way? I am not sure. Does Sorensen himself care? I think so, but I am not sure; the meta-agnostic in his dialogue does not actually iterate epistemic modals.

Well, consider the question anyway. Let us try to have the meta-agnostic express his view by iterating epistemic possibility modals.

Atheist: God doesn't exist.

Agnostic: I don't accept that claim. God might exist.

Meta-agnostic (shoving Atheist out of the conversation): I don't accept *that* claim. It might not be the case that God might exist.

Agnostic: Come again?

Meta-agnostic: You heard: my view is that it might not be the case that God might exist.

Agnostic: Let's start over. Do you believe that God exists?

Meta-agnostic: No! I am not a theist.

Agnostic: Do you believe instead that there is no God?

Meta-agnostic: No! I am not an atheist.

Agnostic: Alright then. So since you don't believe that God doesn't exist, you grant he might exist.

Meta-agnostic: No! I do not grant that God might exist.

Agnostic: Come again? Look, do you mean to exclude the possibility that God exists?

Meta-agnostic: No! (My whole schtick here is that I'm trying to leave open all the possibilities I can.)

Agnostic: Okay. So you allow for the possibility that God exists. In other words, you allow that God might exist.

Meta-agnostic: No!

Agnostic: What?

<sup>2</sup> Though such principles obviously deserve investigation.

I myself find meta-agnostic as hard to follow as agnostic does. If the meta-agnostic wants to make his view intelligible, it seems to me he needs to find a different way of talking. Iterating epistemic possibility modals is not doing it for him.

These facts apparently favour the semantic account I prefer. Meta-agnostic presents as if the iteration is doing semantic work, but if the semantics for epistemic modals I recommend is correct, such iteration is vacuous.<sup>3</sup> This would explain why what he says sounds weird, and why it is unclear how he differs from Agnostic. The dialogue also supports a second component of my view, namely, the idea that believing that something might be is more a way of lacking a position on an issue than taking one.

In this respect, epistemic possibility modals offer a cure for Pyrrhonian quietude. Sorensen's Sextus need not be at a loss at a dinner party. He can enter the conversation by countering every dogmatic, factual claim *p* he hears with: *it might not be that p*. In so doing, he does not undermine himself by embracing a new kind of dogma — by committing himself to a further fact, some kind of epistemic fact. Rather, his speech act is non-factual. He gives voice to a state of mind that consists, not in the exclusion of possibilities, but in the leaving of them open. (The nonfactualist theme is developed in more detail in Yalcin forthcoming.)

## 2.2 Epistemic contradictions

Sorensen takes my semantics for epistemic modals to be incompatible with meta-agnosticism. I disagree. Anyway, Sorensen offers an alternative to my treatment of the embedding facts about epistemic contradictions, the facts motivating my semantics. I explained the defect in sentences like this:

- (1) # Suppose it is raining and it might not be raining.
- (2) # If it is raining and it might not be raining, then ...

with a semantics that makes such sentences incoherent. Sorensen prefers a semantics making epistemic contradictions descriptions of coherent states of affairs: 'It's raining and it might not be raining,' on the view he wants, describes a situation where, roughly, (i) it is raining and (ii) it is not known that it is raining. So he endorses a 'classical'

<sup>3</sup> Vacuous, that is, outside cases of pragmatically induced tacit shifting of the information parameter, a phenomenon discussed briefly in Yalcin 2007.

view about what epistemic modals mean. How then does he explain what is wrong with (1) and (2) above, given that the classical view predicts sentences like these to have a clear interpretation?

He begins by taking inspiration from garden path sentences. A sentence like ‘The horse raced passed the barn fell’ is a well-formed sentence with a clear interpretation. Initial impressions to the contrary are misleading, the result of the fact that the sentence has a syntax which is unexpected or difficult to parse. We can signal the intended interpretation using a second sentence with a more transparent syntax (‘The horse *that was* raced passed the barn *is the horse that* fell’). Once we see that the initial sentence can be parsed so as to mean just what this second sentence means, the impression of defect disappears. Sorensen asks whether we can take a similar approach to (1) and (2). Could we say that these sentences really do have a clear interpretation, one merely obscured by accidents of grammar?

That is not quite how Sorensen asks the question, but it seems anyway a fair enough question to ask, and one worth asking. I suspect that the answer to it is negative. It is clear that (1) and (2) are not garden path sentences in the ordinary sense. Are they syntactically non-standard in some other respect? Perhaps the following respect: they involve epistemic modals scoped *under* other operators, and it is known that epistemic modals generally prefer to scope high.<sup>4</sup> But we can find unproblematic examples of epistemic modals scoped under attitude verbs (e.g. under ‘believes’) and in the antecedents of indicative conditionals (‘If the restaurant might be closed, we should call ahead’). So there is some work to be done before an explanation of the phenomena along these particular lines will look independently motivated.

Sorensen himself pursues the garden path analogy in a different way. His idea, if I follow, is that the sentences (1) and (2) have (not an unusual syntax, but) an unusual meaning: the situations they characterize, or in which they would be sensible to utter, are very weird—so weird that it is just hard to think up a scenario where they would be felicitous. So Sorensen tries to vindicate something like a conditional of the form of (2) by describing an involved scenario in which the conditional

- (3) If it might not be raining but *it is raining*, then the farmer will be relieved.

is meant to strike us as, after all, true.

<sup>4</sup> See, for example, Cinque 1999 and von Stechow and Iatridou 2003.

Is Sorensen's intuition about the example robust? I am doubtful. I am also not sure why the sentences in question would sound as defective as they do merely because they characterize (or are assertable only in) weird situations. In any case, that Sorensen is obliged to go to such elaborate lengths here seems to prove the rule, or so it seems to me. Why does a conditional of the form (2) require a 'four stage' rescue operation? The key worry is that there should be no need for a rescue operation, if a 'classical' view of epistemic modals is correct. After all, this sentence

- (4) If it's raining and this isn't known, then somebody will get wet.

does not need rescuing: we see what it means. Why should this sentence:

- (5) # If it's raining and it might not be raining, somebody will get wet.

be so much worse if, as Sorensen takes it, the sentences are the same in semantically relevant respects?

In the course of his discussion, Sorensen says:

... when Yalcin commands 'Suppose it is raining and possibly it is not raining' we are tempted to first add the assumption that it is raining and then protect the possibility that it is not raining. We cannot do it in that sequence. However, as far as the semantics of the order is concerned, there is no entailment of order. So we can comply by first protecting the epistemic possibility that it is not raining and then adding the assumption that it is actually raining. (Sorensen 2009, p. 781)

I agree that, in a certain sense, it is more straightforward to transit from [a state of mind that leaves  $p$  open] to [a state of mind that excludes the possibility that  $p$ ] than it is to do the reverse. For the reverse begs the difficult question of which  $p$ -possibilities to allow in.<sup>5</sup> (In the first case, information growth is monotonic, and in the second case not.) But in making this point, Sorensen is tacitly endorsing my preferred conception of what it is to be in a state of mind that accepts that  $p$  is possible. This state of mind, Sorensen tacitly agrees, is a first-order state of mind, not a second-order one (as it is on the classical

<sup>5</sup> The asymmetry has been emphasized by theorists in the dynamic tradition, who would likely reject Sorensen's apparent suggestion that the order of the conjuncts has no semantic import. See Groenendijk et al. 1996, Veltman 1996, and Beaver 2001. The approach I favour has much in common with the dynamic analysis.

picture Sorensen says he prefers). It is not a state of mind that consists in a relation to a proposition about somebody's knowledge. Rather, it is a state of mind that leaves open *p*-possibilities. From here, it looks like a short step to the kind of semantics I prefer.

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