

# Comments on MacFarlane\*

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## 1

Two rough questions. (1) Exactly what information is expressed by an epistemic modal claim, according to this account? (2) Exactly how far is the account from a “force account” of epistemic modals? Relatedly, from a dynamic semantics?

## 2 Information

Here is the simple eavesdropping case (5):

You overhear George and Sally in the coffee line.

Sally (to George): “Joe might be in Boston right now.”

You (to yourself): “Joe can’t be in Boston; I just saw him an hour ago”.

**Question:** Did Sally speak falsely in saying “Joe might be in Boston”?

The natural answer to this question, MacFarlane takes it, is “yes”.

I do not propose to harp on the question of whether MacFarlane has the data right. Let us just assume, for the sake of argument, that he does. Let us further assume that his interpretation of the data is correct—i.e., that these judgments are assessments of the whole clause and not simply of the prejacent. Granting all this—maybe a lot—we need a semantics for epistemic modals that will make sense of the judgments in this case, and in relevantly similar cases. MacFarlane argues that contextualism about epistemic modals cannot make sense of the judgments. His central worry is that it can only get the truth-value judgments of speakers right by making the truth-conditions of epistemic modal claims outrageously strong—too strong to be assertable in cases where they are, in fact, assertable. We might call it *the contextualist’s dilemma*: either our semantics systematically fails to capture the truth-value judgments that people actually make, or it captures these judgments but turns users of epistemic modal sentences into irrational asserters.

Let us suppose, again for the sake of argument, that this diagnosis of the situation is correct. How, then, does MacFarlane propose to escape the contextualist’s dilemma and make sense of the data?

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\*Comments on John MacFarlane’s ‘Epistemic Modals are Assessment-Sensitive’ (manuscript, August 23rd, 2006), for the 2006 University of Michigan Workshop in Philosophy and Linguistics. Unless otherwise noted, page references are to this paper.

His proposal is to redefine truth at a context. The new definition is supposed to be such as to get the intuitive truth-value judgments right while also delivering plausible assertability conditions. Here is the new definition (40):

An occurrence of a sentence  $\Phi$  is **true at a context**  $C_U$  **as assessed from a context**  $C_A$  iff  $\Phi$  is true at  $\langle C_U, S_{C_A}, w_{C_U}, a \rangle$  for every assignment function  $a$ , where

1.  $S_{C_A}$  = the set of worlds that aren't excluded by what is known (at  $C_A$ ) by the agent centered on  $C_A$
2.  $w_{C_U}$  = the world of  $C$

There are two innovations here<sup>1</sup>, one within familiar boundaries, one more radical. The first innovation is the addition of a new index parameter,  $S$ , which takes as its value a set of worlds and is meant to represent an information state (34). Though I think the idea of adding a set-of-worlds parameter is new with MacFarlane, the general move of positing a new parameter is a perfectly conventional one. Enriching the index in order to give operator-theoretic treatments of natural language expressions is a familiar thing in semantics. The second, more radical innovation is to define truth in context in terms of truth at a point of evaluation which is fixed, in part, by the context from which the claim is being assessed. As is clear from the definition, the two innovations operate here as a package, for the only aspect of [the point of evaluation relevant to settling truth at a context] which is provided by the context of assessment is the value of  $S$ .

How is this supposed to help us overcome the contextualist's dilemma? State the definition of truth at a point of evaluation for epistemic modal sentences so to access the assessment-sensitive parameter  $S$ :

$\ulcorner$  MIGHT  $\Phi \urcorner$  is true at  $\langle C, S, w, a \rangle$  iff  $\exists w' \in S : \Phi$  is true at  $\langle C, S, w', a \rangle$

Now the dilemma raised by Sally and friends is solved, says MacFarlane, roughly as follows. First, thanks to the above truth-conditions for 'might' and our two semantic innovations, "the truth of an epistemic modal claim (relative to a context of assessment) depends on what the assessor knows, not what the speaker knew when making the claim. So it is appropriate for eavesdroppers to assess the truth of epistemic modal claims against the background of what they know" (29). We therefore have the problematic truth-value judgments raised by eavesdropping cases covered. But—and here comes the victory over contextualism—"Sally's claim that Joe might be in Boston is true as assessed from the context in which she makes it, so we can understand why she makes it in the first place" (29). Thus, says MacFarlane, simultaneous with getting the truth-value judgments right, we have preserved rational assertability conditions for these sentences, precisely what contextualism could not achieve. So the contextualist's dilemma really is the *contextualist's* dilemma, and relativism seems to be a way out.

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<sup>1</sup>That is, as compared to more familiar definitions of truth at a context—say, those of Kaplan [3] or Lewis [5].

If this is the story, then I think I am missing something. Again, the problem for contextualism as I understand it is that cannot save the truth-value judgments without making the practice of using (asserting) epistemic modal claims appear totally irrational. MacFarlane’s relativism is supposed to be an alternative that shows how the practice is rational, how the the use of epistemic modals could make sense. But it is not clear to me how it does this, because it is not clear to me how basic features of the whole enterprise of communication are supposed to work according to this proposal.

Let me clarify the worry. The foremost thing we do with words, surely, is impart information. There are of course varying accounts of the details, but let us start simple, as we might in the dark era before we started looking at epistemic modals.

Sally (to George): Hans is in Boston.

What is happening here? The following, we can say. Sally believes something: she takes herself to have some information about the whereabouts of Hans. She wishes to impart what she believes to George. She therefore says something whose truth depends—somehow—on whether what she believes obtains. George, sharing knowledge of the semantics of the language and of the norms governing speech, sees what must be the case in order for Sally to have spoken truly, and thereby sees what it is that Sally is trying to communicate.

Again, there is more to say, of course, but in outline I think it is clear that this is a way of making sense of what Sally, in speaking, is doing—of seeing her as rational. I think this has some title to being called the standard picture.

Now this basic picture of communication is perfectly compatible with contextualism about epistemic modals. In fact, I think it is the picture presupposed by virtually all contextualists. The picture is left tacit, working in the background, but it is there all the same and it is doing work that must be done. When Sally says “Joe might be in his office” in a sincere context, this is ordinarily taken by the contextualist to have, relative to a context, truth-conditions that determine the truth-conditions of something Sally believes and is aiming to communicate to George. Assuming these things—which may strike us as too obvious to mention—is the way that the contextualist helps herself to the simple picture of communication just sketched, and thereby it is the way the contextualist situates Sally vocalizing into the rational order. I think MacFarlane would agree here, for it is why his objection to contextualism—that it forced to assign truth-conditions to epistemic modal claims which are too strong to plausibly figure into the truth-conditions of what is it that Sally believes and is trying to communicate—is an objection.

(A clarification: does the picture of communication sketched above assume that what is semantically communicated is exactly what is believed, or that either of these is identical to the semantic value of a sentence relative to context? It does not. It merely assumes that these are related in a sensible manner. Identity of all these contents would be nice, but it isn’t mandatory. Perhaps what is believed is essentially self-locating, but what is communicated is not.

Then maybe what is communicated is understood to be only a function of what is believed. Or perhaps the semantic value of a sentence in context is a function from twelve different indices (world, time, location, standard of precision, agent...) to truth-values—an object needed to model the operators in the language, but which seems to be a poor candidate for the information the speaker is really imparting. Then what is communicated should be understood only as being determined by the semantic value of the sentence at context.<sup>2</sup>)

Now my trouble is with understanding MacFarlane’s model of communication. Whatever it is, it does not seem to be compatible the simple picture above. What, for instance, according the MacFarlane, is the belief, the information, that Sally is giving voice to in context when she says, sincerely, “Joe might be in Boston”? What information is she trying to impart? For the solipsistic contextualist, the answer is: the proposition that (i.e., the set of worlds where) what Sally knows does not rule out Joe’s being in Boston. For the group contextualist, the answer is: the proposition that (set of worlds where) what group  $g$  knows does not rule out Joe’s being in Boston. And so on, for the other varieties of contextualism. How does MacFarlane answer this simple question? As far as I can tell, he does not address it directly; let us work backwards.

1. *Is the information the proposition that (set of worlds where) what Sally knows does not rule out Joe’s being in Boston?*

It appears that the truth of this proposition is exactly what puts Sally in position make the relevant epistemic modal claim, for its truth is what ensures that (according to MacFarlane’s semantics) an occurrence of the sentence “Joe might be in Boston” is true relative to Sally’s context of use and assessment—and it is this latter fact that MacFarlane cites as helping us “understand why she makes it in the first place”.

But of course, this could not be the information Sally is communicating in virtue of the meaning of what she says, according to MacFarlane, else we might as well be solipsistic contextualists. So it turns out that whatever the information it is that Sally is expressing, it is not the same as the fact that puts her in position to make her claim. This should already make us concerned that, whatever the proposal is, it will involve a gap between assertability and the informational content of the sentence.

2. *Is the information the semantic value of Sally’s sentence relative to the context of use?*

The semantic value of Sally’s sentence, relative to her context of use, can be characterized abstractly as follows. Letting  $i$  range over information state-world pairs  $\langle S, w \rangle$ :

$$\lambda i_{\langle S, w \rangle}. \exists w' \in S : \text{Joe is in Boston in } w'$$

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<sup>2</sup>On the point that the semantic value of a sentence need only determine an object appropriate to propositional attitudes and illocutionary actions, see Lewis [5, p.93-4].

The semantic value relative to context of the sentence is the above function from an information state-world pair to a truth-value. Does this function characterize the information Sally believes and/or is out to communicate?

From a technical point of view, no. For it is not the right type of thing. MacFarlane models epistemic states as sets of worlds (information states), not as sets of information state-world pairs. Knowledge states, according to MacFarlane’s definition of truth at a context, exclude worlds, not pairs. I assume he models doxastic states in just the same way, since what we know we often believe.

True, MacFarlane defines propositional truth as relative to a world and a set of worlds (42), which may make one think that the truth-conditions of what is believed are to be characterized by a function from  $\langle w, S \rangle$ -pairs to truth-values. But even in the midst of so defining propositional truth, he repeats that *what is known* is to be modeled in terms of the exclusion of worlds from a set of worlds. Therefore propositions, as defined on this page, are not the things we know. MacFarlane does also say that truth for propositions is “relative to a *set* of propositions...” But this cannot be taken literally from a definitional point of view, for otherwise paradox would loom. He must be taken as punning on ‘proposition’: the propositions defined here are not the propositions we know and believe.

3. *Is the information something not identical to, but determined by, the semantic value of Sally’s sentence relative to context?*

Perhaps the information Sally is imparting is not exactly the semantic value of her sentence in context, but something very nearby. Looking at it again,

$$\lambda i_{\langle S, w \rangle}. \exists w' \in S : \text{Joe is in Boston in } w'$$

we notice that as far as the value of the function is concerned, the world element of  $i$  is idle. So we could just as well ignore it, and characterize the work being done by this function like this:

$$\lambda S. \exists w' \in S : \text{Joe is in Boston in } w'$$

Now we can think of the semantics of Sally’s sentence as delivering, in her a context, the above property of information states. Is this what MacFarlane takes Sally to believe?

No, for the reason recently mentioned: it is simply not the right type. Nowhere does MacFarlane say that the things we believe are properties of information states. What we believe *excludes worlds*. And that sounds like a function from worlds to truth-values.

Of course, we could recover such a function from this property. Saturate it with Sally’s knowledge state  $S^S$  in  $w$  and abstract over worlds:

$$\lambda w. \exists w' \in S_w^S : \text{Joe is in Boston in } w'$$

But, of course, this would only bring us full circle, straight back to solipsistic contextualism. (We could saturate it with some information state provided by some context of assessment, but this would only close the circle differently, by bringing us back to group contextualism.)

It is none of these, and I have no further guesses. So I do not know what information it is that Sally is communicating. As a result I do not understand why she says “Joe might be in Boston” in her context, according to the proposed theory. I do not see how, according to this theory, what she does makes sense. And therefore I do not yet see the advantage in this view over some version of group contextualism.

Maybe there something about relativism which makes it simply not compatible with the simple picture of communication I have sketched? This is not a question I can address here, but it is worth mentioning one person who would disagree. According to Andy Egan [2], epistemic modal claims express (i.e., take as their semantic value relative to context) functions from sets of centered worlds to truth values (call them *centered propositions*). An occurrence of the sentence MIGHT  $\phi$ , for instance, has as its semantic value in context  $c$  the set of centered worlds  $c$  such that there is some centered world  $c'$  in all the centered worlds compatible with what is in epistemic reach of the center of  $c$  such that  $\llbracket \phi \rrbracket^c$  is true at  $c'$ . Egan is explicit that it is precisely this object—a centered proposition—that one believes when one believes what an epistemic modal claim says. (He leans on Lewis [4] for independent motivation.) It is also precisely this object that is information communicated (Egan wants to maintain a “belief-transfer model of assertion”). The whole of Egan’s paper is then devoted to trying to show how this proposal for the informational content of the sentence could make sense. Whether or not it does, it is at least clear what Egan’s answers are to the questions of what belief it is that Sally is expressing, and of what information it is she is communicating.

### 3 Force

I do not mean to suggest that MacFarlane is not alive to the issue I am raising. That is surely far from the case. It may be that these worries are among the five “philosophical debts” he enumerates (33). In particular, maybe my worries roughly line up with his debts (1.) and (5.).

- (1.) “What changes does relativism require in... standard accounts of assertion and belief?”
- (5.) “What purpose is served by assessment sensitivity?”

MacFarlane indicates he addresses these questions elsewhere (in [6] and [7]).<sup>3</sup> I am not sure I understand the picture that is supposed to emerge from these two papers, or how exactly the ideas proposed in them relate to the issue I am asking about. This is not the place to work it out. A few brief remarks on these papers, however, will help me segue into the next issue, which concerns the difference between MacFarlane’s account, a force account, and a dynamic semantics for epistemic modals.

In ‘Making Sense of Relative Truth’ [6], MacFarlane is concerned in large part to say “what one is committing oneself to in asserting an assessment-sensitive proposition” (337). The proposal is that in asserting, one incurs a commitment to be held responsible, in certain ways, for the truth of what is asserted.<sup>4</sup> No need to get into the ways. One of MacFarlane’s objectives in this work is to articulate a conception of what one is committed to in making an assertion which is general enough to encompass both assessment-sensitive and ordinary sentences (propositions). He wants these moves in the language game to be constrained by the same general norms. (One of the reasons he wants this is that it gives him a way of explaining why disagreements over the truth of assessment-sensitive claims seem to “have all the normative trappings of real disagreement” [7, 20].) Insofar as we explain the force of a speech act by way of the general norms that govern its assessment as correct or incorrect, assessment-sensitive claims do not have their own characteristic force; they are just assertions.

But there is another way of thinking about force. In addition to asking what norms constrain the practice—under what conditions the move in the game is understood to be correct or incorrect—one might ask about the effect the speech act characteristically has on the context in which it takes place. It is obvious that speech acts change, and are intended to change, contexts, and one might try to individuate forces according to the characteristic ways that they do this. (This is the kind of approach taken by Stalnaker [8]: he answers the question of how it is an assertion changes the communicative context—it adds the content of what is asserted to what, in the context, is presupposed—without addressing the question of what norms of assessment, if any, typically attach to this act of context-changing.)<sup>5</sup>

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<sup>3</sup>It may seem unfair, in these comments, to be raising issues that MacFarlane defers to other papers. But answers to these questions are necessary if we are to truly gauge the progress relativism makes over contextualism.

<sup>4</sup>Since I am unclear about just what it is, according to MacFarlane, that is asserted—more precisely, what it is that is the information communicated by the sentence in virtue of its semantics relative to context—I cannot tell whether MacFarlane’s specific proposal about the commitments incurred in assertion is correct in the case of assessment-sensitive sentences. The specific commitments one occurs in asserting are, of course, a function of the content of the assertion. (That is, unless one is an inferentialist about content in the style of Brandom—in which case content is, in a complex way, a function of commitment. I am not sure whether MacFarlane leans this way; one gets the feeling, from some of his remarks, that he does. If so, then it seems to me that this foundational view is carrying some of the weight for relativism, and we need to examine whether it can bear this weight.)

<sup>5</sup>In this paragraph I was influenced by Stalnaker [9].

Now we can approach force in MacFarlane’s account in this second way, by asking: what is the characteristic effect of an assessment-sensitive claim on the context in which it occurs (or in which it is assessed, for that matter)? MacFarlane himself has no formal model of the context comparable to that of Stalnaker, and I therefore do not see him as committed to a specific answer to this question. But I will speculate about how he might answer the question anyway, because I think that when one stops to think about it, it comes to appear that MacFarlane’s view is not as far as it may seem from a dynamic semantics for epistemic modals of the sort proposed by Veltman [10], [11].

In approaching speech act force in the way I am suggesting, we are in part asking what the point of performing the speech act was. MacFarlane himself has a suspicion about what the point of using assessment-sensitive talk is:

Perhaps, then, the point of using controversy-inducing assessment-sensitive vocabulary is to foster *coordination* of contexts. ... In the case of epistemic states, it is manifestly in our interest to share a picture of the world, and to learn from others when they know things that we do not. [7, 21-2]

At first glance these remarks do not make epistemic modals claims look any different from other claims with respect to their effect on context (their force, in the second sense I am interested in), because, of course, ordinary non-assessment sensitive sentences also usually have as their point the coordination of contexts and of epistemic states. But when we look at the formal semantics MacFarlane proposes, we see that the attempt at coordination provoked in the case of epistemic modal claims has a rather different character than the sort of coordination provoked for ordinary claims.

Recall that relative to context, what MacFarlane’s semantics delivers is a function from  $\langle S, w \rangle$  pairs to truth values.<sup>6</sup> In the case of a claim with non-assessment-sensitive vocabulary—say, “Joe is in Boston”—we get, relative to the context of utterance  $c$ , something like this:

$$\lambda i_{\langle S, w \rangle}. \text{Joe is in Boston in } w$$

We see that here that the (context of assessment-initialized) parameter  $S$  plays no role in the truth conditions; it is completely idle. So from an abstract point of view, we can represent the information here by simply ignoring  $S$  and writing

$$\lambda w. \text{Joe is in Boston in } w$$

We have here an ordinary possible worlds proposition. This captures the information expressed by the sentence just as well as the previous object, for the sentence is effectively only dividing the space of possible worlds. Now when it comes to assessment-sensitive claims, the situation is precisely the reverse: it is  $w$  which is idle, not  $S$ . Therefore, as mentioned above, from an abstract point of view we can ignore  $w$  and write the content as follows:

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<sup>6</sup>Assignment functions will be irrelevant to this discussion, so I ignore them.

$$\lambda S. \exists w \in S : \text{Joe is in Boston in } w$$

I puzzled above about how one could see this as the information expressed by the sentence, or as being a potential object of belief, or as determining such an object. Efforts to understand this led either to nonsense or back to contextualism. But perhaps we should understand the intended effect of this object differently. According to MacFarlane’s definition of truth at a context, a sentence expressing this content is to be evaluated for truth by checking it at the context of assessment. Here is a way of understanding the practice this is supposed to capture: the assessor interprets the speaker as indicating that she (the assessor) should verify that her epistemic state has the above property. The point of this move in the game is to coordinate listening epistemic agents with respect to satisfying—or not satisfying—the above property.

I do not know whether MacFarlane would like this way of seeing it, though I think it fits well enough with his above remarks on fostering coordination. In any event, it seems like an option; and I now suggest that this way of seeing his account makes it look interestingly like Veltman’s update semantics for epistemic modals.

Veltman’s is a dynamic semantics: sentences express update functions on information states, the latter construed as sets of worlds (just as MacFarlane treats them). Information states play something like the role of the context set in Stalnaker [8]. In Veltman’s system, an occurrence of “Joe might be in Boston” in context is interpreted as, roughly, “an invitation to perform a test” on your information state, “rather than to incorporate some new information in it” [11, 229]. Brutalizing the actual compositional semantics for the sake of just stating the basic idea: see ‘might’ as expressing a function **might** that behaves like this:

$$\text{might}(p, c) = \begin{cases} c & \text{if } c \cap p \neq \emptyset; \\ \emptyset & \text{otherwise.} \end{cases}$$

In general **MIGHT**  $\phi$  expresses a function which takes an information state  $c$  and (1) returns  $c$  if  $c$  is compatible with the proposition associated with  $\phi$ , and otherwise (2) returns the empty set (thereby “destroying” the information state and calling for some kind of repair strategy). In the first case, the information state “passes” the test semantically expressed by the sentence; in the second case it fails.

Although the framework Veltman is working in is in many ways vastly different from the one MacFarlane is working in, we should not overlook a point of striking overlap, viz., that according to both of their semantics, epistemic modal claims effectively express properties of information states. Moreover, the property expressed according to MacFarlane is identical to the one expressed according to Veltman. If you look at Veltman’s semantics long enough, you will see that what it is doing, effectively, is dividing the space of information states into those compatible with some proposition, and those that are not. The information states that pass the test expressed by “Joe might be in Boston” in context, for Veltman, are exactly those with this property:

$$\lambda S. \exists w \in S : \text{Joe is in Boston in } w$$

For both proposals, from an abstract point of view, the semantic content of an epistemic modal claim can be understood as dividing the power set of the set of worlds—and as making exactly the same division among the elements of this set. And it very much seems that the *point* of making an epistemic modal claim, according to (plausible ways of interpreting) both accounts, is just to coordinate listening epistemic agents with respect to satisfying—or not satisfying—the above property.

This strikes me as a surprising point of overlap between two superficially very different theories, and it makes me think we need to get clearer about precisely what the philosophical differences are between these two accounts, and about what semantic considerations should lead us to prefer one over the other. Here are two specific issues that might deserve further investigation:

- Above I distinguished two ways in which one might approach the question of force, one focusing on the characteristic norms governing the assessment of a speech act as correct or incorrect, the other focusing on the characteristic effect the speech act has on the context in which it takes place. Approaching the issue of force in the first way, MacFarlane groups epistemic modal claims with ordinary assertions. But this leaves open whether epistemic modal claims group with ordinary assertions on the second way approaching force, the way I have been focusing on in this section. And the similarities with Veltman’s account of epistemic modals might suggest otherwise. For Veltman’s semantics is often understood as a “force” account of epistemic modals (in the second sense of “force” I have described), because the effect of a MIGHT claim on the listening agent’s representation of the context (his information state) is characteristically different from that of an ordinary assertion (MIGHT claims don’t semantically contribute information, whereas assertions characteristically do). Given the apparent overlap in the effect the two accounts have on context, perhaps MacFarlane’s account can in fact be understood as a force account, assuming we understand “force” appropriately. And perhaps doing this would provide MacFarlane with a way out of the worry I raised in the previous section (about what information is contributed by epistemic modal claims).
- To what extent can MacFarlane’s semantics—or perhaps more generally, a semantics with an  $S$ -parameter—mimic the explanatory power of a dynamic semantics? In a way, MacFarlane has shown that Veltman’s idea can be simulated in a non-dynamic setting. One wonders what else could be simulated. It would be interesting to see, for instance, whether this parameter could be used to model presuppositional phenomena (the bread and butter of dynamic semantics).

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