

# Modal disagreements

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Forthcoming in *Inquiry*

## Abstract

It's often assumed that when one party felicitously rejects an assertion made by another party, the first party thinks that the proposition asserted by the second is false. This assumption underlies various disagreement arguments used to challenge contextualism about some class of expressions. As such, many contextualists have resisted these arguments on the grounds that the disagreements in question may not be over the proposition literally asserted (cf. Björnsson & Finlay 2010, Montminy 2012, Sundell 2011, Plunkett & Sundell 2013, Huvenes forthcoming). The result appears to be a dialectical stalemate, with no independent method of determining whether any particular instance of disagreement is over the proposition literally asserted. In this paper, I propose an independent method for assessing whether a disagreement is about what's literally asserted. Focusing on epistemic modals throughout, I argue that this method provides evidence that some epistemic modal disagreements are *in fact* not over the proposition literally asserted by the utterance of the epistemic modal sentence. This method provides a way to break the stalemate, and reveals a new data point for theories of epistemic modals to predict—that is, how there can be such modal disagreements. In the rest of the paper, I motivate a general theory of how to predict these kinds of disagreements, and then offer some brief remarks about how contextualist, relativist, and expressivist theories of epistemic modals might accommodate this new data point.

**Keywords:** epistemic modals, disagreement, contextualism, relativism, expressivism.

Consider two types of disagreement. Believer asserts that God exists. Atheist disagrees, asserting that God does not exist. Agnostic also disagrees—but unlike Atheist, he doesn't think that what Believer says is false (and he also doesn't think that what Atheist says is false). Exactly what Believer and Agnostic disagree about is not obvious—perhaps they disagree about whether to believe (or whether one ought to believe) that God exists. No matter: there is a clear difference between the two types of disagreement. Let's say Atheist Type-1 disagrees with Believer's assertion, and that to Type-1 disagree with an assertion is to believe (or claim) that what is asserted (or said) by it is false. By contrast, let's say

that Agnostic Type-2 disagrees with Believer’s assertion, and that to Type-2 disagree with an assertion is dispute it in some way but not believe (or claim) that what is asserted by it is false. This is vague, since we’ve only been told about Type-2 disagreement by learning what it is not, but still hopefully enough to get a sense of it—disagreement centered on an assertion but not over the truth or falsity of what’s asserted.

If sometimes in rejecting an assertion (by saying “No” in response to it, e.g.), one thereby Type-2 disagrees with it, this raises trouble for various arguments from disagreement that are often marshaled against contextualist theories about a range of expressions. The trouble is that such arguments depend on the assumption that the disagreements in question are of Type-1. As a case study, we’ll look at the recent debate about the semantics and pragmatics of epistemic modals—words like *might* and *must*, which allow us to talk about possibilities of a distinctively epistemic flavor (think: the kind of possibilities we aim to distinguish between in inquiry, draw on evidence to rule out, and so on)—focusing entirely on sentences containing a single unembedded epistemic modal (e.g., ‘The keys might be in the drawer’). Consider the following story:<sup>1</sup>

**Mobster.** Fat Tony is a mobster who has faked his own death in order to evade the police. He secretly plants highly compelling evidence of his murder at the docks. The evidence is discovered by the authorities, and word gets out about his apparent death. Several forensic experts have examined the evidence and concluded that Fat Tony is dead.

One of the experts who has examined the evidence, Smith, offers a more cautious assessment. Smith says,

(1) Fat Tony might be dead.

However, Beth, another investigator on the case, has already learned that Fat Tony faked his death and is currently hiding out in his warehouse. Overhearing Smith’s conversation, Beth jumps in to say,

(2) No, Fat Tony is alive. He faked his death!

Here, in rejecting Smith’s assertion, Beth expresses her disagreement with it. Let’s call Smith and Beth’s disagreement a *modal disagreement* (generally, a modal disagreement is one in which one party assertively utters an epistemic modal sentence and the other

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<sup>1</sup>Modified slightly from Knobe & Yalcin, ‘Context-Sensitivity of Epistemic Modals’.

expresses disagreement by rejecting that assertion). The standard disagreement argument against contextualism requires an additional assumption—that in rejecting Smith’s assertion, Beth Type-1 disagrees with it (hence that Beth thinks that what Smith asserted is false). The trouble for contextualism is that there doesn’t seem to be any single proposition about some body of evidence that Smith is warranted in asserting and Beth thinks is false. For instance, suppose that the proposition Smith asserts,  $\Diamond p$ , is the proposition that it is compatible with the evidence examined by Smith that Fat Tony is dead. This is something Smith would be warranted in asserting, but not something Beth would think is false! Suppose alternatively that  $\Diamond p$  is the proposition that it is compatible with the best evidence that Fat Tony is dead. Although this is something Beth would think is false (since she knows Fat Tony is alive), it’s not something Smith would be warranted in asserting, since, presumably, he has no idea what the best evidence says about whether Fat Tony is dead (only what *his* evidence says). In a slogan: the first strategy fails to predict that Beth thinks that what Smith asserts is false, while the second fails to predict that Smith is warranted in what he says.

This *disagreement argument* has been used to motivate relativism about epistemic modals (the view that the truth value of the proposition expressed by an epistemic modal claim is relative to an assessor) over orthodox contextualism about epistemic modals (the view that the proposition expressed by an assertive utterance of an epistemic modal sentence depends on the context in which it is uttered).<sup>2,3</sup> However, the existence of rejections expressing Type-2 disagreements (such as perhaps between Believer and Agnostic) suggests that the crucial assumption of the argument—that in rejecting Smith’s assertion,

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<sup>2</sup>Relativism can predict a unique proposition  $\Diamond p$  that is asserted by Smith and believed to be false by Beth because it abstracts the evidence from the proposition expressed by an utterance of (1) and makes it a parameter that the truth of that proposition is relative to. According to relativism,  $\Diamond p$  is true as assessed by  $j$  just in case  $j$ ’s evidence is compatible with  $p$ . Given this rough gloss on the relativist theory,  $\Diamond p$  will be true as assessed by Smith since the evidence he examined is compatible with  $p$ . This ensures that Smith’s assertion of  $\Diamond p$  is warranted. However,  $\Diamond p$  will be false as assessed by Beth since her evidence is not compatible with  $p$  (cf. Egan et al., ‘Epistemic Modals in Context’; Stephenson, ‘Judge Dependence’; Macfarlane, ‘Epistemic Modals’, *Assessment Sensitivity*).

<sup>3</sup>A view that tries to split the difference between relativism and contextualism is the pluralist theory of von Fintel & Gillies, ‘*Might Made Right*’. On that theory, an utterance of an epistemic modal sentence ‘puts in play’ a plurality of propositions which are available for assessment of truth and falsity. Thus Smith’s utterance may put in play both the proposition that it is compatible with Smith’s evidence that Fat Tony is dead and the proposition that it is compatible with Beth and Smith’s evidence that that Fat Tony is dead (perhaps among others). Smith’s assertion is warranted if he knows (or reasonably believes) at least one of these propositions—in this case, the former—while the assessment that what Smith said is false is also correct since the latter proposition is also available for assessment and is false. I’ll set aside this view in what follows.

Beth Type-1 disagrees with it—is controversial. Indeed, in the most recent iteration of the dialectic over disagreement arguments, many contextualists argue that we should reject this assumption rather than accept the anti-contextualist conclusion of the argument.<sup>4</sup>

However, although proponents of disagreement arguments sometimes recognize that not all disagreements are of Type-1, they continue to push disagreement arguments against their opponents.<sup>5</sup> Thus, such theorists must think that, despite the possibility of Type-2 disagreements, the ones under consideration are Type-1. Since this assumption is exactly what (at least some of) their contextualist opponents reject, the intuitions of the various theorists involved about such disagreements are clearly not going to settle the matter. One reaction to this result is to conclude a stalemate and look for other data or theoretical considerations with which we might distinguish the theories.<sup>6</sup> However, I think this pessimistic reaction is not forced on us. In this paper, I will propose an independent method for distinguishing which rejections express Type-1 and Type-2 disagreements. My strategy will be to look at experimental evidence that allows us to tease apart intuitions about rejecting a claim from intuitions about whether the claim is false. I argue that this

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<sup>4</sup>Björnsson & Finlay, ‘Metaethical Contextualism Defended’; Montminy, ‘Epistemic Modals and Indirect Weak Suggestives’; Plunkett & Sundell, ‘Disagreement and the Semantics of Normative Terms’; Sundell, ‘Disagreements About Taste’; Huvenes, ‘Epistemic Modals and Credal Disagreement’. Of these theorists, only Montminy and Huvenes engage with epistemic modals. Since both differ from my own account of Type-2 modal disagreements (see §3–4), I pause to register a concern about each. One trouble with Montminy’s proposal that utterances of epistemic possibility claims make two speech acts—one primary assertion of some proposition and the other a ‘weak suggestive’—is that we are not told enough about what a weak suggestive is and why utterances of these sentences express them to evaluate the proposal. For instance, Montminy says that to weakly suggest that  $p$  is to ‘merely express low credence in the proposition that  $p$ ’ (Montminy, ‘Weak Suggestives’, 17). However, what is it to express a low credence in a proposition? On one understanding (cf. Yalcin, ‘Epistemic Modals’, ‘Nonfactualism’), it is to do something that has a certain characteristic effect on the common ground of the conversation. Let’s suppose that’s right. Then, still, Montminy’s account is incomplete, since he never explains *why* utterances of epistemic possibility sentences are (sometimes) used to make weak suggestives (only that they are ‘regularly used to indirectly perform weak suggestives’ (Montminy, ‘Weak Suggestives’, 20)). For a possible answer to this question (which I’m not sure Montminy would agree with), see my discussion of contextualism in §4.

Huvenes argues for the possibility that some epistemic modal disagreements are disagreements in credence (that is, arising from the two parties having different credences in some proposition). I worry that, given that disagreeing with someone’s claim is generally sufficient to felicitously reject it (by saying ‘no’), Huvenes’ theory incorrectly predicts that the following dialogue should be felicitous:

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| (i) | A: I think it’s likely to rain.          | Self-report of a high credence in rain |
|     | B: #No, I think it’s not likely to rain. | Self-report of a low credence in rain  |

<sup>5</sup>Lasersohn, ‘Disagreement and Predicates of Taste’; von Fintel & Gillies, ‘Might Made Right’; Macfarlane, *Assessment Sensitivity*.

<sup>6</sup>As in Björnsson & Finlay, ‘Metaethical Contextualism Defended’ and Plunkett & Sundell, ‘Disagreement and the Semantics of Normative Terms’.

method provides evidence that in rejecting Smith’s assertion in **Mobster**, Beth Type-2 disagrees with it. Indeed, I am optimistic that many other modal disagreements are of Type-2—though implementing this methodology to other scenarios is beyond the scope of this paper. If correct, my conclusion about Smith and Beth’s disagreement changes the landscape on drawing semantic conclusions from data about disagreement, at least with respect to epistemic modals. First, it confirms the above contextualist response that we cannot immediately infer from every modal disagreement that the rejector thereby thinks that what is asserted is false. Second, it reveals a new data point for theories of epistemic modals to predict: that is, how and when Type-2 modal disagreements arise.<sup>7</sup>

The rest of this paper is structured as follows. In §1, I argue that we should be open to the possibility that, in rejecting Smith’s assertion in **Mobster**, Beth Type-2 disagrees with it. I do so by arguing against a widely held view of what it is to reject a claim that entails that every felicitous rejection expresses a Type-1 disagreement. Then, in §2, I appeal to new empirical evidence that, in rejecting Smith’s assertion in **Mobster**, Beth Type-2 disagrees with it. This reveals a new independent method for distinguishing Type-1 and Type-2 disagreements. It also leaves us with a puzzle—what, if not what Smith asserts, could Smith and Beth be disagreeing about? In §3, I show how a well-known theory of conversation due to Robert Stalnaker may be naturally extended to allow for the possibility of rejections expressing Type-2 disagreements. Then in §4, I sketch how we can understand Type-2 modal disagreements within such a theory. The basic idea draws on the observation that generally, when someone asserts an epistemic possibility claim like (1), they propose that the negation of its prejacent (in this case, that Fat Tony is dead) not be taken for granted in their conversation. Someone may thus reject such an assertion to express that they refuse to comply with this proposal. In so doing, the two parties disagree, and their disagreement seems to be over whether to take some proposition (in this case, that Fat Tony is dead) for granted in the conversation. I show how some of the existing semantic/pragmatic theories of epistemic modals might be able to predict such Type-2 modal disagreements in just this way.

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<sup>7</sup>I pause to point out a limitation in the scope of my discussion—I will focus on disagreements expressed by way of the rejection of some assertion, and hence will not discuss disagreements that may arise merely in the thoughts of two parties who are not in conversation with one another. I hope to extend the thoughts in this paper to such other cases in future work.

# 1 Rejection and disagreement

We usually express disagreement with someone using words like *no*, *false*, and *wrong*. To fix some rough terminology, say that when someone utters a sentence of the form *No, ... / That's false, ... / Wrong, ...* targeting some assertion, they express that they reject that assertion. Now, one might think that there's not much difference to the choice of words we use to reject an assertion—each amounts to the same thing: asserting that what the other person said is false. Thus, consider the following thesis about rejection:<sup>8</sup>

REJECTING IS CONTRADICTING: to reject an assertion just is to claim that what is asserted by it is false.

It follows from REJECTING IS CONTRADICTING that there can't be any Type-2 modal disagreements. In this section, I'll argue that REJECTING IS CONTRADICTING is false—there is an important difference between saying *no* in response to someone's assertion (such as what Beth does in **Mobster**) and calling what they say false (I'll set aside *wrong* for now). In particular, my claim in this section is that in some cases, by rejecting an assertion, one thereby Type-2 disagrees with it, and thus that it's an open possibility that in rejecting Smith's assertion, Beth Type-2 disagrees with it.

A prima facie motivation for REJECTING IS CONTRADICTING is the fact that it accounts for the contrast between minimal pairs like the following:<sup>9</sup>

- (3) a. Sue: I'm a doctor.
- b. Tim: #No, I'm not a doctor.
- c. Tom: No, you're not a doctor.

The explanation goes as follows: both Tim and Tom express that they reject Sue's assertion; however, only Tom in fact rejects Sue's assertion since only he claims that what Sue asserts is false. Thus, according to REJECTING IS CONTRADICTING, the reason Tim's utterance is infelicitous is because he attempts to reject Sue's assertion, but in fact he fails to do so, since he does not claim that what she said is false. Tom's utterance is felicitous because it succeeds in its rejection aim, since he claims that what Sue said is false. It naturally follows that in general a necessary condition for a rejection of some assertion to be felicitous is for

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<sup>8</sup>It's unclear whether anyone holds REJECTING IS CONTRADICTING in full generality. Nonetheless, it will be illustrative to rehearse some counterexamples to it to make room for my positive claim in §2.

<sup>9</sup>This minimal pair comes from Lasersohn, 'Disagreement and Predicates of Taste', 647; Moore, *Philosophical Studies*, 332-334.

the utterer to thereby claim that what is asserted is false. But then it follows, given that individuals believe what they say (the normal case), that in cases of felicitous rejections targeting some assertion, the rejector thinks that what is asserted is false. Thus, it follows that every felicitous rejection will express a Type-1 disagreement. And thus it follows that since Beth's rejection (in **Mobster**) is felicitous, she must therefore Type-1 disagree with Smith's assertion.

To make room for the possibility that Smith and Beth's modal disagreement is of Type-2, therefore, we must find some reason to reject REJECTING IS CONTRADICTING. As it turns out, the thesis faces several counterexamples—cases of felicitous rejections in which the utterer intuitively rejects the targeted assertion but does not not claim that what is asserted is false. Consider the following example:

(4) *A* and *B* are wondering whether the bank is open (it's a Saturday). *A* has just called a friend who told *A* that the bank was open last Saturday.

*A*: The bank is open today.

*B*: No, the bank *might* be open today. Banks are never open on national holidays and we still don't know whether today is a national holiday.

In the example, *B*'s rejection of *A*'s assertion is felicitous, but *B* clearly does not claim that the bank is *not* open. To see this, notice the contrast between *B*'s rejection in (4) and in (5):

(5) *A*: The bank is open today.

*B*: #That's false, the bank *might* be open today. Banks are never open on national holidays and we still don't know whether today is a national holiday.

Unlike in (4), in (5), *B* claims that the bank is not open today, which clashes (Moore-paradoxically) with her subsequent claim that the bank might be open today. Nothing like this clash is felt in *B*'s utterance in (4). But since *B*'s utterance here isn't odd like Tim's in (3), the example shows that there are felicitous rejections in which the rejector intuitively rejects the targeted assertion but does not not claim that what is asserted is false. Here's another example:<sup>10</sup>:

(6) *A*: Jim ate some of the cookies from last night.

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<sup>10</sup>Horn, 'Metalinguistic Negation', *A Natural History of Negation*; Geurts, 'The Mechanisms of Denial'; van der Sandt & Maier, 'Denials in Discourse'.

*B*: No, he ate *all* of the cookies from last night.

Again, *B*'s rejection of *A*'s assertion is felicitous even though *B* doesn't thereby claim that what *A* says is false—of course *B* believes that Jim ate *some* of the cookies, since she believes that he ate *all* of them.<sup>11</sup> Thus, we have two prima facie counterexamples to REJECTING IS CONTRADICTING. In response, the defender of REJECTING IS CONTRADICTING might hold that our examples are not genuine cases of rejections. However, in making this move, the theorist threatens to make her claim uninteresting. What defines the class of 'genuine rejections' her theory is supposed to apply to—are they just those in which the rejector thereby claims that what the assertor says is false? If so, the REJECTING IS CONTRADICTING will be vacuously true. However, even if the defender of REJECTING IS CONTRADICTING could find a non-circular way to delimit the scope of her principle, it's not clear it would be of much interest. After all, we've just seen intuitive cases of rejections that are sensible but in which the rejector does not claim that the targeted assertion is false. This calls out for explanation—why are *these* rejections felicitous, unlike Tim's in (3)? Unfortunately, REJECTING IS CONTRADICTING can offer no account here. My conclusion is that these counterexamples to REJECTING IS CONTRADICTING are genuine—they demand an alternative theory of rejection that can explain why they are felicitous (I'll sketch such a theory in §3).

Although we have several counterexamples to REJECTING IS CONTRADICTING, we do not yet have an instance of a Type-2 modal disagreement (remember, a modal disagreement is one in which what's rejected is an assertion made by assertively uttering an epistemic modal sentence). Thus, it doesn't follow from the falsity of REJECTING IS CONTRADICTING that the kinds of disagreement cases motivating relativist and pluralist theories (such as **Mobster**, where it is the epistemic possibility claim which is being rejected) involve Type-

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<sup>11</sup>Here's one more, just for good measure, from Stalnaker, 'On the Representation of Context'. Suppose *A* met two women at the party, one of whom was a philosopher and the other of whom was the Secretary of Health and Human Services. However, as a practical joke, the two women *A* met were introduced to *A* as each other, so that *A* thought the first was the politician and the second the philosopher. We know all this. *A* then tells us:

- (i) I met an interesting woman last night who was a member of Obama's cabinet.

We could then sensibly utter:

- (ii) No, that was the *other* woman!

However, strictly speaking, we all believe that what *A* asserts when she utters (i) is true: after all, she *did* meet a female member of Obama's cabinet last night.



2 disagreements. Furthermore, some theorists even express a direct intuition that such modal disagreements must be of Type-1.<sup>12</sup> However, the contextualist response that such disagreements may be of Type-2 should give us pause if we think mere intuition can settle whether any particular disagreement is Type-1 or Type-2. If there’s nothing else to appeal to in deciding whether some disagreement is of Type-1 or Type-2, then perhaps a stalemate on this point is forced. However, in the next section, I will sketch a new method for distinguishing Type-1 and Type-2 disagreements, and show that it provides evidence that Smith and Beth’s disagreement is of Type-2.

## 2 Type 2 modal disagreements

My choice to begin with Knobe and Yalcin’s ‘Fat Tony’ story was no accident. In a series of experiments surveying ordinary speaker intuitions about various versions of the Fat Tony story (all of which made it clear that Fat Tony is still alive), Knobe and Yalcin found that ordinary speakers overwhelmingly disagree with the statement that what the person claiming that Fat Tony might be dead (Smith, in my version) said was false. Notice that, if ordinary speakers tended to reject Smith’s assertion when presented with the same vignette, we would have evidence that in rejecting Smith’s assertion they Type-2 disagree with it. Furthermore, since these speakers are in an epistemic situation exactly analogous to Beth’s in the **Mobster** vignette, this would be evidence that in rejecting Smith’s assertion Beth Type-2 disagrees with it (that is, disputes it in some way, without claiming that what Smith says is false). Let’s turn now to the experiment.

### 2.1 Methods

60 participants completed a questionnaire via Amazon Mechanical Turk (AMT). Participants were randomly assigned to either the False condition or the Rejection Condition. All participants received the following control vignette:

**Control.** Two of your coworkers, Alex and Beth, are talking about their plan to meet a mutual friend Jim after work.

Alex asks Beth: ‘Where is Jim now?’

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<sup>12</sup>For instance, Macfarlane says (about an analogous modal disagreement) that, ‘It is crucial to such disputes that the participants take themselves to be contradicting each other when one says “it might be that p” and the other says “no, it can’t be that p” ’ (Macfarlane, ‘Epistemic Modals’, 148).

Moments ago, Beth received a call from Jim that she thought came from his house in the suburbs.

Beth says, ‘Jim is at home right now.’

As a matter of fact, Jim is still working in his office down the hall, although neither Alex nor Beth knows this.

Participants were told that they know all of the above. Those in the False condition were then asked whether they agreed with the claim that what Beth said is false. Those in the Rejection condition were then asked whether they would respond to Beth by saying something along the lines of ‘No, Jim is actually working in his office right now’.

Next, each participant received the experimental vignette, the following truncated version of **Mobster**:

**Modal.** Fat Tony is a mobster who has faked his own death in order to evade the police. He secretly plants highly compelling evidence of his murder at the docks. The evidence is discovered by the authorities, and word gets out about his apparent death. Several forensic experts have examined the evidence and concluded that Fat Tony is dead.

One of the experts who has examined the evidence, Smith, offers a more cautious assessment. ‘Fat Tony might be dead,’ Smith says.

Participants were told that they were also on the case, and know all of the above. Those in the False condition were then asked whether they agreed with the claim that what Smith said is false. Participants in the Rejection condition were then asked whether they would respond to Smith by saying something along the lines of, ‘No, Fat Tony is alive. He faked his death.’

For all questions, participants responded on a 7 point Likert scale, with 1 being ‘completely disagree’, 4 being ‘in between’, and 7 being ‘completely agree’. Before I report the results of the study, consider your own intuitions regarding these cases. Do you find a difference between **Control (False)** and **Control (Rejection)**? What about between **Modal (False)** and **Modal (Rejection)**?

## 2.2 Results

The results of the experiment are displayed in Figure 1:

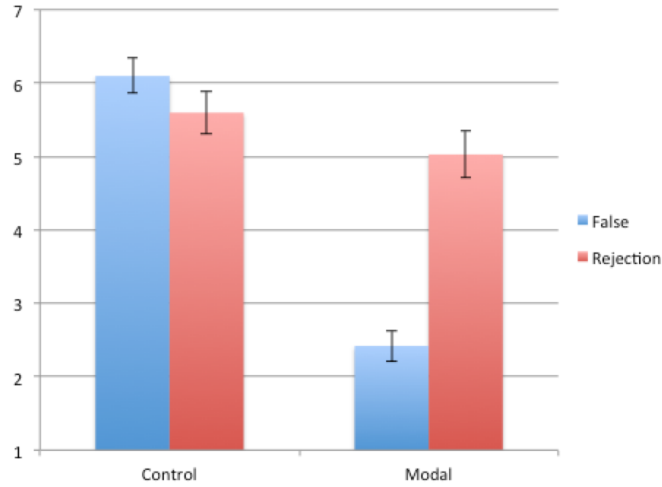


Figure 1 (displaying the means, with error bars displaying the standard error of the means)

The crucial observation is that the mean ratings in **Modal (False)** were significantly lower than the mean ratings in **Modal (Rejection)**, as revealed graphically by the gulf between those respective means on the graph.<sup>13</sup> This reveals the following observation:

*The Difference Observation:* when presented with **Modal**, ordinary speakers are strongly inclined to reject Smith’s assertion but are also strongly inclined to disagree with the statement that what Smith said is false.

This is direct evidence that ordinary speakers rejecting Smith’s assertion thereby Type-2 disagree with it. Ordinary speakers tended to agree with rejecting Smith’s assertion, which reflects (unlike Tim’s rejection of Sue’s assertion) their inclination to express some kind of disagreement with it. But ordinary speakers tended to disagree with the statement that what Smith said is false when presented with the same scenario. This suggests that they Type-2 disagree with Smith’s assertion. Furthermore, since the speakers presented with the vignette **Modal** were in an analogous epistemic situation to Beth’s in the **Mobster** vignette, *The Difference Observation* is evidence that in rejecting Smith’s assertion, Beth Type-2 disagrees with it.

<sup>13</sup>The difference between **Modal (Rejection)** ( $M = 5.03, SD = 1.77$ ) and **Modal (False)** ( $M = 2.42, SD = 1.61$ ) was highly significant,  $t(59) = -6.04, p < .001$ . The difference between **Control (Rejection)** ( $M = 5.60, SD = 1.13$ ) and **Control (False)** ( $M = 6.10, SD = 1.35$ ) was not significant,  $t(59) = 1.55, p = .13$ . Finally, the difference between **Control (False)** ( $M = 6.10, SD = 1.35$ ) and **Modal (False)** ( $M = 2.42, SD = 1.61$ ) was significant,  $t(30) = 8.74, p < .001$ . This last piece of data confirms the results of Knobe & Yalcin, ‘Context-Sensitivity’.

## 2.3 Discussion

Recall that standard relativist theories like those defended by Egan et al. and Macfarlane are designed to predict a unique proposition expressed by an assertion of an epistemic modal claim whose truth is relative to an assessor.<sup>14</sup> Thus, relativist theories are designed to make the right predictions about Smith and Beth’s disagreement in **Mobster**, assuming that it is of Type-1; furthermore, such theories claim support from the fact that rival theories (for instance, contextualist theories) have trouble predicting a single proposition that Smith asserts and reasonably thinks is true and Beth reasonably thinks is false. However, this support is undermined if Smith and Beth’s disagreement is of Type-2, for in that case the fact that they disagree provides no pressure to think that they disagree about whether what Smith says is true or false. On the contrary, the data provide a challenge to relativist theories, which is to explain how Beth, in rejecting Smith’s claim, Type-2 disagrees with it (rather than Type-1 disagrees with it). Of course, this is a challenge faced by all theories of epistemic modals—something I’ll return to discuss in §3—so the dialectical situation is not obviously worse for the relativist. However, importantly, unless the relativist can find a clear case of a Type-1 modal disagreement, she is no *better* off dialectically than her contextualist (or expressivist) peers.<sup>15</sup> The only systematic study of the various disagreement cases proffered by relativists is Knobe & Yalcin’s, and the results of that study are not promising for relativism.<sup>16</sup>

The method sketched above provides a way of testing for whether the rejector of some assertion Type-1 or Type-2 disagrees with it. If speakers tend to reject a particular assertion but not assess what was said by it as false, then we have evidence that in rejecting the assertion, they Type-2 disagree with it. If instead speakers tend to reject that assertion and also tend to assess what was said by it as false, then we have evidence that in rejecting the

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<sup>14</sup>Egan et al., ‘Epistemic Modals in Context’; Macfarlane, ‘Epistemic Modals’.

<sup>15</sup>Of course, disagreement arguments are not the only arguments relativists have used to motivate their view. For instance, MacFarlane 2011 presents two other arguments for relativism: one which proceeds from direct truth value intuitions in eavesdropping cases like **Mobster**, and one which proceeds from intuitions about retraction in similar examples (see Macfarlane, ‘Epistemic Modals’, 146-148. See Knobe & Yalcin, ‘Context-Sensitivity’ for some challenges to both kinds of arguments. Finally, relativists have also appealed to data from cross-contextual indirect speech reports involving epistemic modals (as in Egan et al., ‘Epistemic Modals in Context’). However, see Cappelen & Hawthorne, *Relativism and Monadic Truth* for a contextualist response to these challenges.

<sup>16</sup>In Knobe & Yalcin, ‘Context-Sensitivity’, four cases are explored. The first is analogous to the scenario discussed here, the second adds an extra-contextual assessor character, and the third and fourth compare retraction to assessments of falsity. In all of their cases they found that ordinary judgments go against those predicted by standard relativist theories.

assertion, they Type-1 disagree with it. The latter case is what we find in **Control**. In that vignette, we found that speakers are inclined to reject Beth’s claim, and similarly inclined to judge that what she said is false. Thus, in that case, the most obvious conclusion to draw is that the reason they reject her claim is *because* they think that it is false—and this is just what it is to Type-1 disagree with it.

Let’s recap. So far, we have shown that there are possible cases in which someone rejecting an assertion thereby Type-2 disagrees with it (§1). We have also seen evidence that Smith and Beth’s disagreement in **Mobster** is Type-2 (§2). However, we do not yet have a sense of what Smith and Beth could be disagreeing over, if not what Smith says. In the next section, I’ll sketch a general framework of conversation that allows for the possibility of rejections expressing Type-2 disagreements. Then, in §4, I’ll offer an account of what Smith and Beth could be disagreeing about, and supply some brief remarks about how some of the main existing theories of epistemic modals might be able to predict this.

### 3 Toward a theory of Type-2 disagreement

Pre-theoretically, to reject something is to refuse to accept it. But what is someone who rejects an assertion thereby refusing to accept? A natural place to look for an answer to this question is the influential work of Robert Stalnaker.<sup>17</sup> Stalnaker develops a theory of assertion on which to assert that  $p$  is to propose that  $p$  be mutually presupposed (or taken for granted) among the participants in the conversation.<sup>18</sup> Call the set of propositions that are mutually presupposed in the conversation the *common ground* of that conversation. Thus, according to Stalnaker’s theory of assertion, to assert a proposition  $p$  is to propose that  $p$  be common ground in one’s conversation. We might extend this idea to other speech acts in a minimal way by holding that to inquire as to *whether*  $p$  is to propose making it common ground that *whether*  $p$  is a topic of discussion, and to command  $p$  to be the case

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<sup>17</sup>Stalnaker, ‘Assertion’, ‘On the Representation of Context’, ‘Common Ground’. In what follows, I’ll make crucial use of Stalnaker’s theory of conversation. However, other theories of rejection might be amenable to a related treatment in a different theory of conversation—see for instance Bach & Harnish, *Linguistic Communication and Speech Acts*; Brandom, ‘Asserting’, *Making it Explicit*.

<sup>18</sup>*Mutually* presupposed in the iterative sense, so that  $p$  is mutually presupposed among  $A$  and  $B$  iff  $A$  and  $B$  both presuppose  $p$ , and each presupposes that both presuppose  $p$ , and presupposes that both presuppose that both presuppose  $p$ , and so on. I follow Stalnaker in holding that presupposition is the attitude of acceptance for conversational purposes (which may be belief, or some attitude less committed than belief). See Stalnaker, ‘Common Ground’, *Context*.

is to propose making it common ground that  $p$  is demanded of someone, and so on.<sup>19</sup>

Remember that our aim is a plausible theory of conversation that allows for the possibility of rejections expressing Type-2 disagreements. In particular, we want to make sense of cases where  $A$  asserts that  $p$  and  $B$  rejects  $A$ 's assertion, even though  $B$  doesn't think that  $p$  is false. To do so, we need to extend the basic Stalnakerian framework in two ways. First, we must say what accepting and rejecting an assertion is. Second, we must extend this notion to allow for rejections that (in some sense) target something other than the proposition asserted that is communicated by that assertion. I discuss both extensions in the next two sections.

### 3.1 Accepting and rejecting assertions

Stalnaker does not take a stand on what accepting or rejecting an assertion amounts to. However, we may extend his theory of assertion in a natural way as follows:

ACCEPTANCE: to *accept* an assertion that  $p$  in some conversation is to reflexively presuppose  $p$ , conditional on everyone else in that conversation doing so.<sup>20</sup>

In effect, what accepting an assertion that  $p$  amounts to is doing your part to make  $p$  common ground on the condition that everyone else also does so. Thus, suppose that  $A$ ,  $B$ , and  $C$  are in a conversation and  $A$  asserts that  $p$ . Suppose that both  $B$  and  $C$  believe  $p$ , and are thus prepared to reflexively presuppose it, conditional on each other doing so. Then, if it becomes common ground that both  $B$  and  $C$  accept  $A$ 's assertion,  $p$  will be common ground in their conversation, and  $A$ 's assertion will have succeeded. Suppose instead that  $B$  does not believe  $p$ , and is not prepared to presuppose  $p$ , regardless of what others in the conversation do. In that case,  $B$  *refuses* to accept  $A$ 's assertion. If it becomes common ground that  $B$  refuses to accept  $A$ 's assertion, then it will be common ground that  $p$  is not common ground in their conversation, and  $A$ 's assertion will have failed.

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<sup>19</sup>This extension to other speech acts is strictly optional. Officially, I want to remain neutral as to whether we should model all speech acts as proposals to update the common ground, or if some are best modeled as updating some other parameter of context (as in Lewis, 'Scorekeeping in a Language Game'). For instance, Craige Roberts argues that questions directly update a distinct contextual parameter which represents the questions under discussion in the context (see Roberts, 'Information Structure in Discourse'), and Paul Portner argues that imperatives directly update the To-Do List of their addressees (where this is a distinct contextual parameter which assigns a set of properties to each individual in the context; see Portner, 'Imperatives Within a Theory of Clause Types', 'Imperatives and Modals').

<sup>20</sup>To reflexively presuppose  $p$  in some group  $G$  is to presuppose  $p$ , and presuppose that everyone in  $G$  presupposes  $p$ , and that everyone in  $G$  presupposes that everyone in  $G$  presupposes  $p$ , and so on.  $p$  is mutually presupposed in  $G$  iff everyone in  $G$  reflexively presupposes  $p$ .

Combining ACCEPTANCE with hypotheses about how one can make it common ground that one accepts or refuses to accept an assertion will generate predictions about various conversational exchanges.<sup>21</sup> This is where *rejection* comes into the picture. I propose that we combine this extension of the Stalnakerian theory with the following hypothesis about what it is to say *no* in response to an assertion:

THE REJECTION HYPOTHESIS:

- (a) To reject a proposal is to assert that one refuses to accept it.
- (b) In English, the answer-word *no* is conventionally used to reject proposals.

Part (a) of the hypothesis connects rejecting a proposal with making it common ground that one refuses to accept it. Thus, by rejecting an assertion that *p*, you propose that it be common ground that you refuse to accept that assertion, and thus that it's common ground that *p* is not common ground. Evidence for part (b) of the hypothesis comes from the fact that we use *no* to reject different kinds of proposals, both linguistic and non-linguistic.<sup>22</sup> However, note that it doesn't follow from THE REJECTION HYPOTHESIS that every utterance of *no* in response to an assertion results in rejecting it, or that uttering *no* in response to an assertion is the only way to reject it.<sup>23</sup> The resulting theory (ACCEPTANCE

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<sup>21</sup>I won't go into acceptance here, but one thing to note is that it seems to be the default. Thus, if one does nothing in response to an assertion, presuming that it's common ground that the assertion was made and that one has had enough time to respond, this will be sufficient to make it common ground that one accepts that assertion.

<sup>22</sup>In addition to rejecting assertions, we find *no* used to reject commands, and even non-linguistic proposals such as romantic gestures:

- (i) A: Answer the phone!  
B: No, *you* answer the phone!
- (ii) ⟨A leans in to kiss B⟩  
B: No, please don't.

It's also not surprising, given THE REJECTION HYPOTHESIS, that *no* would come to be used to express negative emotions (or even a kind of irrational denial) towards non-proposals. For instance, in observing an outcome of a competitive sports match, one might utter *no!* to express dismay at said outcome.

<sup>23</sup>For instance, if asked a yes-no question, *no* has both uses:

- (i) A: Did Bill quit smoking?  
B: No.  
C: No, your question is out of place—he never smoked in the first place!

Also, one may sometimes use *yes* to reject an assertion, as in:

+ THE REJECTION HYPOTHESIS) entails that one way to reject an assertion that  $p$  is to say *no* in response to it, and that you ought to do so if you want to make it common ground that  $p$  not be common ground in your conversation.

Before we get to the final refinement of the theory, I want to show how, in its current form, it already predicts some of the cases we've seen in which someone rejecting an assertion Type-2 disagrees with it. Recall the contrast between  $B$ 's response in (4) and (5):

(4)  $A$  and  $B$  are wondering whether the bank is open (it's a Saturday).  $A$  has just called a friend who told  $A$  that the bank was open last Saturday.

$A$ : The bank is open today.

$B$ : No, the bank *might* be open today. Banks are never open on national holidays and we still don't know whether today is a national holiday.

(5)  $A$ : The bank is open today.

$B$ : #That's false, the bank *might* be open today. Banks are never open on national holidays and we still don't know whether today is a national holiday.

THE REJECTION HYPOTHESIS allows us to predict this contrast, since according to it, to reject an assertion is simply to make it common ground that you refuse to accept it. This might be because you think what is asserted is false, or because, as with  $B$  in (4), you are agnostic as to whether what is asserted is true. This allows us to predict that, in rejecting  $A$ 's assertion in (4),  $B$  is merely refusing to reflexively presuppose what  $A$  asserts, not claiming that what  $A$  says is false (hence allowing us to predict the contrast in  $B$ 's responses in (4)/(5)). On my extension of Stalnaker's theory,  $A$  and  $B$ 's disagreement in (4) is merely over whether to presuppose that the bank is open today.<sup>24</sup> Thus, adopting ACCEPTANCE and THE REJECTION HYPOTHESIS allows us to predict rejections that express Type-2 disagreements.

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(ii)  $A$ : It's raining.  
 $B$ : Yes, it might be. But it also might not be.

Thanks to Vann McGee (p.c.) for pointing this out to me.

<sup>24</sup>I assume that the notion of disagreeing over whether to  $\phi$  (for some action  $\phi$ ) is intuitively clear enough to take as a given for now. As such, I won't take a stand on what it amounts to or is grounded in. For instance, perhaps  $X$  and  $Y$ 's disagreement over whether to  $\phi$  is grounded in their having conflicting (in the sense that both cannot be satisfied) desires about whether to  $\phi$ . Or perhaps it is grounded in their having contradictory beliefs about whether each ought to  $\phi$ .



### 3.2 Rejections beyond the asserted proposition

We need to generalize the theory to handle cases like (6), where one rejects an assertion not because one does not want the proposition thereby asserted to be common ground, but because one wants to avoid something else the assertor thereby communicates in making that assertion becoming common ground (in this case, something she implicates, assuming the Gricean theory of scalar implicatures is broadly correct):

- (6) A: Jim ate some of the cookies from last night.  
B: No, he ate *all* of the cookies from last night.

There is an interesting literature about uses of negation that seem to target not what's asserted but other, backgrounded, information also communicated by that assertion.<sup>25</sup> My extension of Stalnaker's theory to handle cases where one rejects an assertion for such reasons is similar to a helpful proposal of van der Sandt's discussed by Geurts. I propose that we generalize the Stalnakerian theory to the level of what I will call the *communicative impact* of a speech act. To begin, recall that the common ground of a conversation may be represented by a set of propositions  $C$ . Let's call the communicative impact of an assertion that property of sets of propositions that the assertor thereby proposes the common ground of her conversation have.<sup>26</sup> In the simplest case where someone asserts that  $p$  and doesn't thereby communicate anything else, the communicative impact of this assertion is the property of having  $p$  as a member (thus the theory makes the same predictions as the simple Stalnakerian theory in such cases). We can generalize from this case by adding other propositions to the communicative impact which are thereby communicated by the making of the assertion—they will include every proposition implicated and pragmatically presupposed by making that assertion (basically, any proposition that assertor intends to communicate by asserting what she does).<sup>27</sup> We can also generalize to cases in which the communicative impact of an assertion is the property of *not* having certain propositions as a member (this will be characteristic of epistemic possibility claims, as we'll see in §4).<sup>28</sup>

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<sup>25</sup>Horn, 'Metalinguistic Negation', *A Natural History of Negation*; Geurts, 'The Mechanisms of Denial'; van der Sandt & Maier, 'Denials in Discourse'.

<sup>26</sup>Standardly, a property of sets of propositions may be modeled as a set of sets of propositions. Thus, you can think of the communicative impact of an assertion as such a set of sets of propositions, each member of which represents a way the common ground may be compatible with how that impact aims for it to be.

<sup>27</sup>Importantly,  $P$  will not include information that will become common ground for other reasons—for instance, that the assertor, since she uses an English sentence to make her assertion, speaks English.

<sup>28</sup>Those familiar with dynamic semantic treatments of epistemic modals will recognize this kind of approach to thinking about how assertions can update what's common ground (cf. Veltman, 'Defaults in

In example (6) above, the communicative impact of  $A$ 's assertion is the property of having as a member the proposition that Jim ate some of the cookies and that Jim didn't eat all of the cookies. Thus, in asserting that Jim ate some of the cookies,  $A$  thereby proposes that both of these propositions be common ground. With this notion of the communicative impact of an assertion in hand, we generalize ACCEPTANCE as follows:<sup>29</sup>

ACCEPTANCE\*: to *accept* an assertion with communicative impact  $P$  in some conversation is to do your part to ensure that the common ground of that conversation has  $P$ , conditional on everyone else in that conversation doing the same.

The only difference between ACCEPTANCE and ACCEPTANCE\* is that in the latter we exchange a proposition  $p$  (the one asserted) for a property of sets of propositions  $P$  (the communicative impact of the assertion). On our generalized theory, then, accepting an assertion involves doing more than reflexively presupposing the proposition asserted (conditional on everyone else in the conversation doing so)—crucially, it involves doing your part to ensure that the common ground of your conversation has the property  $P$  (conditional on everyone else in the conversation doing so). This move allows our theory to predict the possibility of rejecting an assertion without thinking that what is asserted is false.

Let's see this how our theory predicts this in the case of (6). As we saw above, the communicative impact of  $A$ 's assertion is the property of having the proposition that Jim ate some but not all of the cookies as a member. Thus, in asserting that Jim ate some of the cookies,  $A$  thereby proposes that both of these propositions be common ground. Therefore, by ACCEPTANCE\*, were  $B$  to publicly accept  $A$ 's assertion, it would thereby become common ground that Jim ate some but not all of the cookies. However,  $B$  believes that Jim ate all of the cookies, and thus wants *this* to be common ground. Therefore,  $B$  rejects  $A$ 's assertion, thereby making it common ground that she refuses to accept  $A$ 's assertion, thereby making it common ground that it is not common ground that Jim ate some but not all of the cookies. However,  $B$  cannot stop there, if she wants it to be

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Update Semantics'; Gillies, 'A New Solution to Moore's Paradox'; von Fintel & Gillies, 'An Opinionated Guide to Epistemic Modality'; Willer, 'New Dynamics for Epistemic Modality'). However, I don't take a stand here on the distinguishing claim of such theories, which is that we should think of the meaning of a sentence entirely in terms of its communicative impact.

<sup>29</sup>This is strictly speaking an extension of Stalnaker's theory of context, but one which keeps with the general spirit of that approach to conversations. Stalnaker all along recognized that what's pragmatically presupposed by an utterance will often be accommodated, and thus become common ground in similar fashion to what's asserted. My presentation here aims to incorporate what's implicated in the same vein.

common ground that Jim ate all of the cookies. Therefore, *B* follows up her rejection of *A*'s assertion by counter-asserting that Jim ate all of the cookies. Notice that given ACCEPTANCE\* + THE REJECTION HYPOTHESIS, we predict that in rejecting *A*'s assertion, *B* Type-2 disagrees with it, since *A* and *B* agree that what *A* says is true.<sup>30</sup>

We will return to modal disagreements in the next section. However, before doing so, I want to highlight one final upshot of the theory of disagreement sketched here, which is that it can account for the minimal pair that initially motivated REJECTING IS CONTRADICTION:

- (3) a. Sue: I'm a doctor.  
 b. Tim: #No, I'm not a doctor.  
 c. Tom: No, you're not a doctor.

Tim and Tom's utterances differ on their proposed reasons for rejecting Sue's assertion. Tim rejects Sue's claim because he thinks that *he* is not a doctor, while Tom does so because he thinks that *Sue* is not a doctor. Since the fact that Tim believes that *he* is not a doctor isn't (in any obvious way) a reason for him to refuse to accept Sue's assertion that *she* is a doctor, and given that Tim has no other reason to reject Sue's assertion,<sup>31</sup> it follows that Tim has no reason to reject Sue's assertion. But then his rejecting her assertion makes no sense, and this accounts for why we perceive his rejection of her assertion to be infelicitous. Tom, on the other hand, believes that Sue is not a doctor, and this *is* a reason for him to reject Sue's assertion; he thinks the proposition she asserts is false, and thus wants it to be common ground between them that it is not common ground—therefore, he rejects it. Hence, we predict that Tom's rejection is felicitous. Thus, our generalized version of Stalnaker's theory of conversation predicts the range of felicitous and infelicitous rejections we seem to find, thus confirming the theory.

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<sup>30</sup>I pause to respond to a criticism raised by Geurts towards the van der Sandt theory of denial which also applies to my generalized Stalnakerian theory of rejection (see Geurts, 'The Mechanisms of Denial', 286). The problem is that on my theory, rejection seems to target the entire communicative impact of the assertion, preventing any of it from becoming common ground. However, often when we reject an assertion, we object to some but not all of its communicative impact. We see this clearly in (6), where *B* objects to something *A* implicates, but not what *A* asserts. However, I don't think this is a serious problem for my theory. According to it, agents can still explicitly add back in any information that's part of the conversational impact of the rejected assertion in their own assertion. This is what *B* does when she explicitly counter-asserts that Jim ate all of the cookies, and it's what we find generally with rejections: after rejecting an assertion, one often makes explicit ones grounds for so doing, which clarify what it was about the assertion that one found objectionable.

<sup>31</sup>This follows from what Tim says plus the assumption that he is following the Maxim of Quantity (be informative!).

We’ve just seen evidence in favor of ACCEPTANCE\* and THE REJECTION HYPOTHESIS. In particular, we’ve seen that this combination of theses can account for the data REJECTING IS CONTRADICTING could (the contrast in (3)) and more besides (the examples of rejection that express Type-2 disagreements). However, we have not yet seen how the theory predicts Type-2 modal disagreements where it’s an assertion made by uttering an epistemic modal sentence that is rejected (as in Smith and Beth’s conversation in **Mobster**). In the next section, I outline how we might account for such modal disagreements within the theory of conversation motivated here.

## 4 Predicting Type-2 modal disagreements

We begin with the key observation that at least one characteristic effect of accepting an assertion of epistemic possibility claim like (1) is that it will not be common ground that Fat Tony is alive—in other words, to ensure that there are some live possibilities compatible with what’s mutually presupposed in the conversation in which Fat Tony is dead.<sup>32</sup>

- (1) Fat Tony might be dead.

Where the prejacent of (1) is the proposition that Fat Tony is dead (intuitively, the proposition in the scope of the modal operator denoted by *might*), we can put the observation as follows (note that this observation is in principle neutral between competing semantic theories—as we’ll see below, different theories will be able to predict *The Update Observation* in different ways):<sup>33</sup>

*The Update Observation*: generally, assertively uttering an epistemic possibility sentence involves proposing that it not be common ground that its prejacent is false.

(Thus, generally, the communicative impact of assertively uttering an epistemic possibility sentence will involve the property of not having as a member the negation of its prejacent.)

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<sup>32</sup>Stalnaker, ‘Pragmatics’, *Context*; Swanson, ‘How Not to Theorize’; Yablo, ‘A Problem about Permission and Possibility’; Yalcin, ‘Epistemic Modals’, ‘Nonfactualism’, ‘Bayesian Expressivism’; Willer, ‘New Dynamics’.

<sup>33</sup>I do not want to commit to anything more than this being a general and plausible observation. In fact, I think there are instances in which it fails (for instance in Egan et al.’s ‘surprise party’ scenario, or von Fintel & Gillies’ ‘mastermind’ case; see Egan et al., ‘Epistemic Modals in Context’, 13-14; von Fintel & Gillies, ‘CIA Leaks’, 83-84), but that these are exceptional cases. I won’t be able to go into this point further here for the sake of space. Also, presumably, there will be similar update observations for epistemic necessity sentences, and graded (or probabilistic) modal sentences.

Let's look at our example from **Mobster**. There, Smith utters (1), and Beth knows that Fat Tony is alive. Given *The Update Observation* (and that this context is one in which it applies), Smith proposes that it not be common ground that Fat Tony is alive. Since Beth knows Fat Tony is alive and (presumably) wants to communicate this information, the aim of Smith's proposal is something she wants to avoid—instead, she wants it to be common ground that Fat Tony is alive. Therefore, Beth has a reason to reject Smith's assertion. Hence, Beth's rejection of Smith's assertion is felicitous. If this is the reason for Beth's rejection, then it follows that Beth disagrees with Smith about whether to presuppose that Fat Tony is alive—Smith aims for it not to be common ground in their conversation that Fat Tony is alive, while Beth aims for it to be common ground in their conversation that Fat Tony is alive. Furthermore, notice that in characterizing Smith and Beth's disagreement, we didn't need to say anything about whether Beth believes what Smith asserts. Thus, we have an account of how Beth could Type-2 disagree with Smith's assertion.

Nonetheless, it would be nice to round out this merely prima facie explanation with a more concrete theory, which both predicts *The Update Observation*, as well as allows for cases like **Mobster**, where Beth rejects Smith's assertion without thinking that what he asserts is false. There are various ways to do this, depending on what kind of semantics we want to give for epistemic modals. In the rest of this section, I will show how we can combine this kind of explanation with three existing classes of theories.

First, consider contextualism about epistemic modals. On a contextualist theory, epistemic modal sentences express propositions about some contextually salient body of information.<sup>34</sup> Different contextualist theories embrace different metasemantic views about what body of information is contextually salient, but one of the most plausible versions holds that the salient body of information will be the best available evidence. On that view, by assertively uttering (1), Smith asserts the proposition that the best available evidence is compatible with Fat Tony being dead. Interestingly, although no contextualist theory has attempted to predict the dynamic update effects of uttering epistemic modal sentences, this one has a shot at predicting *The Update Observation*. The derivation goes roughly as follows: (i) it is generally common ground that everyone will aim to presuppose just what's entailed by the best available evidence, so (ii) learning that the best available evidence is compatible with  $p$  (the effect of assertively uttering *might p*) should result in (iii) it being

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<sup>34</sup>Kratzer, 'Modality', *Collected Papers*, DeRose, 'Epistemic Possibilities'; Schaffer, 'Contextualism for Taste Claims and Epistemic Modals'; Dowell, 'Flexible Contextualism about Epistemic Modals'; Yanovich, 'Standard Contextualism Strikes Back'.

common ground that no one presupposes  $\neg p$ , which should result in it not being common ground that  $\neg p$ —and this just is the update effect described by *The Update Observation*. But now consider a context in which X, Y and Z are talking, and X assertively utters *might p*. Further, suppose that X, Y and Z all believe that the best available evidence is compatible with  $p$ . Nonetheless, Z knows that  $p$  is false—this is possible even though Z believes the best available evidence is compatible with  $p$  as long as Z thinks that her evidence that  $p$  is false is not available to X and Y.<sup>35</sup> In that case, if Z accepts X’s assertion, then by the above derivation it will not be common ground that  $\neg p$ . Nonetheless, Z has a reason to reject X’s assertion since she (presumably) wants it to be common ground that  $\neg p$ . Therefore, this version of contextualism can predict cases like this in which Z doesn’t think that what X said is false even though she may sensibly reject his claim (and hence in which Z’s rejection expresses a Type-2 modal disagreement). Although the strategy remains to be fleshed out and independently motivated, it should be clear that at least some contextualist theories of epistemic modals are in a position to predict Type-2 modal disagreements.

What about expressivism? Roughly, on such a theory, epistemic modal sentences do not express propositions but rather conditions on information states (like belief states, or context sets). According to Yalcin’s expressivist theory, what it is to assertively utter such a sentence is to express a property of one’s state of mind.<sup>36</sup> This is importantly different from *saying* that one is in that state of mind—the two have different aims, for instance. To express a property of one’s state of mind is to aim to get others to share it, while to say that one is in some state of mind is to aim to get others to believe that one is in that state of mind. According to the expressivist, when Smith assertively utters (1), he expresses a property of his belief state, namely, that it is compatible with Fat Tony being dead. In so doing, he aims to get others’ belief states to share this property of his belief state, and hence come to not believe that Fat Tony is alive. Thus, expressivist theories of epistemic modals are well-suited to predict *The Update Observation*. However, can expressivism also predict that Beth, despite sensibly rejecting Smith’s assertion, also not think that what

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<sup>35</sup>An anonymous reviewer challenges this claim on the grounds that X and Y could easily get the information by asking Z. In response I hold that it depends on the notion of “availability” one has in mind. If availability is a matter of being able to make use of the evidence, then it is not available to X or Y. If availability is a matter of being able to easily get the evidence, then it may be available to X and Y. In other work, I propose drawing on this flexibility to predict the variation in judgments about whether what was said by some epistemic modal claim is false (see Papafragou, ‘Epistemic Modality and Truth Conditions’; Dowell, ‘Flexible Contextualism about Epistemic Modals’, ‘Flexible Contextualism about Deontic Modals’).

<sup>36</sup>Yalcin, ‘Epistemic Modals’, ‘Nonfactualism’.

Smith says is false? Yalcin holds that, since according to expressivism, what Smith asserts is not a proposition (but rather a property), it is neither true nor false.<sup>37</sup> Hence, when presented with the question of whether what Smith said is false, ordinary speakers are thereby forced to try to figure out what the questioner is after, and he suggests they may consider the following surrogates:

- **Rational:** Would someone equipped with Smith’s evidence be responding appropriately to it by accepting what Smith said?
- **Advisable:** Would someone with full information be responding appropriately to it by accepting what Smith said?

Yalcin contends that the answer to **Rational** is yes and **Advisable** is no. Hence, someone who thought it rational for Smith to have said what he did but that it would not be advisable to accept what Smith said might reject Smith’s claim but then, interpreting the question about whether it is false as the **Rational** question, think that Smith’s claim wasn’t false.<sup>38</sup>

Finally, consider relativist theories of epistemic modals. Although we’ve undermined one standard argument for such theories, there is still life yet for relativism. According to a standard version of relativism, epistemic modal sentences express propositions whose truth value depends on a body of information that is salient in the context in which they are assessed.<sup>39</sup> Relativists thus have room to maneuver out of predicting that Beth believes what Smith said is false in **Mobster** as long as they go *flexible* and don’t predict that the information salient in Beth’s context is automatically the evidence she has.<sup>40</sup> When it comes to predicting *The Update Observation*, relativists have a few options. One is to try to derive it in a manner similar to the contextualist. Another is to appeal to the resources from *de se* assertion to derive the update effects.<sup>41</sup> However, although it remains unclear at this time whether going flexible will make trouble for predicting *The Update Observation*, it nonetheless seems that relativist theories of epistemic modals are in a position to predict Type-2 modal disagreements.

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<sup>37</sup>Yalcin, ‘Nonfactualism’, 311-312.

<sup>38</sup>Dynamic theories of epistemic modals may be able to say something similar to predict Type-2 modal disagreements.

<sup>39</sup>Egan et al., ‘Epistemic Modals in Context’; Egan, ‘Epistemic Modals, Relativism, and Assertion’, ‘Relativism and Epistemic Modals’; Stephenson, ‘Judge Dependence, Epistemic Modals, and Predicates of Taste’; Macfarlane, ‘Epistemic Modals’.

<sup>40</sup>Macfarlane, ‘Epistemic Modals’, 174-177.

<sup>41</sup>See Stephenson, ‘Judge Dependence’, 508-511; Egan, ‘Epistemic Modals, Relativism, and Assertion’.

## 5 Final thoughts

The main upshot of this paper is a new diagnostic for when a disagreement is of Type-1 or Type-2, and new evidence that some modal disagreements are of Type-2. The result is a new twist on what semantic/pragmatic conclusions we should draw from data about disagreement: not only can we not assume in a given disagreement that it is of Type-1, but the best theory of the semantics and pragmatics of epistemic modals should predict that certain modal disagreements (such as Smith and Beth’s in **Mobster**) are of Type-2. The rest of the paper aimed to motivate a background theory of conversation which would allow for Type-2 disagreements (§3) and then outline how several existing theories of epistemic modals might be able to predict Type-2 modal disagreements (§4).<sup>42</sup>

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<sup>42</sup>Thanks to Sally Haslanger, Matthias Jenny, John Macfarlane, Jack Marley-Payne, Agustín Rayo, Kevin Richardson, Kieran Setiya, Jack Spencer, Bob Stalnaker, Zoltán Szabó, Alex Worsnip, Seth Yalcin, two anonymous reviewers for *Inquiry*, and audiences at MIT and San Francisco State University for helpful comments which led to many improvements. I owe a great deal of thanks to Josh Knobe for assistance running the studies and analyzing the data, as well as for his encouragement and extremely helpful comments.



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