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An Invariantist Theory of 'Might' Might Be Right

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Two speakers who utter a sentence that contains 'might' may say different things. Suppose that Alice and Betty both utter (1), while speaking to different audiences.

(1) Carla might have run three miles yesterday.

Alice is unsure whether Carla ran three miles yesterday. When she utters (1), she says (roughly speaking) that for all she knows, Carla ran three miles yesterday. Betty, however, knows that Carla did not run three miles yesterday. She utters (1) in order to say (roughly) that it is metaphysically possible for Carla to have run three miles yesterday.

How could Alice and Betty say such different things when they utter (1)? Many theorists would attribute the variation in what they say to a variation in semantic content. 'Might', they would claim, is context-sensitive. It has different semantic contents in Alice's and Betty's contexts, and so sentence (1) semantically expresses different propositions in their contexts. Alice says (and asserts and means) the proposition that (1) semantically expresses in her context. Betty does likewise. So, they say different things.

But there is a second, entirely different explanation for why Alice and Betty say different things. According to this account, 'might' is not context-sensitive, and the semantic content of (1) in Alice's and Betty's contexts is the same proposition. But when a speaker utters a sentence,

she may assert a proposition other than the one that it semantically expresses in her context. This is what happens with Alice and Betty: they mean and assert different propositions, though the semantic content of (1) in their contexts is the same proposition.

The two theories agree that Alice and Betty say different things. But the first *contextualist* theory explains this by positing contextual variation in the semantic content of 'might'. The second *invariantist* theory does not. The contextualist theory uses a simple pragmatics and a complicated semantics. The invariantist theory uses a complicated pragmatics and a simple semantics.

In this paper, I argue in favor of an invariantist theory. I first review various phenomena concerning 'might' that a theory should explain, and argue that contextualist theories have at least *prima facie* difficulties explaining some of them. I then present the main ideas of invariantist theories. I argue that such theories should not be rejected out of hand (as some semanticists are inclined to do, in my experience). I argue that invariantists' assumptions about speakers and hearers are much like those of contextualists, and that invariantist theories are constrained by linguistic data in much the way that contextualist theories are. I next present the details of my particular invariantist theory and show how it explains the various phenomena connected with 'might'. I finally defend the theory from objections.

I concentrate on 'might' in this paper, though I favor similar invariantist theories of other modal words, such as 'must', 'possible', and 'necessary'. I further concentrate on *epistemic* uses of 'might', which are uses of 'might' in which the speaker says something about (roughly speaking) compatibility with some body of knowledge, as Betty does in the example above. I do not discuss alternatives to contextualist and invariantist theories, such as relativist and

expressivist theories. [1] I also do not discuss occurrences of 'might' inside conditionals and imperatives, or interactions of 'might' with tense.[2] So this paper is, in effect, a preliminary attempt to show that a particular invariantist theory of 'might' might be right.

1. The Data to Be Explained, and Contextualist Explanations

1.1 Some Initial Data and Intuitions

There are various phenomena that any theory of 'might' should explain. I describe some of them below, and describe how contextualism tries to explain them, and indicate why one might reasonably doubt that it fully succeeds.

One apparent phenomenon is that two speakers who both use 'might' in an epistemic way may say and assert different epistemic propositions when they utter the same sentence. Imagine that Moriarty is in his lair, wondering where Sherlock Holmes is, and Mrs. Hudson is in 221B Baker Street, also wondering where Holmes is. Both may utter (2), and thereby assert different propositions, which can be paraphrased by (3a) and (3b), respectively, or by (4a) and (4b), respectively.[3]

(2) Holmes might be in Paris.

(3) a. For all Moriarty knows, Holmes is in Paris.

[1] For relativist views, see Egan et al (2005), Egan (2007), Stephenson (2007), and MacFarlane (2011). For expressivism, see Yalcin (2011). All extant relativist theories with which I am familiar hold that 'might' is context-insensitive. Therefore, these theories are invariantist. I argue here for a version of *non-relativist* invariantism.

[2] For discussion, see von Fintel, 2006; Yalcin, 2007, 2011; von Fintel and Gillies, 2011; MacFarlane, 2011.

[3] Contextualists can admit that a speaker who utters (2) may well be trying to convey some stronger propositions, for instance, the proposition that Holmes's being in Paris is rather more likely than many other propositions regarding his location that are consistent with the speaker's knowledge.

b. For all Hudson knows, Holmes is in Paris.

(4) a. That Holmes is in Paris is compatible with everything that Moriarty knows.

b. That Holmes is in Paris is compatible with everything that Hudson knows.

Another important apparent phenomenon is that one speaker may utter a sentence containing 'might', and another speaker may utter the negation of that same sentence, and yet what the second asserts may not contradict what the first asserts. Suppose that Moriarty and Watson are in different locations in London, unaware of each other. Moriarty is continuing to wonder where Holmes is. Watson, however, is standing next to Holmes and knows that he is London.

(5) Moriarty: Holmes might be in Paris.

Watson: It is not the case that Holmes might be in Paris.

Moriarty says, roughly speaking, that for all Moriarty knows, Holmes is in Paris, whereas Watson says, roughly, that it is not the case that for all Watson knows, Holmes is in Paris. These propositions are both true and do not contradict each other.

Contextualists explain both of these apparent facts by claiming (as I said before) that 'might' varies in its semantic content from context to context, expressing different modal properties with respect to different contexts. A speaker who utters a sentence containing 'might' typically asserts the proposition that the sentence semantically expresses (its semantic content) in his context.[4] That is why Moriarty and Hudson assert different propositions, and why the propositions that Moriarty and Watson assert do not contradict each other. Some contextualists hold that the semantic content of 'might', in a context, is the same as that of a restricted

[4] In this paper, I often use the phrase 'in his context' when I would prefer to say 'in a context that his utterance realizes'. See Braun (forthcoming) for an explanation of the latter notion.

quantifier over metaphysically or logically possible worlds. On this view, the semantic content of (2) in Moriarty's context is (roughly) the proposition that Holmes is in Paris is true at some metaphysically or logically possible world in which every proposition that Moriarty knows is also true. But contextualists can instead hold that the semantic content of 'might' in a context is a simple, non-quantificational, modal property.

I will continue to use paraphrases similar to "compatible with *X*'s knowledge" to indicate roughly the proposition asserted by a speaker who utters a 'might' sentence in a particular context, though some contextualist theories say that these paraphrases do not express the same propositions as the sentences containing 'might'.

One other important apparent phenomenon is that some speakers use sentences containing 'might' to assert propositions concerning the knowledge of a group of people. For instance, if Moriarty utters (2) while addressing his henchmen, he seemingly says that (roughly speaking) Holmes's being in Paris is compatible with everything that is known by either him or one of his henchmen.[5] Sometimes speakers use 'might' sentences to speak about the knowledge of a group of people that does not include the speaker. Suppose, for instance, that Holmes has two boxes, one red and the other blue, and suppose he has placed a coin in one of them. Watson is trying to decide which box the coin is in. Holmes might utter (6) while addressing Watson.

(6) The coin might be in the red box.

Holmes seems to say something true by uttering (6). He appears to be asserting roughly the proposition expressed by (7). [6]

[5] For some discussion of 'might' and the types of group knowledge it can (and perhaps cannot) express in a context, see von Fintel and Gillies (2011), Portner (2009, 158-167), Dowell (2010a, 2011), and MacFarlane (2011).

[6] See Egan, et al (2005), von Fintel and Gillies (2007, 2008, 2011) and Bach (2011) for similar examples.

(7) The coin's being in the red box is compatible with everything that Watson knows.

I will call such uses of 'might' *exogenous* (following Lasersohn, 2005, on predicates of personal taste). A contextualist can accommodate these group and exogenous uses. She need only say that the modal property that 'might' semantically expresses, in a context, may concern the knowledge of a group that may or may not include the agent of that context. When the speaker utters the sentence, she asserts the semantic content of the sentence in her context.

1.2 Says-That Ascriptions

Reporting on what people say when they utter sentences containing 'might' is routine. Suppose that Moriarty utters 'Holmes might be in Paris'. He is unaware that Watson is nearby. Watson then utters (8).

(8) Moriarty said that Holmes might be in Paris.

I will say that Watson *disquotes* Moriarty, for the complement clause of Watson's ascription contains the same sentence that Moriarty uttered. [7] Watson says something true when he utters (8). This might initially seem to present a difficulty for contextualist theories. Presumably, a contextualist would want to hold that (8) is true with respect to Watson's context (that is, the context realized by Watson's utterance of (8)). The 'that'-clause of (8) refers, in Watson's context, to the semantic content of 'Holmes might be in Paris' in Watson's context. One might think that the semantic content of 'Holmes might be in Paris' in Watson's context should concern Watson's knowledge (not Moriarty's). [8] But a contextualist can point out that Watson

[7] Kripke (1979) and others often use the term 'disquotation' for cases in which the reporter utters a belief or knowledge ascription. By contrast, I shall restrict the term to cases in which the reporter utters a says-that ascription.

[8] For criticisms along these lines, see Egan et al. (2005) and MacFarlane (2011).

intends to be speaking about Moriarty's knowledge when he utters (8).[9] So a contextualist can maintain that, in Watson's context, the semantic content of 'Holmes might be in Paris' is the proposition that for all *Moriarty* knows, Holmes is in Paris. So the semantic content of (8) in Watson's context is (roughly) the proposition that Moriarty said that, for all *Moriarty* knows, Holmes is in Paris. Therefore, (8) is true with respect to Watson's context. Watson asserts this proposition, so he asserts something that is true.

Watson can also disquote Moriarty when Moriarty asserts a proposition about the knowledge of a group that includes him *and his henchmen*. If Watson is aware of Moriarty's intentions, then a contextualist can say that the semantic content of Watson's says-that ascription is the proposition that, for all that Moriarty *and his henchmen* know, Holmes is in Paris. This is true, and Watson asserts it.

But there are cases in which ascribers are ignorant of, or misinformed about, the intentions of the subjects of their ascriptions, and one may reasonably wonder how well contextualist theories deal with such cases. Consider Holmes's exogenous use of 'The coin might be in the box'. Suppose that Lestrade overhears Holmes's utterance, but thinks that Holmes intends to speak strictly about his own (Holmes's) knowledge. Suppose Lestrade then utters (9).

(9) Holmes said that the coin might be in the box.

Lestrade thereby seems to say something that is true. Yet at first glance, the contextualist seemingly must hold that the semantic content of (9) in Lestrade's context is the proposition that

[9] Cappelen and Hawthorne (2009, 40) call such a use 'parasitic'. They cite Nunberg, 1993; Humberstone and Cappelen,2006; and Cappelen and Lepore,2006. See also Dowell (2011) for similar replies on behalf of the contextualist.

Holmes said that, for all *Holmes* knows, the coin is in the box. But this is false. A contextualist could reply, however, that Lestrade intends to speak of the knowledge of the group Holmes has in mind, *whichever group that is*. So if Holmes is focusing on Watson's knowledge, then the semantic content of (9) in Lestrade's context is the proposition that Holmes said that, for all *Watson* knows, Holmes is in Paris. This response has some plausibility, but may provoke some worries. Does Lestrade intend to speak of the knowledge of *whoever* Holmes has in mind? Wouldn't Lestrade say something true even if he did not have such an intention? (For details, see Braun, 2011.)

Collective and quantified says-that ascriptions present another apparent problem for contextualism. [10] Imagine that Lestrade and Mycroft are each alone in different rooms in 221B Baker Street, and suppose that they are the only men in 221B Baker Street at that time. Neither is aware of the other. Each utters (2), intending to speak only of his own knowledge.

(2) Holmes might be in Paris.

Unbeknown to them, Mrs. Hudson overhears each of their utterances. She then utters (10) and (11).

(10) Lestrade and Mycroft said that Holmes might be in Paris.

(11) Each man in 221B Baker Street said that Holmes might be in Paris.

Mrs. Hudson seems to say something true when she utters (10). According to our latest contextualist theory, the 'that'-clause in (10) refers, in Hudson's context, to some proposition concerning (roughly) compatibility with some group's knowledge. Which group that is depends on which group Hudson has in mind. But it seems that no matter which group Hudson has in

[10] I am indebted here to Cappelen and Lepore (2006). They use collective ascriptions to argue against contextualist theories of many different expressions.

mind, our contextualist theory entails that the semantic content of (10), with respect to her context, is false. On our present contextualist theory, the semantic content of 'Holmes might be in Paris' in Lestrade's context is (roughly) the proposition that, for all Lestrade knows, Holmes is in Paris. This is the proposition he says and asserts. In Mycroft's context, the semantic content of the sentence is (roughly) that, for all Mycroft knows, Holmes is in Paris, and this is what Mycroft says and asserts. There is no group of people about whose knowledge both Lestrade and Mycroft say or assert a proposition. So there is no single proposition that both of them say. Therefore, our contextualist theory entails that the semantic content of Hudson's ascription, in her context, is false, no matter what Hudson's intentions. Entirely parallel points hold for the quantified ascription (11).[11]

I have described some of the main phenomena that a theory of 'might' should explain. I have also described how contexualist theories attempt to do so, and I have indicated why one might doubt that contextualist theories are up to the task. I certainly do not take myself to have refuted contextualist views. But I do take myself to have shown that it is worthwhile looking at

[11] A contextualist might claim that the semantic content of (10) in Hudson's context is (roughly) the proposition that Lestrade and Mycroft (each) said that, for all he knows, Holmes is in Paris. But this description contains an occurrence of the pronoun 'he', which is bound by 'Lestrade' and 'Mycroft', whereas there is no such pronoun in (10) itself. Thus I believe that a contextualist who endorsed the previous semantic claim would be forced to say that 'might' is (roughly speaking) indexed with a variable and thus is a binary predicate. Cappelen and Hawthorne (2009) propose just such a strategy for defending contextualism about 'might' from objections that use collective ascriptions. I criticize their analysis in detail in Braun (forthcoming). Alternatively, a contextualist could hold that the semantic content of (10) in Hudson's context is a false proposition, but claim that she nevertheless asserts a true proposition, such as the proposition mentioned at the beginning of this note. I agree that Hudson could assert this proposition. But I assume here that most contextualists would want to hold not only that Hudson asserts a true proposition, but also that the semantic content of (10) is true with respect to her context.

alternatives.

2. An Invariantist Theory of 'Might'

2.1 A Diagnosis and Some Motivations for Invariantism

Consider again Hudson and her utterance of (10). The 'that'-clause in (10) refers, in her context, to the semantic content of 'Holmes might be in Paris', in her context. Suppose, for the sake of argument, that 'Holmes might be in Paris' has the same semantic content in her context, in Lestrade's context, and in Mycroft's context. If this invariantist hypothesis were correct, then (10) might be true in Hudson's context.[12] An advocate of contextualism might object that Lestrade and Mycroft mean or assert different propositions when they utter 'Holmes might be in Paris', and this would not be so if it had the same semantic content in their contexts. But an invariantist would reply that Lestrade and Mycroft could mean or assert propositions distinct from the (constant) semantic content of 'Holmes might be in Paris' in their contexts.

Is the invariantist worthy of serious consideration? Well, we know that there are other cases in which speakers mean or assert propositions distinct from the semantic contents of the sentences they utter. If John utters 'Mary won the 100-yard dash by a mile', he clearly does not mean that Mary was a mile ahead of her competitors when she crossed the finish line. Invariantists hold that a similar divergence between semantic content and proposition asserted can arise in cases in which speakers speak more seriously. Some contextualists about 'might' may find this divergence implausible. To address such contextualist skepticism, I think it best to discuss an analogous, and perhaps more familiar, case. Many theorists think that quantifier

[12] Relativists make this same point and thus hypothesize that the semantic content of 'Holmes might be in Paris' is the same proposition in every context. See Egan et al. (2005), Egan (2007), and MacFarlane (2011). Thus their theories are invariantist. But relativists say that the single proposition that 'Holmes might be in Paris' expresses in every context varies in truth-value relative to different bodies of knowledge. The invariantist theory that I present here avoids such relativization.

phrases, such as ‘everyone’, are context-sensitive. I will describe an invariantist theory of ‘everyone’, and reply to some hypothetical contextualist objections.

Suppose that Anne is a college professor who is standing in a classroom, waiting to start her seminar. As a student walks in, she utters (12), followed by ‘Let’s start!’.

(12) Everyone is here.

Invariantist theories of quantification, such as those of Bach (2001b) and Soames (2005), say that the semantic content of (12), with respect to Anne’s context, is equivalent to the proposition that everyone in the entire universe is there (in the seminar room). But invariantist theories claim that Anne does not mean or assert the semantic content of that sentence when she utters it. She instead means or asserts one or more propositions similar to the following: that everyone who attends her seminar regularly is there, that everyone who is enrolled in her seminar is there, and that everyone whom she expects to attend is there. She asserts one or more propositions that *enrich* the semantic content of ‘everyone’, in her context. These enriched propositions restrict the range of quantification.

Contextualists about ‘everyone’ might be tempted to reject the invariantist theory out of hand because they may think that it is obvious that ‘everyone’ varies in semantic content. But it is not obvious—or at least it is not *pre-theoretically* obvious. What is pre-theoretically obvious is that what speakers say when they utter a sentence containing ‘everyone’ varies. Speakers (and theorists) have pre-theoretic intuitions about what speakers say, mean, or assert. They have few, if any, pre-theoretic intuitions about semantic content. Semantic contents are theoretical entities, used by theorists to help explain phenomena about which speakers have pre-theoretic intuitions. These are not the sorts of things about which one typically has pre-theoretic intuitions. (See Bach 2009, 29-34; Soames 2009, 322-324).

Contextualists might object that invariantist theories are too unconstrained. They might say that an invariantist could propose a wild hypothesis about semantic content of 'everyone', such as that its semantic content is an *existential* quantifier meaning, and then defend that crazy hypothesis by claiming that speakers assert propositions wildly different from the semantic contents of the sentences they utter. But invariantists recognize that speakers who utter sentences containing 'everyone' usually assert propositions that universally quantify, in a restricted way, over people. Moreover, invariantists about quantification hold that speakers who utter sentences containing quantifier phrases usually assert propositions that *enrich* and *restrict* the semantic contents of those quantifiers. But it is difficult to enrich an existential proposition to obtain a restricted universal proposition. So, invariantists are constrained from claiming that the semantic content of 'everyone' is existential. They are similarly constrained from making other wild semantic claims. In this respect, invariantists are much like contextualists. A wild contextualist could claim that the content of 'everyone', in some (or many or all) contexts, is an existential quantifier meaning. Reasonable contextualists do not say this, because speakers very rarely assert an existential proposition when they utter (purely) universally quantified sentences.

Contextualists might object that invariantists say nothing about what determines the proposition that a speaker asserts when she utters a sentence containing 'everyone'. Or they might complain that the description of how this occurs is shunted to a pragmatic wastebasket. But invariantists hold that a speaker's thoughts and intentions determine what she asserts when she utters a quantified sentence. (Some may hold that hearers' thoughts also play a role.) Anne's thoughts and intentions make it the case that the propositions that she asserts enrich the (structured) semantic content of 'everyone' (or restrict the second-order property *everyone*) with a further property, such as *being enrolled in Anne's seminar*. (For some details about

enrichment, see Soames 2009, pp. 12-15 and 388-398, and Soames 2010, pp. 141-168.) Of course, this enrichment is not represented within the invariantist's *semantic* theory. But a parallel point could be made about contextualist theories. Contextualists hold that the semantic content of a quantifier phrase, in a context, is determined by the context's quantificational parameter. But contextualists simply take such contextual parameters as *given*. Sometimes contextualists make "meta-remarks" about how speakers' thoughts and intentions (and perhaps hearers' beliefs) determine such contextual parameters. But this determination of contextual parameters is not represented within contextualists' *semantic* theories. The description of this is relegated to pragmatics and psychology. [13]

Contextualist critics of invariantism may overlook an important advantage that invariantism has over contextualism. Invariantists can easily identify the semantic content of 'everyone' in Anne's context. Contextualists cannot, because there are too many equally good candidates. Should contextualists say that the semantic content of 'everyone' in Anne's context is *everyone enrolled in Anne's seminar*? *Everyone who Anne expects to attend her seminar that day*? *Everyone who attends Anne's seminar regularly*? There seems to be no justification for choosing one of these over the others. Moreover, if a contextualist thinks that just one of these quantifier meanings is the semantic content of 'everyone' in Anne's context, then he should also admit that Anne asserts (or could assert) some additional propositions that do not "incorporate" that quantifier meaning. So, the contextualist must admit that the propositions Anne that asserts go beyond the semantic content of the sentence in her context. But this last claim is an important part of invariantist theories.

[13] There are objections to quantifier invariantism that I have not mentioned here, but this is not the place to address them. For discussion, see Stanley and Szabo (2000), Bach (2005) and Soames (2005; 2009, 12-15; 2010, 151-168).

This ends my discussion of invariantist theories of 'everyone'. I hope that it convinces skeptics that they should not immediately dismiss those theories. Perhaps it will also convince skeptics that invariantism about 'might' should not be rejected out of hand.

An invariantist theory of 'might' should include a description of the unvarying semantic content of 'might'.[14] It also should also include a description of how speakers assert different propositions using sentences containing 'might'. And it also needs a semantics and pragmatics for 'say' and says-that ascriptions, to deal with the disquotation data. I turn to these tasks next.

2.2 The Basics of an Invariantist Semantics and Pragmatics for 'Might'

On the invariantist theory that I favor, the semantics of 'might' is very simple. 'Might' means *might*, in all contexts. *Might* is the same property as *being possible*. So in every context, 'might' semantically expresses *being possible*. Furthermore, *being possible*, on this view, is a very weak sort of possibility. Any proposition that is metaphysically possible, nomologically possible, or epistemically possible for any agent, is possible in this sense. It is possible (in this "sense") that the earth does not exist, though nearly all humans know it exists. It is possible that arithmetic is complete, though it is metaphysically impossible. Some logically impossible propositions are possible (*simpliciter*), for there are agents who consider them and have no opinion about whether they are true or false. I will say more about this weak sort of possibility later. But notice that this view entails that the semantic content of every sentence of the form ⌜Might *S*⌝, in any context, is weak and nearly trivial, and very likely to be true.

[14] Egan et al. (2005) consider two invariantist hypotheses, both of which they rightly reject. Bach (2011) presents an invariantist theory of 'might' that entails that 'might' is a binary predicate. I argue against Bach's theory in Braun (2011).

The pragmatics of 'might' on the theory I favor is more interesting. The semantic content of a sentence in a context does not determine what a speaker asserts by uttering that sentence in that context. So, a person who utters a sentence whose semantic content (in her context) is a weak or trivial proposition may nevertheless assert a much stronger proposition with that utterance. Though the semantic content of ⌜Might *S*⌝ is trivial, a person who utters it typically asserts another modal proposition that is stronger and more interesting. For example, the semantic content of the second conjunct of (13) is (roughly) the trivial proposition that Alice's having been in Paris is possible (that is, possible *simpliciter*, where this is the very weak sort of possibility mentioned above).

(13) Alice is in San Francisco now, but she might have been in Paris (instead).

Yet a speaker who utters the second conjunct of (13) may, and almost certainly would, assert something stronger, such as that it is metaphysically possible that Alice have been in Paris. Similarly, the semantic content of (2) does not vary from context to context.

(2) Holmes might be in Paris.

Its content in every context is (roughly) the proposition that Holmes's being in Paris is possible (*simpliciter*), in the very weak "sense" outlined above. However, a speaker who utters (2) might thereby assert a stronger proposition, such as (roughly) the proposition that Holmes's being in Paris is compatible with everything that she knows. [15]

[15] A speaker could utter (2) and thereby assert that for all Queen Victoria knows, Holmes is in Paris. But if the speaker is not Queen Victoria, and Queen Victoria is not salient to the auditors, then her auditors are unlikely to realize that the speaker has asserted this. However, the speaker has the option of adding a prefix, as in 'For all Queen Victoria knows, Holmes might be in Paris'. By doing so, the speaker can help her auditors figure out what she is asserting by uttering (2). Bach (2011), von Fintel and Gillies (2011), and various followers of Kratzer's

In short, the semantic content of a sentence containing 'might' semantically expresses the property of being possible (*simpliciter*) in all contexts, which is a very weak kind of possibility. But speakers who utter sentences containing 'might' typically assert propositions concerning stronger types of modality.[16] [17]

2.3 Details: Possibility of the Weakest Sort

The weak sort of possibility that 'might' semantically expresses in all contexts is more familiar than one might initially suppose. It is the sort of possibility semantically expressed by 'possible' in phrases in which it is adverbially modified, as in 'nomologically possible' and 'epistemically possible'. These adverbs semantically express properties that modify the property of being possible *simpliciter* (which is the very weak sort of possibility describe above). As I said earlier, any proposition that is alethically possible, in any "sense," possesses this sort of weak

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(1977) view on modals hold that such prefixes are arguments of 'might'. I criticize this view elsewhere (Braun, forthcoming). (Thanks to Brett Sherman for discussion.)

[16] I also favor an invariantist theory of 'must' that treats it as a dual of 'might', and I favor similarly invariantist theories of 'necessarily' and 'possibly'. I will not present details here. On my invariantist theory, this paper's title has the same semantic content with respect to all contexts, and this content is trivially true. But the proposition that I primarily intended to assert by writing the title (roughly, that for all we semanticists know, an invariantist theory of 'might' is right) is far from trivially true.

[17] My view is consistent with the anti-contextualist spirit of Cappelen and Lepore (2005),but they do not discuss 'might'. My view resembles Bach's (2011) of epistemic modals. He holds (as I do) that when speakers utter sentences containing 'might', they typically assert propositions that are stronger than the semantic contents of their sentences. But unlike me, Bach says that 'might' is a binary predicate, and he says that any sentence that contains 'might', but lacks a modality-fixing prefix, semantically expresses only a fragment of a proposition. I criticize this view in Braun (forthcoming). Despite these differences, I am indebted to Cappelen and Lepore's, and Bach's, work.

possibility, as does any proposition that is epistemically, doxastically, or evidentially possible, relative to some agent.[18] Obviously, many propositions possess this kind of weak possibility. Perhaps all do. (And perhaps some speakers who utter 'Anything is possible' are asserting that all propositions are possible in this weakest way.) Consider, for instance, the proposition expressed by 'Obama is human and Obama is not human'. This proposition is not logically possible, but if there is an agent with respect to whom this proposition is epistemically, doxastically, or evidentially possible, then it is possible, in this weakest way.

Though 'might' and 'possible' (and 'possibly') semantically express the above very weak kind of possibility, a speaker who uses 'possible' to mean just possibility *simpliciter* is likely to be misunderstood, for his hearers are likely to take him to be asserting a proposition concerning some stronger sort of possibility. That is why I have used awkward phrases such as 'possibility of the weakest kind', or 'possible *simpliciter*', when I wanted to use 'possible' merely for *possibility*. From now on, I shall use the phrase '*weakly* possible' to indicate that I am talking about mere possibility (possibility *simpliciter*). My sole purpose in using 'weakly' is to prevent misunderstanding. As I use 'weak' and 'weakly', they have no more substantive semantic content than do 'mere', 'really', 'truly', 'simple', 'simply', and '*simpliciter*'. Thus, the property

[18] I have several times said that a proposition is epistemically possible *relative to* an agent. This does not imply that 'possible' (or 'might') is a binary predicate. Rather, 'relative to *A*' expresses a property that modifies either 'epistemically' or 'epistemically possible'. (Compare with 'in the park', which expresses a property that modifies the property expressed by 'run' in 'John runs in the park'.) Alternatively, 'epistemically', on one disambiguation, may express a binary relation that takes an agent as one of its arguments and takes the property of being weakly possible as another.

of being weakly possible is identical with the property of being possible. [19] A proposition is weakly possible iff it is *possible*, that is, iff it has the property semantically expressed in all contexts by 'possible', which is the very weak kind of possibility described above.

We can explicate weak possibility using quantification over worlds, but we cannot do so without invoking the notion of weak possibility. It is not the case, for instance, that a proposition is weakly possible (possible *simpliciter*) iff it is true at some metaphysically or logically possible world, for some weakly possible propositions are not metaphysically or logically possible. Rather, a proposition is weakly possible iff it is true at some weakly possible world.

One might think that a theory that uses a non-alethic notion of possibility as a primitive has a serious disadvantage compared to more mainstream views, which (seemingly) use logical or metaphysical possibility as their primitive modal notions. But this is not so, for one cannot explicate epistemic possibility entirely in terms of logical or metaphysical possibility, or any other familiar sort of alethic possibility. Consider, for instance, the view that *P* is epistemically possible for Moriarty just in case *P* is true at a logically or metaphysically possible world at which every proposition that Moriarty knows is also true. This view entails that if *P* is logically or metaphysically impossible, then *P* is not epistemically possible for Moriarty. But there are metaphysically and logically impossible propositions which, for all Moriarty knows, are true, and therefore are epistemically possible for him.

If we wish to deal seriously with the sorts of epistemic propositions that speakers use 'might' to assert, we cannot avoid using non-alethic notions of possibility. My basic notion is weak possibility.

[19] However, 'possible' and 'weakly possible' differ in syntactic structure, and so on my fine-grained theory of semantic content, their semantic contents differ in constituent structure.

2.4 More Details: Saying

The above invariantist theory can account for the disquotation data that raise apparent problems for contextualism. But before we can see how it does, we need to think more about 'say' and saying.

The verb 'say' is used for at least two importantly different kinds of speech act. (See Bach 2001a, 2005.) On the one hand, 'say' is used to describe *locutionary* acts, which are speech acts in which, as J. L. Austin (1975) puts it, a speaker utters a sentence as a sentence of a language, with a particular "sense and reference". Roughly speaking, when a competent speaker performs a locutionary speech act by uttering a sentence *S*, she *presents* the semantic content of *S* (in her context) to her auditors.[20] Such speech acts can be reported using says-that reports. On the other hand, 'say' is also used to describe certain *illocutionary* speech acts in which a speaker not only performs a locutionary act, but also (by doing so) overtly commits herself, in a certain way, to the truth of a proposition.

The distinction between these two sorts of speech act is easy to see in non-literal utterances. Suppose that Liz is a philosophy professor who utters (14) as a sentence of English.

(14) I graded a million exams yesterday.

Liz uses 'I' to refer to herself and 'yesterday' to refer to day *D* (the day before her utterance), and she uses the other expressions in (14) to mean what they standardly mean in English. Therefore, she performs a locutionary act whose content is the proposition that she graded a million exams on *D*. This proposition is also the semantic content of (14) with respect to her

[20] Ellipses and covert expressions raise various questions that I shall not discuss further here. See Braun (2011) for a brief discussion.

context. But Liz does not commit herself to the truth of that proposition. She instead commits herself to the truth of certain other propositions, such as the proposition that she graded many exams on *D*. Observers can use 'say' to report on either of the speech acts that Liz performs, as in (14) and (16).

(15) Liz said that she graded a million exams yesterday.

(16) Liz said that she graded many exams yesterday.

Both ascriptions seem to be true. Furthermore, the negations of both ascriptions seem to be false. Therefore, 'say' can be used to describe either sort of speech act.

These are significantly different types of speech act, and it would be useful, while formulating pragmatic theories, to have verbs that describe each type of act exclusively. We could choose to use 'say' in a technical sense, so that it applies only to locutionary acts. But since 'say' is ordinarily used more broadly, this choice would have the potential to cause confusion. Therefore, I shall introduce a new verb, *locute*, to describe locutionary speech acts. A rather natural choice of verb for the second, truth-committing speech act is 'mean', for it is often used to distinguish between what a person has locuted and what she has committed herself to. For instance, in the above case we might say 'Liz *said* that she graded a million exams yesterday, but she *meant* that she graded a lot of exams yesterday'. However, 'mean' is not quite right for my purposes. I want a verb that applies exclusively to the truth-committing illocutionary speech acts to which 'say' is correctly applied. But 'mean' is sometimes used for acts in which speakers merely conversationally implicate, or otherwise indirectly convey, a propositions. 'Say' is rarely, if ever, used for acts of mere implicating. Therefore, I shall instead use *assert* for the second, truth-committing sort of illocutionary speech act, for it is not ordinarily used for acts of implicating. My use of 'assert' shall largely overlap the ordinary use, but may

not exactly coincide with it.

Using this vocabulary, we can say that Liz locuted that she graded a million exams yesterday, but did not assert that she graded a million exams. We can say that she asserted that she graded many exams yesterday, but did not locute that proposition. We can give necessary and sufficient conditions for saying as follows: *X* says *P* iff either *X* locutes *P* or *X* asserts *P*. Thus either locuting *P* or asserting *P* is sufficient for saying *P*. But 'say' in ordinary English is not ambiguous. [21] Rather, it is a general term that correctly applies to both sorts of act. [22]

Returning to my earlier example of Anne the college professor may help clarify the role of locuting and asserting in my account of 'might'. Anne utters 'Everyone is here'. On invariantist theories, the semantic content of this sentence, with respect to Anne's context, is equivalent to the proposition that everyone in the entire universe is there (in the seminar room).

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[21] See Sennett (2011) for a useful discussion of tests for ambiguity. Zwicky and Sadock's (1975) tests for ambiguity indicate that 'say' is unambiguous. Applying their contradiction test: If 'say' were ambiguous, then there would be a non-contradictory reading of 'Liz said that she graded a million exams, but she didn't say that she graded a million exams'. But there is no such non-contradictory reading. Applying their conjunction reduction test: If 'say' were ambiguous, then there would be no (non-zeugmatic) reading of 'Liz said that she graded a million exams and Joe that he graded many exams' which is true if Liz merely locuted that she graded a million exams and Joe asserted that he graded many exams. But there is a (non-zeugmatic) reading that is true in such circumstances. A speaker who utters a sentence that contains both 'say' and 'mean', and who emphasizes 'say', usually tries to focus her hearer on locuting rather than asserting, as I did in the previous paragraph when I wrote 'Liz *said* that she graded a million exams, but she meant that she graded a lot of exams'. But this does not indicate that 'say' is ambiguous.

[22] Compare 'say' with 'ingest'. Drinking is sufficient for ingesting. So is eating. But 'ingest' is not ambiguous between *eat* and *drink*. Rather, 'ingest' is a general, or non-specific, term that applies to two significantly different sorts of act. Hence there is no disambiguation of 'ingest' on which 'John ingested something' is false if he drank something but ate nothing.

Anne *locutes* that proposition (and so says it), but she does not assert it. She rather asserts that everyone who is enrolled in her seminar is there, or that everyone that she is expecting to come to the seminar is there, or one or more other similar propositions. She asserts a proposition that is richer than the semantic content of the sentence she utters, a proposition that restricts the range of quantification. Similarly, on the preceding view of 'might', a speaker who utters a sentence containing 'might', while intending to use it with its standard meaning in English, locutes the proposition that it semantically expresses in her context. Therefore, she also says that proposition. This proposition concerns weak possibility. But if she is typical, she asserts at least one proposition concerning a stronger type of modality. So she says this stronger proposition. So she says at least two propositions.

2.5 More Details: Semantic Content and Asserted Propositions

If Alice utters 'Holmes might be in Paris', and wishes to speak of her knowledge, then she asserts (roughly speaking) that Holmes might compatibly-with-Alice's-knowledge be in Paris. The proposition she asserts *enriches* the semantic content of the proposition that the sentence semantically expresses. We can outline the (typical) relation between semantic content and asserted proposition more generally as follows (assuming a Russellian theory of semantic content). The semantic content of 'might' in every context is Possibly_W, the property of being weakly possible (which, keep in mind, is just the property of being possible *simpliciter*). If the semantic content of sentence *S* in context *C* is proposition *P*, then the semantic content ⌈Might *S*⌉ in *C* is a proposition whose immediate constituency we can represent with $\langle P, \text{Possibly}_W \rangle$. If ⌈*A*-ly⌉ is an expression that can modify 'might', such as 'metaphysically' or 'nomologically', and its content in *C* is the property of properties *R*, then the semantic content of ⌈*A*-ly Might⌉ in

C is <Possibly$_W$, *R*>, and the semantic content of ⌜*A*-ly Might *S*⌝ in *C* is the proposition <*P*, <Possibly$_W$, *R*>>. A speaker who utters ⌜Might *S*⌝ locutes the semantic content of ⌜Might *S*⌝ in her context *C* , which is the weak proposition <*P*, Possibly$_W$>. But she typically asserts an enriched proposition of the form <*P*, <Possibly$_W$, *R*>>. So she asserts a proposition that might be semantically expressed in *C* by a longer sentence of the form ⌜*A*-ly Might *S*⌝.

We can also fruitfully compare the above theory of 'might' with an invariantist theory of quantification. The semantic content of 'everyone' is the same in all contexts, and quantifies over all people. But when Anne utters 'Everyone is here' she asserts a proposition that enriches the semantic content of the sentence, and this proposition quantifies over fewer people, for instance, over all people who are members of her seminar. Now let us temporarily suppose that 'might' is a quantifier over weakly possible worlds. (It is not, but it is equivalent to such a quantifier.) Then the semantic content of ⌜Might *S*⌝ in *C* is the proposition that *P* is true at some world that is weakly possible. But the proposition that a speaker typically asserts when she utters ⌜Might *S*⌝ is (roughly) the proposition that *P* is true at some world that is both weakly possible *and R**, where *R** is a property of weakly possible worlds, such as being metaphysically possible or being compatible with everything that the speaker knows. This proposition quantifies over a subset of the weakly possible worlds.

2.6 More Details: Some Comparisons of Invariantism and Contextualism About 'Might'

Contextualism about 'might' and the preceding invariantist theory of 'might' agree on many points (just as contextualist and invariantist about 'everyone' agree on many points). Contextualist theories say that a speaker's thoughts and intentions determine the propositions that she asserts. The preceding invariantist theory agrees. The theories merely disagree on

whether this determination involves a determination of semantic content. On contextualist theories, a speaker's thoughts and intentions determine that the context that her utterance realizes is one in which the semantic content of 'might' is (say) M_C. So if she speaks literally when she utters 'might', she asserts a proposition concerning M_C. The above invariantist theory agrees that those very thoughts and intentions determine that she asserts that proposition. It merely denies that they also determine the semantic content of her sentence in her context.

The epistemological situation of hearers is virtually the same on the two theories. A person who hears a speaker utter a declarative sentence containing 'might' will (typically) want to know what the speaker means (or asserts). Contextualist theories seemingly suggest that the hearer should try to discover the semantic content of 'might' in the speaker's context. Since the speaker's thought and intentions determine the semantic content of 'might' in her context, the hearer should try to discover the speaker's thought and intentions. The above invariantist theory also says that the speaker's thoughts and intentions determine what the speaker means. So the invariantist theory also implies that the hearer should try to discover those thoughts and intentions.

2.7 More Details: Other Speech Acts Performed When Uttering 'Might'

If Hudson utters 'Holmes might be in Paris', she locutes a weak proposition and asserts a stronger proposition. Also, she may, and typically will, perform other speech acts. She may indicate that she is not willing to assert the non-modal proposition that Holmes is not in Paris. She may express a less-than-belief-level of credence in the proposition that Holmes is in Paris. If she does, we can say that she *perhapserts* that Holmes is in Paris. (I borrow the term from

MacFarlane, 2011.[23]) Hudson may also perahpsert the epistemic proposition that Holmes's being in Paris is compatible with both her *and her auditors'* knowledge. If she wishes to be told about her auditors' knowledge of Holmes's location, or to check whether his being in Paris is compatible with her auditors' knowledge, then she may (also or instead) use 'Holmes might be in Paris' to indirectly ask whether Holmes's being in Paris is compatible with their knowledge. She may implicitly advise her auditors to consider carefully whether Holmes is in Paris, and to take that proposition seriously (more on this later). [24]

Uttering 'Holmes might be in Paris' is an efficient way for Hudson to perform the preceding speech acts. Uttering 'For all I know, Holmes is in Paris' is not. Uttering the 'might' sentence leaves it open whether Hudson is asserting (or perhapserting) propositions about her own knowledge, or both her and her auditors' knowledge, or the knowledge of some other group. So her auditors need to consider (if only briefly) compatibility with the knowledge of various people. But if Hudson had instead uttered the 'for all I know' sentence, she would have explicitly mentioned her own knowledge, which would have drawn her auditors' attention to it. Her auditors would reasonably infer that her focus is on her own knowledge, and so they would

[23] MacFarlane (2011) introduces 'perhapsert' in a discussion of Price's (1983) view that 'probably' is a speech act modifier. See Wright (2007, 267) and Portner (2009, 173-5) for related ideas. Drubig (2001, esp. 44), Palmer (2001), Huddleston and Pullum (2002, 767), and von Fintel (2003) discuss views that say that 'might' is (roughly) a speech-act-force modifier (von Fintel ultimately rejects such views). For critical discussion of speech-act-force modifier theories, see Papafragou (2006). My invariantist theory is consistent with many of these views' claims about the speech acts performed with utterances of 'might'.

[24] Von Fintel and Gillies (2007, 44), Portner (2009, p. 175), and Swanson (2011, 265-6) also claim that speakers who use 'might' epistemically perform multiple speech acts, one of which is (roughly) implicitly advising their auditors to take certain propositions seriously.

be less likely to consider the knowledge of others (Bach, 2011, appendix).

2.8 The Invariantist Theory and Disquotation

Despite the similarities between contextualism and invariantism, there are important semantic differences, and the differences give the invariantist theory a significant advantage in explaining the disquotation data. Suppose, for instance, that Moriarty utters (2).

(2) Holmes might be in Paris.

Moriarty intends to use (2) with its standard English meaning. Therefore, he locutes the semantic content of (2), in his context, which is the proposition that it is weakly possible that Holmes is in Paris. Since Moriarty locutes this proposition, he also says it. Watson, unbeknown to Moriarty, utters (17).

(17) Moriarty said that Holmes might be in Paris.

The 'that'-clause of (17) refers, in Watson's context, to the semantic content of (2) in Watson's context. This is the proposition that it is weakly possible that Holmes is in Paris. The semantic content of (17) in Watson's context is the proposition that Moriarty said that it is weakly possible that Holmes is in Paris. Since Moriarty did say this proposition (because he locuted it), (17) is true in Watson's context. And since Watson locutes this proposition, he also says something that is true.

Of course, in our earlier example, Moriarty *asserts* at least one stronger proposition than he locutes, namely the proposition that for all Moriarty knows, Holmes is in Paris. Moreover, Watson also asserts a stronger proposition than he locutes, namely the proposition that (roughly) Moriarty said that, for all he (Moriarty) knows, Holmes is in Paris. Thus the proposition that Watson asserts by uttering (17) is also true. However, if Watson had been ill-informed about

Moriarty's intentions, then Watson could have asserted a false proposition when he uttered (17). And yet he would still have said something true, for (despite his misinformation about Moriarty's intentions) he would have locuted (and so said) a true proposition.

The account works well with reports of exogenous uses of 'might'. Recall the example in which Holmes utters 'The coin might be in the red box' while intending to convey that for all *Watson* knows, the coin is in the red box. Lestrade may be unaware that Holmes intends to speak of Watson's knowledge, yet this seems to make no difference to whether Lestrade says something true when he utters 'Holmes said that the coin might be in the box'. The above invariantist theory can give a straightforward explanation. Holmes locuted (and so said) that it is weakly possible that the coin is in the red box, and Lestrade locutes (and so says) that Holmes said that it is weakly possible that the coin is in the red box. Therefore, Lestrade says something true when he utters the ascription. Lestrade may also say something that is false, for he may assert the proposition that (roughly) for all that Holmes knows, the coin is in the red box. But this would be consistent with the intuitions of observers like us, who know what Holmes intends to convey to Watson, and know that Lestrade is misinformed about Holmes's intentions.

Finally, the account works well for the collective and quantified says-that ascriptions that raise problems for contextualism. Lestrade and Mycroft both locute, and so say, the proposition that Holmes's being in Paris is weakly possible. The 'that'-clause of Hudson's collective says-that ascription (10) semantically refers (in her context) to that latter proposition. So (10) is true in her context. Of course, Hudson may *assert* other propositions when she utters (10), and these may or may not be true. She could utter (10) in order to assert the proposition that (roughly) Lestrade and Moriarty each said that, for all he knows, Holmes is in Paris. Or she could utter (10) so as to assert the more obviously conjunctive proposition that Lestrade said that, for all he

knows, Holmes is in Paris and Moriarty said that, for all he knows, Holmes is in Paris. If she asserts either, then she asserts at least one true proposition. But neither of these asserted propositions is the semantic content of her says-that ascription in her context.[25] Moreover, Hudson inevitably says (locutes) a true proposition when she utters (10) as long as she utters it with standard locutionary intentions. Parallel remarks go for the quantified says-that ascription in (11).

3. Some Initial Objections and Replies

I will now reply to a series of objections. Some of my replies may further clarify my view.

3.1 Invariantism and the Examples that Motivate Contextualism

One objection focuses on examples that contextualists use to motivate their view, such as (18).

(18) Moriarty: "Holmes might be in Paris."

Hudson: "Holmes might be in Paris."

Suppose that Moriarty and Hudson are unaware of each other, and each intends to speak about his own knowledge of Holmes. Then they seemingly say different things: Moriarty says (roughly) that, for all he knows, Holmes is in Paris, while Hudson says that, for all she knows, Holmes is in Paris. But my invariantism says that the sentence they utter has the same semantic content in all contexts. Therefore, the objection claims, my theory incorrectly entails that they say the same thing.

[25] As I mentioned above in note 11, the view of 'might' that Cappelen and Hawthorne (2009) briefly present entails that the semantic content of (10) in Hudson's context is something like one of these propositions. I criticize this view in Braun (forthcoming).

I reply that there is something that they both say, for there is a proposition that both of them locute. However, each of them also asserts something that the other does not. So there is something that one of them says (asserts) that the other does not. That is enough to account for the contextualist intuition that they say different things.

Contextualists also appeal to cases in which one speaker utters a sentence, and another utters its negation, as in (19).

(19) Moriarty: "Holmes might be in Paris.

Watson: "It is not the case that Holmes might be in Paris" [looking at Holmes].

Suppose that they are unaware of each other, and each is using 'might' in an epistemic way. A contextualist might claim that they both say something true, and they do not contradict one another. But on my invariantist theory, the semantic content of the sentence 'Holmes might be in Paris' is the same in all contexts. Therefore, on my invariantist theory, they say things that contradict each other. Therefore, the contextualist critic concludes, my theory is false.

The contextualist claims that Moriarty and Watson both say things that are true. He also claims that Moriarty and Watson do not say things that contradict each other. I agree with the first claim and disagree with the second. Moriarty locutes, and so says, the proposition that Holmes's being in Paris is weakly possible; Watson locutes, and so says, the negation of that proposition. These propositions contradict each other. However, Moriarty also asserts, and so says (roughly), that, for all he knows, Holmes is in Paris, while Watson asserts, and so says, that it is not the case that for all he (Watson) knows, Holmes is in Paris. These latter propositions are both true, and do not contradict each other.

The contextualist critic might respond that Moriarty and Watson say *nothing*

contradictory. But this is not obvious. Suppose that after hearing Moriarty and Watson utter their sentences, Hudson says 'Watson said something that contradicts something that Moriarty said.' I think that Hudson's claim is an acceptable, though rather misleading, description of the situation. Insofar as we have the intuition that they say nothing contradictory, it is because we are more interested in what they assert than in what they locute.

3.2. Uttering Negations of 'Might' Sentences

Another objection focuses on utterances of negations of sentences containing 'might'. In example (19) above, Watson sincerely utters (20).

(20) It is not the case that Holmes might be in Paris.

(More colloquially, 'Holmes couldn't be in Paris'.) The objection claims that anyone who sincerely utters a sentence believes its semantic content in his context. Therefore, Watson believes the proposition that (20) expresses in that context. But on my view, (20) expresses the same obviously false proposition in all contexts, namely the proposition that it is not the case that Holmes's being in Paris is weakly possible. Clearly Watson does not believe this proposition. Therefore, my view is incorrect.

In reply, I deny that whenever a speaker sincerely utters a sentence in a context, she asserts and believes its semantic content in that context. Consider Anne, the philosopher who utters 'Everyone is here' before she begins her seminar. The semantic content of the sentence in her context is equivalent to the proposition that everyone in the universe is there (in her seminar room). She locutes that proposition, but does not assert or believe it. She is sincere because she believes the propositions that she *asserts*, such as the proposition that everyone who is a member

of her seminar is there. [26] Moreover she reasonably expects her audience to recognize that this is what she asserts (or means). Similarly, Watson does not assert or believe the semantic content of (20) in his context, but he is sincere, for he believes the propositions that he asserts.[27]

Another objection focuses on disquotation of utterances of negated 'might' sentences. On my invariantist view, if Watson utters (20), then he locutes, but does not assert, its semantic content. Since he locutes the semantic content, ascription (21) is true in all contexts.

(21) Watson said that it is not the case that Holmes might be in Paris.

But the objector claims that since 'say', on my view, can also be used for acts of asserting, and Watson does *not assert* the previous semantic content, (22) is also true on my view.

(22) Watson did not say that it is not the case that Holmes might be in Paris.

But surely (the objector continues) it is not the case that both (21) and (22) are true. Therefore, my invariantist theory is false. I reply that Watson's failure to assert the semantic content of (20) is insufficient for (22) to be true. Watson locutes the semantic content of (20). Merely locuting *P* is sufficient for saying *P*. So Watson says the semantic content of (20), and so (21) is true and

[26] This is a bit stipulative. Perhaps it would be better to say that *one* kind of sincerity consists in believing what one asserts. It is also reasonable to say that all non-literal utterances are insincere (or not sincere). Theorists need to stipulate appropriate theoretical vocabulary here. For some discussion, see Braun (2011).

[27] Similar issues arise with the parallel invariantist view of 'must' that I have not presented here: 'Holmes must be in Paris' is trivially false in all contexts on an invariantist theory view of 'might'. I would reply to such an objection as above. Jacob Ross and Mark Schroeder (2010) argue against *relativist* versions of invariantism using examples like the one above, but they assume (section 2.1) that speakers who utter modal sentences assert and believe the semantic contents of their sentences in their contexts. I deny this assumption, but the relativists that Ross and Schroeder criticize seem committed to it.

(22) is false.[28]

3.3 Belief Ascriptions

A third objection focuses on belief ascriptions. Suppose that Lestrade overhears Watson utter (20), takes Watson to be sincere, and so utters (23).

(23) Watson believes that it is not the case that Holmes might be in Paris.

The critic says that, since Watson is sincere when he utters (20), (23) is true in Lestrade's context. But on my view, the semantic content of (23) in Lestrade's context attributes to Watson belief in an obviously false proposition. So on my view, (23) is false in Lestrade's context. Therefore, my view is incorrect.

In reply, I deny that (23) is true in Lestrade's context. That is, the *semantic content* of (23) in Lestrade's context is false. However, Lestrade *asserts* a true proposition when he utters (23) (assuming that he has normal intentions and wishes to discuss Watson's knowledge), for he asserts that (roughly speaking) Watson believes that it is not the case that, for all Watson knows, Holmes is in Paris. This proposition is true. So the semantic content is false but the proposition Lestrade asserts is true. Compare this case with Anne's. Suppose that after Anne utters 'Everyone is here', one of her students, Bob, utters 'Anne believes that everyone is here'. The semantic content of Bob's ascription, with respect to his context, attributes to Anne belief in a proposition that is equivalent to the proposition that everyone in the universe is there. So the semantic content of Bob's ascription, in his context, is false. But when Bob utters the ascription,

[28] A variant on the preceding objection goes as follows. If my view is true, then 'say' is ambiguous. On one disambiguation of 'say' (to mean *locute*), (21) is true, whereas on another disambiguation (to mean *assert*), (22) is true. But, the objection says, it is not the case that (21) is true on one disambiguation while its negation, (22), is true on another. I reply that my view does not entail that 'say' is ambiguous. See section 2.4 and notes 21 and 22.

he asserts a proposition other than its semantic content, such as the proposition that Anne believes that everyone who is enrolled in her seminar is there. This proposition is true. So the semantic content of Bob's belief ascription, in his context, is false, and so he says (locutes) something false, but the propositions that he asserts with the ascription are true, so he also says (asserts) something that is true.

Belief ascriptions raise further issues. Suppose that Moriarty was sincere when he uttered 'Holmes might be in Paris', and suppose that Watson utters belief ascription (24).

(24) Moriarty believes that Holmes might be in Paris.

Is (24) true in Watson's context? It is iff Moriarty believes the proposition that 'Holmes might be in Paris' semantically expresses in Watson's context. The proposition semantically expressed by 'Holmes might be in Paris' in all contexts is the trivial proposition that it is weakly possible that Holmes is in Paris. Does Moriarty believe this proposition? Moriarty probably does not consider it as he utters (2), for he intends to assert the stronger proposition that (roughly speaking) Holmes's being in Paris is compatible with everything Moriarty knows. But this latter proposition rather obviously necessitates the weak proposition. (That is, it is necessary that if the strong proposition is true, then the weak one is.) And so it is likely that if Moriarty were to consider the weak proposition, he would affirm it. Suppose he is so disposed to affirm the weak proposition. Then perhaps this is enough for him to believe it. If so, then the semantic content of (24) in Watson's context is true. (This would be due to a fact about the nature of the belief relation. Sentences containing other attitude verbs may work differently.) But whether or not (24) is true in Watson's context, Watson may well assert a true proposition by uttering (24). If, for instance, Watson uses (24) to assert that Moriarty believes that, for all Moriarty knows,

Holmes is in Paris, then Watson asserts a true proposition. [29]

4. An Objection from Rejection and Retraction

4.1 The Objection

Egan, et al. (2005) and MacFarlane (2011) use judgments about rejection and retraction to argue against contextualist views of 'might'. Parallel objections can be mounted against my invariantist theory. Consider, for instance, the following dialogues.

(25) Lestrade: "Holmes might be in Paris."

Mycroft: "No / You're wrong / That's false /That's wrong / What you said is false / You spoke falsely. I saw Holmes at 221B Baker Street just five minutes ago."

Lestrade: "Oh, then I was wrong / I said something false / I spoke falsely."

The objection to my invariantist view would go as follows. If my view is correct, then when Lestrade utters 'Holmes might be in Paris', he locutes the true proposition that it is weakly possible that Holmes is in Paris, and he asserts the true proposition that (roughly) for all Lestrade knows, Holmes is in Paris. So, everything that Lestrade says is true. Therefore, if my view is correct, Mycroft is mistaken when he responds to Lestrade as he does, and Lestrade is mistaken when he later claims that he was wrong, or said something false. But Mycroft seems to speak truly (assuming that he did see Holmes at 221B Baker Street), and Lestrade also seems to speak truly when he makes his second utterance.

I reply that the objection implicitly assumes that, in each dialogue, Mycroft denies either

[29] Parallel issues arise for assertion ascriptions, such as 'Moriarty *asserted* that Holmes might in Paris', at least if 'asserted' is used in the semi-technical sense in which I use it in this paper.

the semantic content of Lestrade's sentence (in his context) or the proposition that Lestrade asserts. This assumption is incorrect. I explain below. When I do so, it will be important to pay close attention to the particular words that Mycroft uses in the various dialogues, for instance, whether he says 'No' or 'You're wrong' or 'What you said is false'. Moreover, on closer inspection, some of the alleged data appear shaky. [30]

4.2 What Does Mycroft Deny and Assert with 'No'?

I begin with Mycroft's utterance of 'No'. Syntactically, 'no' seems to be a sentence modifier, at least in sentences such as 'No, Carol is not at work'. Speakers who utter 'No' by itself seem to elide a sentence, as in Betty's third possible utterance in (26). [31]

(26) Ann: "Carol went to work."

Betty: "No, Carol did not go to work" / "No, she didn't" / "No."

Pragmatically, 'no' is often used to assert the negations of previously asserted propositions, and to give negative answers to previously posed yes/no questions, as in (26) and (27). [32]

(27) Diane: "Did Carol go to work?"

[30] See von Fintel and Gillies (2007, 2011), Portner (2009), Dowell (2011), and Wright (2007, 2008) for contextualist replies to relativists. I could adopt their contextualist responses, for they are consistent with my invariantism. But I have some doubts about some of them (see note 36 below), and I think more can and should be said. As far as I know, my claims about Mycroft's assertion concerning his own knowledge is new (section 4.2), as are my claims about indirect asking (section 4.2), and some of my claims about 'You're wrong' and 'I was wrong' (section 4.3). For some more comparisons, see notes 34, 36, 37, and 39 below.

[31] I take no stand on the syntactic issue of whether the elided sentence is silently present in some syntactic "deep structure" of the expression that Betty utters.

[32] As for semantics, it is unclear (to me) whether the semantic content of ⌜No, not-*S*⌝ in a context *C* differs from the semantic content of ⌜Not-*S*⌝ in *C*. But if they differ, then they are surely logically equivalent.

Eve: "No, Carol did not go to work" / "No, she didn't" / "No."

But 'no' is also used to assert the negations of propositions to which embedded sentences in previously uttered sentences refer, as in (28).

(28) Fran: "I believe that/I suspect that/I hypothesize that/My evidence suggests that/I wonder whether/ Carol went to work."

Greta: "No, Carol did not go to work"/ "No, she didn't".

The respondents in the second and third dialogues do not deny a proposition that is semantically expressed by a sentence that the first speaker utters, nor do they deny a proposition that the first speaker asserts. But they nevertheless respond appropriately, for the first speaker in each case is mainly interested in whether Carol went to work.

Return now to the critic's dialogues. Let us assume that, in all of them, Lestrade asserts that for all he knows, Holmes is in Paris, and let's see how Mycroft's utterance of 'No' could be conversationally appropriate.[33] Mycroft elides a sentence when he utters 'No'. The main clauses of (29) and (30) are the two most obvious candidates for the sentences that he elides.

(29) No, Holmes is not in Paris.

(30) No, it is not the case that Holmes might be in Paris.

Either way, Mycroft's response is conversationally appropriate. Suppose first that by uttering 'No', Mycroft asserts the semantic content of (29). Then his response is conversationally cooperative, for when Lestrade utters 'Holmes might be in Paris', Lestrade makes clear that he is

[33] Lestrade could use 'Holmes might be in Paris' to assert that Holmes's being in Paris is compatible with everything that *both* he and Mycroft know. Lestrade could have excellent reasons for thinking this: He could have well-justified beliefs about Mycroft's evidence and know what Mycroft has recently said about Holmes's location. But he could also lack such evidence, and assert a proposition merely about his own knowledge. These are the harder cases to analyze, which is why I concentrate on them here.

mainly interested in whether Holmes is in Paris. [34] Suppose instead that when Mycroft utters 'No' he elides the modal sentence 'It is not the case that Holmes might be in Paris'. The semantic content of this sentence in his context is the trivially false proposition that it is not weakly possible that Holmes is in Paris, but Mycroft almost certainly asserts a different proposition. Suppose he asserts that (roughly) it is not the case that for all *Mycroft* knows, Holmes is in Paris. The proposition he asserts obviously entails that Holmes is not in Paris. So by asserting that Holmes's being in Paris is incompatible with his knowledge, Mycroft may also assert that Holmes is not in Paris. In any case, he encourages Lestrade to infer that Holmes is not in Paris. Since Lestrade has made it clear that he wants to know where Holmes is, Mycroft's assertion is conversationally appropriate.

There are other ways in which Mycroft's assertion of a proposition about his own knowledge could be an appropriate response to Lestrade's assertion. Suppose that Lestrade and Mycroft are engaged in a *joint inquiry* into Holmes's location. (I suspect that most readers assume this when they read the dialogue.) Assume that each has some evidence concerning Holmes's location, each thinks the other has some evidence, and each is interested in obtaining information about Holmes's location. Lestrade may suspect, but not know, that Holmes's being in Paris is compatible with their joint knowledge. So by uttering 'Holmes might be in Paris', Lestrade may perhapsert that Holmes's being in Paris is compatible with their joint knowledge. By uttering 'No', Mycroft could deny this perhapsertion. Lestrade may also wonder whether Mycroft's knowledge rules out Paris. If so, then when he utters 'Holmes might be in Paris' he

[34] See Bach (2011), Wright (2007, 2008), Portner (2009, p. 183), and von Fintel and Gillies (2007) for parallel points. Von Fintel and Gillies (2007) cite Simons (2007), who discusses similar phenomena with other embedding verbs and phrases.

may implicitly ask whether Holmes's being in Paris is compatible with Mycroft's knowledge. [35] Mycroft directly answers this last (implicitly asked) question by asserting that Holmes's being in Paris is *not* compatible with Mycroft's knowledge. Lestrade and Mycroft could make this more explicit by speaking as in (31).

(31) Lestrade: "Holmes's being in Paris is compatible with everything that I know. Is it compatible with everything that you know?"

Mycroft: "It is not compatible with everything I know, for I know that Holmes was in 221B Baker Street five minutes ago."

There are other possibilities for what Mycroft asserts when he utters 'No'. Mycroft could assert that Holmes is not in Paris, and that it is *physically impossible* for Holmes to be in Paris (because he was at 221B Baker five minutes earlier). Mycroft could also reasonably assert that Holmes's being in Paris is incompatible with their joint knowledge, even though Lestrade's assertion concerned only his own knowledge. [36]

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[35] Note that if Lestrade had explicitly uttered the interrogative 'Is Holmes in Paris?', Mycroft could have appropriately responded with any of (29) or (30). If Lestrade had uttered 'Holmes might be in Paris', and an eavesdropper had interrupted and uttered one of (29) or (30) before Mycroft could respond, then Lestrade could have appropriately said 'Who asked you?'. This is a bit of evidence that Lestrade did (indirectly) ask a question when he uttered 'Holmes might be in Paris'.

[36] My account of the dialogues (so far) may seem to resemble that of von Fintel and Gillies's (2011). But there are significant differences. VF & G say that when Lestrade utters 'Holmes is in Paris', he *puts into play* many propositions concerning his own knowledge, Mycroft's knowledge, their joint knowledge, and the knowledge of many other groups. On their account, putting into play is a *sui generis* type of speech act. My account gets by with more familiar speech acts. More importantly, von Fintel and Gillies say that Lestrade puts into play propositions concerning the knowledge of groups with whom he is not acquainted. I think we can explain Mycroft's reactions, and the reactions of eavesdroppers, without assuming this. Finally (as MacFarlane, 2011, points out), von Fintel and

4.3 Why Can Mycroft Felicitously Utter 'You're Wrong'?

In one of the dialogues, Mycroft utters 'You're wrong'. He thereby asserts that *Lestrade* (the person) is wrong. If Lestrade is wrong, then he is wrong in virtue of something he did, such as locuting, asserting, or believing a false proposition. But the propositions that Lestrade locutes and asserts are true, and Lestrade does not believe that Holmes is in Paris (though he may suspect it). So what has he done that is wrong? One answer: Lestrade wrongly *took seriously* the false proposition that Holmes is in Paris. Let me explain.

There are many propositions concerning Holmes's location that are compatible with Lestrade's knowledge. He chooses to assert the proposition that Holmes's being in Paris is compatible with his knowledge, because his evidence supports the proposition that Holmes is in Paris more strongly than other propositions regarding Holmes's location. Lestrade's evidence does not justify him in outright believing that Holmes is in Paris, but does justify him in taking that proposition to be worthy of further investigation. He reasonably asks himself whether Holmes is in Paris, and reconsiders his own evidence, and seeks further evidence and confirmation (or disconfirmation) from others, by making that proposition salient and implicitly asking whether it is true. In short, he *takes that proposition seriously*. But Holmes is not in Paris. So Lestrade is wrong to consider that proposition further, to seek evidence for it, and to

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Gillies seem to say that hearers in such dialogues deny modal *sentences* or *utterances*. So VF & G do not tell us which *propositions* Mycroft asserts and denies. This is a major lacuna, which also makes it difficult to tell whether 'Mycroft said that it is not the case that Holmes might be in Paris' is true in various contexts, on their view.

seek confirmation or disconfirmation for it. He is wrong to take that proposition seriously. [37]

A comparison with belief and other attitudes might clarify why Lestrade is wrong to take that proposition seriously. Believing a false proposition is wrong because agents (typically) seek to believe true propositions, and so believing a false proposition is a sort of failure or mistake. It is a mistake even when the agent is well justified in believing the proposition. That is why speakers commonly say that a person is wrong to believe *P* merely because *P* is false. (Notice that if Lestrade had said 'I believe that Holmes is in Paris', then Mycroft could have truly said 'You're wrong'. Relativist objections to contextualism typically assume that an agent can be wrong simply by believing a false proposition.) Analogous points go for various other attitudes. For instance, it is wrong for an agent to *suspect P* when *P* is false, because agents aim to suspect only true propositions, and so suspecting a false proposition is a kind of mistake. (If Lestrade had said 'I suspect that Holmes is in Paris', Mycroft could have truly said 'You're wrong'.) The same holds for the attitude of *taking seriously*. Agents do not wish to investigate, or dwell on, false propositions. They want to take seriously only true propositions. They make a mistake, or go wrong, when they take false propositions seriously.

Lestrade has gone wrong in another way. By assertively uttering 'Holmes might be in Paris', he indirectly suggests to his auditors that they take that proposition seriously, and he implicitly advises them to do so. But the proposition that Holmes is in Paris is false. Taking that proposition seriously is wrong. So Lestrade is wrong for suggesting it. [38]

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[37] Von Fintel and Gillies (2008) claim that one who utters 'might *P*' implicitly suggests that to her auditors that *P* should not be ignored, and can be reproached for so suggesting. They cite Stephenson (2007) for a similar train of thought.

[38] MacFarlane (2010, April) notes that it is not wrong for an agent like Lestrade to assign minimal credence to a proposition that he does not know. But taking a proposition seriously is doing more than merely assigning it

We can also now see why Lestrade seems to speak truly when he later utters 'I was wrong': he was wrong to take seriously the proposition that Holmes is in Paris and wrong to (implicitly) advise others to take it seriously.

4.4 Ascribing Falsehood

Consider now a dialogue in which Mycroft utters 'That's false'. What does he thereby assert? He could use 'that' to refer to the proposition that Holmes is in Paris, and so assert that this proposition is false. If he did so, his contribution to the conversation would be cooperative. [39] He could instead, perhaps, utter 'That's false' as a sort of abbreviation for 'It is false that Holmes might be in Paris'. If he did, then he would probably thereby assert that it's false that, for all Mycroft knows, Holmes is in Paris. This would be an odd use of the sentence 'That's false', but Mycroft would probably be understood. It would also be appropriate for Mycroft to utter 'That's false' if he thinks that one thing that Lestrade is asserting is that Holmes's being in Paris is

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minimal credence. Taking a proposition seriously involves active consideration, asking oneself about it, and attempting to find evidence for or against it.

[39] MacFarlane (2010, April) reasons that if Mycroft can utter 'That's wrong' to reject the proposition that Holmes is in Paris after Lestrade utters 'Holmes might be in Paris', then speakers should be able to use 'That's wrong' to reject any proposition referred to by any non-modal sentence embedded inside any operator. Yet, he says, the following dialogue is bad: *A*: "It's unlikely that Joe is in Boston." *B*: "That's wrong. I just saw him down the hall." I reply, first, that there is no particular reason to think that one should be able to use 'That's wrong' to deny any proposition embedded under any operator, just because one can with some. Second, using 'That's wrong' is bad in the preceding dialogue because the operator 'It's unlikely' is negative in character. A respondent who wishes to reject the proposition expressed by a sentence embedded under this negative operator must respond with a positive sentence, as follows. *A*: "It's unlikely that Joe is in Boston. *B*: "That's right, he's not in Boston. I just saw him down the hall".

compatible with their joint knowledge.

Parallel points hold for 'That's wrong', as uttered by Mycroft, for the sort of wrongness that Mycroft seems to have in mind is falsehood (unless he uses 'that' to refer to the act of taking seriously the proposition that Holmes is in Paris.)

The other sentences concerning falsity that I put into Mycroft's mouth are 'What you said is false' and 'You spoke falsely'. I did so because MacFarlane (2011) imagines similar dialogues containing them, and he uses such dialogues to argue against contextualism. But I find such utterances unnatural, hard to interpret, and hard to evaluate. [40] Insofar as I trust my judgments about such utterances, I think that Mycroft would assert a false proposition by uttering 'What you said is false'. My judgments about the following dialogue support my view.

(32) Lestrade: "Holmes might be in Paris."

Mycroft: "What you said is false. Holmes is in London, not Paris."

Lestrade: "All right, he's not in Paris, but what I said was still true, because I didn't know then that Holmes was not in Paris."

Lestrade's retort sounds correct to me. But I do not trust my judgments about this dialogue. If Lestrade and Mycroft were like most ordinary speakers, they would be uninterested in establishing the truth or falsity of the modal proposition(s) that Lestrade asserts after they have established the truth-value of the non-modal proposition that Holmes is in Paris. Thus Lestrade and Mycroft's dialogue is unnatural. I suspect that theorists' judgments about such dialogues are likely to be contaminated by their theories.

[40] I here agree with Portner (2009, 182). For what it's worth, I have presented many of the previous dialogues to a few linguistically sensitive informants (one psycholinguist and two philosophers) who are unfamiliar with issues about epistemic modals. They think that using 'What you said was false' and 'You spoke falsely' in these dialogues sounds unnatural, and similarly for 'What I said was false' and 'I spoke falsely'.

I similarly find unnatural and hard to interpret the alternative utterances concerning falsity that I put into Lestrade's response to Mycroft ('What I said was false' and 'I spoke falsely'). I am inclined to think that Lestrade would say something false by uttering these. But I am also inclined to put little weight on my judgments about those utterances.

4.5 Eavesdropping

Some criticisms of contextualism use examples with eavesdroppers. The above account can be rather smoothly extended to people who eavesdrop on Lestrade and Mycroft, for it does not assume that Lestrade and Mycroft assert propositions about their joint knowledge, or the knowledge of groups that extend beyond them, and it does not assume that the respondents deny the proposition that Lestrade asserts.

Suppose that Mrs. Hudson overhears Lestrade's initial utterance of 'Holmes might be in Paris'. Hudson may say, or think, 'No' or 'That's false'. She may thereby think or assert that Holmes is not in Paris. If so, then she reacts appropriately to Lestrade's utterance, for she (implicitly) knows that Lestrade wants to know whether Holmes is in Paris. But perhaps by thinking or saying 'No', she instead (or in addition) thinks or asserts that Holmes's being in Paris is incompatible with her own knowledge. This is also appropriate, for what she thinks and asserts entails that Holmes is not in Paris. She may also think or assert a proposition concerning physical possibility, for she may think that Holmes is in London now and so it is physically impossible that he be in Paris.

Hudson may think or assert that Lestrade is wrong. If so, then she thinks or asserts something that is true, for the proposition that Holmes is in Paris is false, and Lestrade is wrong to take seriously the proposition that Holmes is in Paris, and suggesting to Mycroft that he do so

as well. I doubt that Hudson would think or say 'What Lestrade said is false' or 'Lestrade spoke falsely', unless she is a philosopher. But if she did think or say one of these, it is unclear to me whether she would thereby think or assert a true proposition.

These dialogues, and many variants of them, are worthy of more discussion than I have given them here. But I hope to have done enough to show that an invariantist theory of 'might' might be consistent with typical judgments about such dialogues. [41]

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