Penultimate version. Ultimate version appeared in Philosophical Studies (2013) 164: 485-511.

Contextualism about 'Might' and Says-That Ascriptions

David Braun

University at Buffalo

Contextualism about 'might' says that the property that 'might' expresses varies from context to context. In some contexts, it expresses the property of being metaphysically possible. In others, it expresses some variety of epistemic possibility, such as the property of being compatible with everything that Mary knows. In yet other contexts, it expresses a modal property of some other sort. In this paper, I argue against contextualism and against a recent attempt to defend it from an important objection. I focus on problems that contextualism apparently has with attitude ascriptions in which 'might' appears in a 'that'-clause. (See Egan, et al., 2007; and Cappelen and Hawthorne, 2009.) I argue that contextualists can deal adequately with many of these problems, but I also argue that serious difficulties remain with collective and quantified says-that ascriptions. Herman Cappelen and John Hawthorne (2009) try to solve these remaining problems, but I argue that their attempt fails.

Some philosophers criticize contextualism so as to clear the way for relativism (Egan, et al., 2005; MacFarlane, 2011). I do not. I instead endorse non-relativist invariantism about 'might' (Braun, 2011). But a statement and defense of an invariantist theory must await another occasion.

1. Contextualism about 'Might'

1.1 The Basics

Contextualism about 'might' is often motivated by the observation that two speakers who utter the same sentence containing 'might' may say different things. Imagine that both Jill and Linda utter (1).

(1) Karen might have eaten oatmeal for breakfast yesterday.

Jill is unsure whether Karen ate oatmeal for breakfast yesterday. When she utters (1) she says (roughly speaking) that for all she knows, Karen ate oatmeal for breakfast yesterday. Linda, by contrast, knows that Karen did *not* eat oatmeal for breakfast yesterday. She utters (1) in order to say (roughly) that it is metaphysically possible for Karen to have eaten oatmeal yesterday.

Even two speakers who are both concerned with knowledge can mean different things when they utter the same sentence containing 'might'. 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 roughly paraphrased by (3a) and (3b), respectively.[1]

(2) Holmes might be in Paris.

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

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

Yet another observation that motivates contexualists is that one speaker may utter a sentence containing 'might', and another speaker may utter the negation of that same sentence,

[1] 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 more likely than many other propositions regarding his location that are consistent with the speaker's knowledge. I will assume here that these stronger propositions are at most pragmatically conveyed, and are not the semantic contents of (2) with respect to any contents. This view is commonly held by contextualists.

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, looking at him. Watson utters the negation of the sentence that Moriarty utters.

(4) Moriarty: Holmes might be in Paris.

Watson: It is not the case that Holmes might be in Paris.[2]

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 these (apparent) facts by claiming that 'might' varies in its semantic content from context to context. They would say that the speakers in our examples assert the propositions that the relevant sentences semantically express in their contexts of utterance.

1.2 A Few Formal Details

A contextualist who approves of David Kaplan's (1989) theory of indexicals can present a more detailed theory in the following way. Linguistic expressions have *semantic contents* with respect to, or in, *contexts*. The semantic contents of linguistic expressions, with respect to contexts, are individuals, attributes, and certain complexes of these, such as Russellian propositions. Every context has an associated agent, time, location, and world. Some contexts have other associated

[2] More colloquially, 'Holmes couldn't be in Paris'. For some reason that I do not understand, it is easy to hear this latter sentence with negation wide-scope, whereas it is nearly impossible to hear 'Holmes might not be in Paris' with negation wide-scope.

parameters, such as addressees and demonstrated objects. A linguistic expression is *context-sensitive* just in case it varies in semantic content from context to context. The semantic contents of declarative sentences with respect to contexts are Russellian propositions. A sentence or predicate *semantically expresses*, in a context, its semantic content, in that context. A 'that'-clause of the form ⌈that *S*⌉ refers, with respect to a context, to the semantic content of *S* in that context.[3] A sentence is *true with respect to a context and world* just in case its semantic content with respect to that context is true at that world. A sentence is *true with respect to a context* just in case its semantic content in that context is true at the world of the context. A proposition is true iff it is true with respect to the actual world.

On a Kaplanian theory that says that 'might' is context-sensitive, we hypothesize that many contexts *C* have associated with them an epistemic, doxastic, evidential, or alethic modal property of propositions, M_C.[4] The semantic content of 'might' in such a context is M_C. If *S* is a sentence whose semantic content in *C* is proposition *P*, then the semantic content of a sentence of roughly the form ⌈Might *S*⌉ with respect to *C* is a proposition whose immediate constituency

[3] Not all semanticists accept the claim that ⌈that *S*⌉ refers, in a context *C*, to the semantic content of *S* in *C*. Some, for instance, hold that 'that'-clauses refer to sentences, and other adhere to Davidsonian theories. But the view that 'that'-clauses refer to semantic contents is natural and widespread, and published contextualists accounts of 'might' either endorse it or fail to explicitly reject it. See note 35.

[4] Dowell (2010a, 2010b) develops a Kaplanian theory of 'might' in a somewhat different way than I do. We agree that such contextualist theories are more flexible and resilient than often supposed. 'Might' may be able to express types of modality other than those I list in the text; perhaps the only restriction is that the content of 'might' in a context is not a deontic modal property.

can be represented by the ordered pair <*P*, M_C>. Thus ⌜Might *S*⌝ attributes a modal property to the semantic content of *S* with respect to a context. For instance, consider a context whose agent is Moriarty, and in whose world Moriarty utters (2), and whose associated modal property is M_{Moriarty}. In this context sentence (2) semantically expresses a proposition whose constituency we can roughly represent with (5).

(2) Holmes might be in Paris.

(5) <<Holmes, Paris, being in>, M_{Moriarty}>

This is also the proposition that Moriarty asserts when he utters (2). If Moriarty has the right thoughts and intentions, then M_{Moriarty} is (roughly) the property of being compatible with everything that Moriarty knows. Thus proposition (5) is roughly equivalent to (though not the same as) the propositions expressed by (6) and (7).

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

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

This Kaplanian theory ascribes semantic contents, and truth values, to linguistic expressions with respect to contexts. It does *not* ascribe semantic contents, or truth values, to *utterances* or *speech acts*.[5] But a Kaplanian can describe how utterances of sentences determine contexts, which in turn can determine the semantic content of a sentence that an agent of a context utters, in the following way. An utterance *U realizes* context *C* in world *W* only if: (a) exactly one person produces *U* in *W*, (b) *W* is the world of *C*, (c) the person who produces *U* in *W* is identical with the agent of *C*, (d) the time of *U* in *W* is identical with the time of *C*, and (e)

[5] Utterances are events. Possible Kaplanian contexts are properties that it is possible for some utterance to have, in roughly the same way that possible worlds are properties that it is possible for the concrete universe to have.

the location of *U* in *W* is the location of *C*.[6] In addition, the other parameters of *C*, such as addressees and demonstrated objects, if any, must be *appropriate* for *U*. The intentions of the speaker of *U* in *W* play an important role in determining whether these other parameters are appropriate.[7] Moriarty's intentions as he utters (2) determine that the only contexts that his utterance realizes are those in which the associated modal property is (roughly) being compatible with everything Moriarty knows. If the speaker's intentions during her utterance of *U* in *W* are sufficiently determinate (as in Moriarty's case), then we can say that the speaker's utterance *U* in *W* realizes exactly one context, and we can call this context 'the context realized by the speaker's utterance *U* in *W*', or 'the speaker's context', for short. We can then speak of the content of the sentence that the speaker uttered in the speaker's context. If the intentions of a speaker in *W* are sufficiently complicated or confused, then her utterance may realize many contexts, or no contexts, in *W*.

From here on, I concentrate almost entirely on utterances of sentences containing 'might' in which the speaker intends to assert a proposition concerning epistemic possibility. Sentences such as (2) are particularly likely to be used in an epistemic way.[8] I will continue to use phrases

[6] The realization relation must be relativized to a world because a single utterance can have (somewhat) different locations and times at different worlds.

[7] For instance, if *U* is an utterance of 'that' in *W* by a speaker, then the speaker's demonstrative intentions (if any) determine whether her utterance *U* realizes in *W* a context whose demonstrated object is *D*, or a context whose demonstrated object is something else, or a context that has no demonstrated object (Perry, 2009).

[8] It is easy to hear an utterance of 'Holmes might have been in Paris' as an assertion of either epistemic or alethic modality. It is easy to hear an utterance of (2) as an assertion of epistemic modality, but difficult to hear such an utterance as an assertion of alethic modality. This contrast surely has something to do with the difference in tense

of the form "compatible with what *X* knows" and "for all *X* knows" to paraphrase the semantic contents of sentences in contexts in which 'might' has an epistemic content. See (6) and (7) for examples of such paraphrases. But these paraphrases do not, strictly speaking, semantically express the same propositions as the original sentences, in the relevant contexts.

1.3 Modal Properties and Quantifiers Over Possible Worlds

The above contextualist theory deviates from common contextualist theories. Most contextualist theories say that the content of 'might' in a context is the same as that of a restricted quantifier over logically or metaphysically possible worlds. In Moriarty's context, the content of 'might' is equivalent to that of the quantifier phrase 'some possible world compatible with every proposition that Moriarty knows'. A possible world *W* is said to be compatible with every proposition that Moriarty knows iff every proposition that he knows is true at *W*. (2) is true with respect to Moriarty's context just in case the proposition that Holmes is in Paris is true with respect to some possible world that is compatible with every proposition that Moriarty knows. [9]

This restricted-world-quantifier view of the content of 'might' in a context is adequate for many purposes, but not for all. Let *S* be a very complicated, logically contradictory sentence that

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and aspect between the two sentences, but I cannot offer a deeper explanation. See Portner 2009, chapter 5, for a discussion of interactions between tense, aspect, and modality.

[9] Some semanticists, following Kratzer (1977) on 'must', think that 'might' determines, with respect to a context, both (i) a quantifier content that quantifies over worlds and (ii) an ordering of worlds (that is, a ternary relation among worlds). This is similar to the familiar view that counterfactual conditionals express propositions that, in part, concern an ordering of worlds by similarity. It is consistent with the view of the last section that M_C determines such an ordering relation, but I ignore cases in which such an ordering seems relevant to the truth-values, in contexts, of sentences containing 'might'.

expresses proposition *P* (in all contexts). Suppose Moriarty does not know whether *P* is true or false. Therefore, for all Moriarty knows, *P* is true. So there is a context in which ⌜Might *S*⌝ is true, where 'might' expresses the property of (roughly) being epistemically possible for Moriarty. But the restricted-world-quantifier view incorrectly entails that there is no such context, for *P* is false at every logically or metaphysically possible world, and so *P* is false at every such world that is compatible with what Moriarty knows. Therefore, ⌜Might *S*⌝ is false in all contexts in which 'might' expresses compatibility with Moriarty's knowledge. (In fact, ⌜Might *S*⌝ is false in all contexts whatsoever, on this view.) A restricted-world-quantifier theorist could try to get around this result by allowing quantification over logically or metaphysically impossible worlds, or by using some notion of compatibility other than joint truth at a metaphysically or logically possible world. But she would then need to use some epistemic modal notion to delimit the set of logically or metaphysically impossible worlds over which 'might' quantifies (for instance, the notion of being the set of logically or metaphysically possible and impossible worlds that are epistemically possible for Moriarty) or she would need to use a non-logical, epistemic notion of compatibility. In the end, we cannot avoid taking non-logical, non-alethic modal notions as primitive, if we wish to deal with epistemic, doxastic, or evidential modality. The contextualist theory I formulated above allows propositions to have primitive non-logical, non-alethic modal properties as constituents.

1.4 Whose Knowledge?

'Might', as I have noted, is often used to express some sort of epistemic modality, such as the property of being compatible with someone's knowledge. But whose knowledge? In the epistemic examples I gave above, I assumed that each speaker asserted a proposition concerning

his or her own knowledge. But the above contextualist view can also allow that in some contexts 'might' expresses a property that concerns the knowledge of a larger group, such as the property of being compatible with every proposition that at least one member of group *G* knows, where *G* includes more agents than just the speaker.[10] A speaker's utterance may realize such a context if the speaker has the right sorts of thoughts and intentions concerning group *G*. For instance, suppose that Moriarty and his henchmen are trying to figure out Holmes's location, and Moriarty utters 'Holmes might be in Paris' while doing so. Moriarty might intend to say something about what he and his henchmen know. In such a context, the proposition semantically expressed by (2) could be roughly paraphrased with (8) or (9), where G_{MH} is the group consisting of Moriarty and his henchmen.[11]

[10] Teller (1972) , DeRose (1991), Egan et al (2005), von Fintel and Gillies (2008, 2011), and MacFarlane (2011) discuss such uses of 'might'. The above contextualist view can allow that in some contexts, the semantic content of 'might' is some other sort of property concerning group knowledge, such as the property of being known by every member of *G* or the property of being compatible with the union of all propositions that are known by some member of *G*. (For discussion, see von Fintel and Gillies, 2011; Portner, 2009, 158-167; Dowell, 2010a, 2010b; and MacFarlane, 2011.) The theory is also consistent with saying that, in some contexts, 'might' expresses (roughly) the property of being compatible with everything that is known by someone who is *F*, where being *F* is a property that (contingently) all and only members of *G* have. (I am indebted for this last point to Egan, 2010.)

[11] Von Fintel and Gillies (2011) are contextualists, but their theory is somewhat unorthodox. They react to cases like Moriarty and his henchmen by holding, roughly speaking, that there are many contexts that are appropriate for interpreting a given utterance. More precisely, they say that many contexts are *admissible*, with respect to an utterance. The admissibility of a context has something to do with the speaker's (and audience's) thoughts, intentions, and presuppositions. The sentence that Moriarty utters has at most one propositional semantic content with respect to each admissible context. Moriarty's utterance *puts into play* all such propositions. Moriarty can appropriately utter his sentence because he is in a position to assert at least one of the propositions that his utterance

(8) That Holmes is in Paris is compatible with every proposition that at least one member of G_{MH} knows.

(9) That Holmes is in Paris is consistent with every proposition that either Moriarty or one of his henchmen knows.

In some contexts, 'might' expresses a modal property that concerns a group of people that does not include the agent. Imagine 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 guess which box the coin is in. Holmes might utter (10) while addressing Watson.

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

Holmes seems to say something true by uttering (10). A contextualist could hold that the semantic content of (10) in a context realized by Holmes's utterance is roughly the proposition expressed by (11).[12]

(11) That the coin is in the red box is compatible with everything that Watson knows.

As DeRose (1991) points out, a reasonable speaker can seemingly say something true by uttering (12), even when 'might' is used epistemically.

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puts into play. I assume that more orthodox contextualists would prefer to say that Moriarty's utterance realizes only one context (in my technical sense of realization), and Moriarty asserts the semantic content of his sentence in this context, but may also assert, or otherwise convey, a number of other propositions that are not the semantic content of his sentence in any context realized by his utterance. The contextualist view in the text hinges on the (orthodox) idealization that there are some distinguished thoughts and intentions of Moriarty's that determine that his utterance realizes exactly one context. This assumption may turn out to be too severe. Some differences between orthodox contextualist theories and von Fintel and Gillies's theory may have to do with the division of labor between semantics and pragmatics.

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

(12) I do not know whether my illness might be caused by a virus. For all I know, my doctor has already ruled out a virus.

Clearly such a speaker is not trying to say that he does not know whether, for all he knows, his illness is caused by a virus. Rather, he seems to be saying (roughly) that he does not know whether, for all his *doctor* knows, his illness is caused by a virus. Let us call such utterances of 'might' *exogenous uses*. (I borrow this term from Lasersohn's [2005] paper on predicates of personal taste).[13]

2. Contextualism and Disquotation

Reporting on what people say when they utter sentences containing 'might' appears to be routine. Consider a simple case. Suppose that Moriarty is alone in a room in which Watson has planted a listening device. (Please ignore the anachronism.) Moriarty utters 'Holmes might be in Paris'. Watson hears Moriarty's utterance through the listening device and utters (13).

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

I will say that Watson *disquotes* Moriarty, for the complement clause of Watson's ascription

[13] Some theorists may think that that the semantic content of 'might', in every context in which the agent uses it epistemically, must concern the knowledge of (roughly speaking) a group of people that includes the speaker. Such a theorist would say that the previous two exogenous utterances are non-literal. But I suspect most contextualists would prefer the view I present in the main text, for it allows the semantic contents of such sentences to be true in contexts where the speaker has exogenous intentions. Hacking (1967) and Teller (1972) discuss uses of 'might' in which the propositions asserted concern (roughly) compatibility with sets of true propositions that are as yet known by no one, but which can become known by the speaker, or some group the speaker has in mind, by using known methods. I count such uses as non-epistemic. The above contextualist theory can account for them in much the same way that she can account for alethic uses.

contains the same sentence that Moriarty uttered. [14] Intuitively, Watson says something true when he utters (13). Can a contextualist account for this? Presumably, a contextualist would want to hold that (13) is true with respect to Watson's context (that is, the context realized by Watson's utterance of (13)). The 'that'-clause of (13) refers, in Watson's context, to the semantic content of 'Holmes might be in Paris' in Watson's context. Now if the semantic content of 'Holmes might be in Paris' in Watson's context is (roughly) the proposition that, for all *Watson* knows, Holmes is in Paris, then (13) is surely false in Watson's context, for Moriarty surely did not say anything about Watson's knowledge.

But a contextualist can point out that Watson intends to be speaking about Moriarty's knowledge when he utters (13).[15] So a contextualist can maintain that the only contexts that Watson's utterance realizes are those in which the associated modal property is that of (roughly speaking) being compatible with everything that *Moriarty* knows. So the semantic content of (13) in any context realized by Watson's utterance is (roughly) the proposition that Moriarty said that, for all *Moriarty* knows, Holmes is in Paris. Therefore, (13) is true with respect to Watson's context. Watson asserts this proposition, so he asserts something that is true.[16]

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[14] 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.

[15] Cappelen and Hawthorne (2009, 40) call such a use 'parasitic'. They cite Nunberg, 1993; Humberstone and Cappelen,2006; and Cappelen and Lepore,2006.

[16] As I mentioned in note 11, von Fintel and Gillies (2011) have an unorthodox contextualist theory. The unorthodox features of their theory make it unclear (to me) how it should be extended to says-that ascriptions. Moriarty's utterance of 'Holmes might be in Paris' *puts into play* every proposition that the sentence expresses in a

A related, but more complicated, case may initially appear to raise a more difficult problem for the contextualist. Suppose that Moriarty utters 'Holmes might be in Paris' while speaking to his henchmen. He intends to make a remark about both his knowledge and theirs, and so he asserts (roughly) that for all that G_{MH} knows, Holmes is in Paris (where G_{MH} is the group consisting of Moriarty and his henchmen). Watson overhears Moriarty's utterance and utters (13), but he thinks that Moriarty is alone, talking to himself. Given Watson's ignorance, it might initially seem that on the above contextualist theory, the semantic content of (13) in Watson's context is (roughly) the proposition that Moriarty said that, for all Moriarty knows, Holmes is in Paris. But the proposition that for all Moriarty knows, Holmes is in Paris is not the semantic content of 'Holmes might be in Paris' in Moriarty's context, on the above contextualist view. And so one might conclude that (13) is false in Watson's context, on the above contextualist view.

This case does not, in fact, raise a serious problem for the above contextualist theory. Moriarty asserted that, for all G_{MH} knows, Holmes is in Paris. Since Moriarty is a member of G_{MH}, and he (presumably) knows this, Moriarty would not utter 'Holmes might be in Paris' if he knew that Holmes was not in Paris. Thus it is plausible to think that when Moriarty utters

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context that is admissible with respect to his utterance. But von Fintel and Gillies's theory does not tell us which, if any, of these propositions Moriarty *says* when he utters the sentence. Similar questions arise for says-that ascriptions on their view. If we assume that ⌈that *S*⌉ refers in C to the semantic content of *S* in *C*, then their view entails that 'Moriarty said that Holmes might be in Paris' has at most one semantic content in every context. But it is unclear whether we should assume that when Watson utters that ascription, his thoughts and intentions determine only one admissible context or many. Their theory also does not say which propositions Watson says, asserts, or puts into play when he utters his ascription. We could consider various possible ways to extend their theory, but I do not have the space to do so here.

'Holmes might be in Paris', he asserts not only that, for all G_{MH} knows, Holmes is in Paris, but also that, for all *Moriarty* knows, Holmes is in Paris, even if the latter is not the semantic content of the sentence in any context realized by Moriarty's utterance. Thus the semantic content of (13) in Watson's context is true, even though the semantic content of 'Holmes might be in Paris' is different in Watson's and Moriarty's contexts. (I assume here that a speaker can assert a proposition by uttering a sentence even though that proposition is not the semantic content of that sentence in his context.[17])

Disquotation of an exogenous use of 'might' by an ignorant ascriber may present a more serious difficulty for contextualism. Suppose that Holmes utters (10) while intending to assert that for all Watson knows, the coin is in the red box.

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

Lestrade hears Holmes utter (10). He utters (14).

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

Intuitively, Lestrade says something true. This poses no problem for contextualists, if we suppose that Lestrade knows that Holmes is speaking about Watson's knowledge when he utters (10), for if he knows this, then the contextualist can hold that the semantic content of (14), in Lestrade's context, is the proposition that Holmes said that, for all Watson knows, the coin is in

[17] Two points: (a) I assume here that asserting is sufficient for saying. So if Moriarty asserts proposition *P*, then a sentence of the form ⌜Moriarty said that *S*⌝ is true in a context in which the semantic content of *S* is *P*. See Braun (2011) for more on the relation between saying and asserting. (b) There are tricky cases in which Moriarty intends to speak of G_{MH} but believes that he is not a member of that group. Such uses are exogenous, and a contextualist can deal with them in the same way he does with reports of other exogenous uses—see below in the main text. These cases may also raise Frege-type puzzles, but such phenomena are beyond the scope of this paper.

the red box.[18] But suppose that Lestrade does not know that Holmes hid the coin, and so he thinks that Holmes is saying, roughly, that for all Holmes and Watson know, the coin is in the red box. If so, then it seems that on the above contextualist view, the proposition semantically expressed by (14) in all contexts realized by Lestrade's utterance is roughly equivalent to that expressed by (15).

(15) Holmes said that, for all he and Watson know, the coin is in the red box.

But Holmes clearly does not assert the proposition denoted by the 'that'-clause of (15), for he is sincere and he disbelieves it.

In reply, a contextualist could concede that the semantic content of (14) is false with respect to Lestrade's context, but maintain that Lestrade nevertheless asserts some other proposition that is true. However, this concession would be contrary to the spirit of contextualism, for contextualists usually wish to say that when a speaker says something true with a sentence, the semantic content of her sentence, in her context, is true.

Alternatively, the contextualist could say that the objection misidentifies the semantic content of Lestrade's ascription in his context. Lestrade knows that Holmes intends to speak of (roughly speaking) compatibility with the knowledge of some group of people on which Holmes is focusing. Further, Lestrade intends to speak about the knowledge of the group on which Holmes is focusing, *whatever that group may be*. The contextualist may hold that this last intention of Lestrade's determines which context his utterance realizes. And so the contextualist could say that the semantic content of (14), with respect to the context that Lestrade's utterance realizes, is (roughly) equivalent to that expressed by (16a) and (16b).

[18] If Lestrade's audience does not know his or Holmes's intentions, then they might not grasp what Lestrade asserts. But this is a constraint on pragmatics rather than semantics.

(16) a. Holmes said that, for all that dthat [the group on which Holmes is focusing] knows, the coin is in the red box.

b. Holmes said that, for all G_{Holmes} knows, the coin is in the red box.

I here use 'G_{Holmes}' to refer to the group that is the referent and content of the dthat-term in (16a), namely the group on which Holmes is focused. (See Kaplan 1989 for the semantics of 'dthat'.) Therefore (16a) and (16b) express the same proposition (in all contexts). This proposition is true. The contextualist could hold that Lestrade asserts that proposition, and so says something true.

One might wonder whether Lestrade really does have the sort of intention that our hypothetical contextualist attributes to him, and so one might wonder whether the semantic content of (14) in Lestrade's context really can be equivalent to that of (16). One might also suspect that Lestrade would say something true when he utters (14) even if he did not have such an intention. I am sympathetic with these suspicions, but I will not press them here.

So let us suppose Lestrade does have this intention to speak about the knowledge of whatever group Holmes is focusing on when he utters (14), and that it determines the context that his utterance realizes. Nevertheless, Lestrade mistakenly believes that G_{Holmes} consists of *both* Holmes and Watson, though it in fact consists of just Watson. Thus it is plausible to conclude that, even on this last contextualist theory, Lestrade asserts at least two propositions when he utters (14), the one expressed by (15) and the one expressed by (16). Therefore Lestrade asserts something that is true when he utters (14) (namely its semantic content, roughly the proposition expressed by (16)) and also asserts something that is false (namely the proposition expressed by (15)). I think that this consequence is acceptable, but there may be contextualists who would want to avoid it.

The sort of contextualist theory that can account for says-that reports of exogenous uses of 'might', as in Lestrade's utterance above, attributes rather subtle intentions to speakers. This sort of contextualism is also committed to saying that speakers who utter 'might' sentences, in examples like Lestrade's, assert several propositions at once, some of which are true and some of which are false. Assuming that all of these consequences are acceptable, I tentatively conclude that contextualism can deal with disquotation data concerning single speakers.

3. Contextualism, Disquotation, and Collective and Quantified Says-that Ascriptions

Herman Cappelen and Ernest Lepore (2005) use collective says-that ascriptions to argue against contextualist theories of a large variety of expressions. Can the preceding contextualist theory of 'might' handle such collective ascriptions? Imagine that Lestrade and Mycroft are each alone in different rooms in 221B Baker Street. Neither is aware of the other. Each utters (2) on the basis of his own knowledge.

(2) Holmes might be in Paris.

Unbeknown to them, Mrs. Hudson overhears each of their utterances. She then utters (17).

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

Hudson seems to say something true when she utters (17). According to our latest contextualist theory, the 'that'-clause in (17) refers, in a context that Hudson's utterance realizes, 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 mind, our contextualist theory entails that the semantic content of (17), 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, on this contextualist view. So, on this contextualist view, there is no single proposition that both of them say. So it seems that our contextualist theory entails that the semantic content of Hudson's ascription, in her context, is false, no matter what Hudson's intentions. Thus we seem to have a genuine problem for contextualism here.[19]

Quantified says-that ascriptions raise equally serious apparent problems for our latest contextualist theory. Suppose that Lestrade and Mycroft are the only males in 221B Baker Street when they produce their utterances. Suppose that in addition to uttering (17), Hudson also utters the sentences in (18).

(18) a. Every male in 221B Baker Street said that Holmes might be in Paris.

b. Each male in 221B Baker Street said that Holmes might be in Paris.

Hudson seems to say something true with each utterance. But on the above contextualist theory, the semantic contents of her says-that ascriptions, with respect to contexts that her utterances realize, are false. [20]

[19] I suppose that a contextualist could hold that Hudson asserts something true when she utters (17), though this true thing is *not* the semantic content of (17) in her context. However, 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 (17) is true with respect to Hudson's context.

[20] (17) and (18a) may have both collective and distributive readings (compare them with 'Every male in 221B Baker Street lifted Hudson's piano'). I am interested only in the distributive readings. I claim that Mrs. Hudson

4. Cappelen and Hawthorne on Collective Ascriptions

Herman Cappelen and John Hawthorne (2009) defend contextualism about many expressions, such as 'nearby', against objections that use attitude ascriptions. They also give hints about how they would reply to similar collective disquotation objections against contextualist theories of 'might'. I want to make their defense of contextualism for 'might' more explicit, and then evaluate that defense. I will argue that it does not succeed.

To introduce Cappelen and Hawthorne's contextualist reply, let us first consider a collective ascription that does not involve a context-sensitive expression, such as (19).

(19) Lestrade and Mycroft scratched their legs.

There seems to be a reading of (19) whose truth does not require that Lestrade and Mycroft scratch the same leg (or legs); its truth requires only that each man scratch one of his own legs. We can unambiguously express this reading by using a lambda-predicate, as in (20).

(20) Lestrade and Mycroft λx(*x* scratched *x*'s leg).

"Lestrade and Mycroft are own-leg-scratchers."

(The lambda-predicate 'λx(*x* scratched *x*'s leg)' means roughly *is a thing such that it scratches its leg*.) We can allow the lambda-predicate to distribute over the conjoined term 'Lestrade and Mycroft' to get (21), and then use ordinary lambda-conversion on each conjunct to obtain (22).

(21) Lestrade λx(*x* scratched *x*'s leg) and Mycroft λx(*x* scratched *x*'s leg).

(22) Lestrade scratched Lestrade's leg and Mycroft scratched Mycroft's leg.

Therefore (20) seemingly expresses a proposition that is equivalent to (19) on the latter's "own

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says something true if she utters it while intending the distributive meanings. I include (18b) because it does not have a collective reading. Thanks to Michael Glanzberg for discussion.

leg scratcher" reading.

Cappelen and Hawthorne (2009, pp. 45-48, from here on, 'C&H') use such lambda-predicates to deal with collective ascriptions that contain expressions that they take to be context-sensitive. C&H hold that 'nearby', and consequently sentence (23), are context-sensitive.

(23) Naomi went to a nearby beach.

When a speaker *X* utters (23), he may mean that Naomi went to a beach near *X*, but he may instead mean that Naomi when to a beach near *Naomi*, or even that Naomi went to a beach near *Y*, where *Y* is a person, thing, or location other than *X* and Naomi and their locations. Imagine that Alice utters (23) while intending to say that Naomi went to a beach near Alice, while Betty utters (23) while intending to say that Naomi went to a beach near Betty. I indicate this below in (24) by using brackets.

(24) Alice: Naomi went to a nearby beach. [near Alice]

Betty: Naomi went to a nearby beach. [near Betty]

Then Carol can seemingly say something true by uttering the collective ascription in (25).

(25) Carol: Alice and Betty said that Naomi went to a nearby beach.

C&H say that that the semantic content of (25), with respect to Carol's context, is true. (Or as C&H would put it, Carol's utterance is true.) This presents an apparent problem for those who hold that 'nearby' is context-sensitive, for it seems that the 'that'-clause in the collective ascription must refer, with respect to Carol's context, to a single proposition concerning a single location. But there is no location about which both Alice and Betty speak. In fact, it seems that there is no proposition that both of them say.

C&H use lambda-predicates to reply to this objection. They claim that (26) has a reading

on which it is equivalent to the semi-technical sentence (27).[21]

(26) Alice and Betty said that Naomi went to a nearby beach.

(27) Alice and Betty λx(*x* said that Naomi went to a nearby$_{(\text{to } x)}$ beach).

The lambda-predicate can distribute over the conjoined term 'Alice and Betty' to yield (28), and then ordinary lambda-conversion can be used to yield (28). They intend the result to be roughly equivalent to the ordinary English (29).

(28) Alice said that Naomi went to a nearby$_{(\text{to Alice})}$ beach and Betty said that Naomi went to a nearby$_{(\text{to Betty})}$ beach.

(29) Alice said that Naomi went to a beach near Alice and Betty said that Naomi went to a beach near Betty.

Thus (26) has a reading on which it can be true though there is no single thing that both Alice and Betty say. (A follower of C&H might give a similar account for quantified ascriptions, such as 'Everyone I talked to said that Naomi went to a nearby beach'.)

C&H (p. 48) consider a generalization of this proposal, on which the third occurrence of the variable '*x*' in the lambda-predicate is replaced with a function-term that contains an occurrence of '*x*' that is bound by the initial occurrence of 'λx', as in (30).

(30) Alice and Betty λx(*x* said that Naomi went to a nearby$_{(\text{to f}(x))}$ beach).

The term 'f' here is a context-sensitive expression whose content, in any context, is a function from objects (such as Alice and Betty) to entities to which an object can be near (locations,

[21] I have preserved one rather idiosyncratic feature of C&H's notation, by allowing '(to *x*)' to appear as a subscript on 'nearby', as in 'nearby$_{(\text{to } x)}$'. I will discuss some issues about how to interpret their notation later. I have changed their notation in another respect that I think is unimportant. They use 'λx(*x* said that Naomi went to a beach nearby$_{(\text{to } x)}$)', which changes the surface order of 'nearby' and 'beach'. My lambda-predicate preserves the surface order of 'nearby' and 'beach'.

persons, and other such things). In some contexts, the content of 'f' is simply the identity function, and the proposition expressed by (30) is equivalent to that expressed by (27). But in other contexts, the content of 'f' is a more interesting function, for instance, one whose value for any person is the location of that person's home. [22]

Before going on to C&H's treatment of 'might', it is worth noting several features of their proposal for 'nearby'. First, it seemingly assumes that 'nearby' is semantically a binary predicate that expresses a binary "nearness" relation (at least on one reading or disambiguation of 'nearby', namely the one which would typically be intended in typical utterances of (26)). Second, C&H's proposal also seemingly assumes that the occurrence of 'nearby' in (26) is *syntactically* a binary predicate, for it is difficult to see how the proposal could work if 'nearby' did not have a bindable occurrence of a variable associated with it (on the reading of (26) on which it is equivalent to (27)). Both assumptions are questionable. If 'nearby' were syntactically and semantically a binary predicate, then there should be grammatical sentences that explicitly express a second relatum for 'nearby'. For instance, 'Mary is nearby John' should be grammatical. But the latter sentence is, at best, only marginally acceptable, and there are no

[22] C&H hold that there may be semantic limits on the sorts of functions that can serve as the referent of 'f' in a context. Strictly speaking, C&H (p. 48) say that 'f' "picks out" a function. They seem to mean that the *referent* or *extension* of 'f' in a context is a function. If the extension of 'f' in *C* is a function, then an appropriate *semantic content* for 'f', in *C*, would be a *functional relation*, that is, a binary relation *R* such that, for any *x*, there is at most one *y* such that *xRy*. But C&H do not mention functional relations; indeed, they never specify the semantic content of 'f' in a context. Perhaps they ignore semantic content because they "ignore complexities introduced by time and modality" (C&H, p. 48).

other clearly grammatical sentences that express a second relatum for 'nearby'.[23] However, I shall waive all such objections to C&H's analysis of 'nearby', for I am mainly concerned with how their proposal for 'nearby' might be extended to 'might'. A third feature of C&H's proposal about 'nearby' is that they claim that it is contextualist. This is misleading. On their proposal, the content of 'nearby' itself appears to be the same nearness-relation in all contexts; nothing in (27) varies in content from context to context. In (30), the expression 'f' varies in content from context to context, but 'nearby' itself does not. More precisely, the analysis seems to handle the data about 'nearby' without assuming that it is context-sensitive. (I ignore any context-sensitivity that might be introduced by the vagueness of 'nearby'.) Therefore, on this view, 'nearby' is not context-sensitive, by the austere standards for context-sensitivity used by Kaplan. Perhaps on some more extended use of 'context-sensitive', their view of 'nearby' would count as a contextualist theory. But it would be better to distinguish between the two sorts of theory. Thus C&H's view might better be called a *binary invariantist* theory about 'nearby', rather than a contextualist theory.

Let us now return to 'might' and consider whether C&H's proposal for collective says-that ascriptions containing 'nearby' can be extended to collective says-that ascriptions containing 'might'. Recall that our problem is to explain, in ways acceptable to a contextualist, how Mrs. Hudson can seemingly say something true when she utters (31) after overhearing Lestrade and Mycroft.

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

The apparent problem is that the 'that'-clause in (31) refers, in Hudson's context, to only one proposition that can concern only one group's knowledge. Yet there is no single proposition of

[23] Thanks to a referee for pointing this out.

this sort that both Lestrade and Mycroft say. C&H briefly suggest in a footnote (p. 105, note 8) that a contextualist could extend their lambda-predicate analysis to epistemic uses of modals. They do not give any details, but they seem to have something like the following in mind. (31) has a reading on which it expresses a proposition that is equivalent to that expressed by the semi-technical sentence (32).

(32) Lestrade and Mycroft λx(*x* said that Holmes might$_{f(x)}$ be in Paris).

Here 'f(*x*)' is a function-term that is associated with 'might'. The lambda-predicate distributes over the conjoined term 'Lestrade and Mycroft', and by ordinary lambda-conversion yields (33).

(33) Lestrade said that Holmes might$_{f(Lestrade)}$ be in Paris and Mycroft said that Holmes might$_{f(Mycroft)}$ be in Paris).

The referent of 'f' in a context can be a function whose value for any person *x* is a class of propositions. In Hudson's context, the referent of 'f' might be a function whose value for an individual *x* is the class of propositions known by some member of a group *G* that *x* has in mind. The content of 'might$_{f(x)}$' with respect to such a context, and an assignment of a person to '*x*', is roughly the property of being compatible with everything known by someone in the group that *x* has in mind. For instance, in some contexts, the content of 'might$_{f(Lestrade)}$' is the property of being compatible with everything that Lestrade knows (if Lestrade is exactly the group that Lestrade has in mind) and the content of 'might$_{f(Mycroft)}$' is the property of being compatible with everything that Mycroft knows (if Mycroft is exactly the group that Mycroft has in mind). C&H might hold that in contexts that Hudson's utterance realizes, the content of 'f' is exactly this function. In such contexts, the content of (33) is roughly speaking the same as that of (34).

(34) Lestrade said that, for all Lestrade knows, Holmes is in Paris and Mycroft said that, for all Mycroft knows, Holmes is in Paris.

(34) expresses a true proposition in the circumstance we imagined earlier. So if (31) has a reading that is equivalent to (32), then the semantic content of (31) in Mrs. Hudson's context is true, and she can say something true by asserting the semantic content of her sentence in her context.

This sort of analysis can be extended to the quantified says-that ascriptions in (35), as in (36).

(35) a. Every male in 221B Baker Street said that Holmes might be in Paris.

b. Each male in 221B Baker Street said that Holmes might be in Paris.

(36) a. (Every y : y is a male in 221B Baker Street) λx(x said that Holmes might$_{f(x)}$be in Paris).

b. (Each y : y is a male in 221B Baker Street) λx(x said that Holmes might$_{f(x)}$ be in Paris).

5. Evaluation of the C&H-Style Analysis

I believe that there are two major problems with the C&H-style analysis of collective says-that ascriptions containing 'might'. The first has to do with C&H's seeming assumption that 'might' is a binary predicate. The second major problem has to do with validity. I deal with these problems in order.

5.1 'Might' Is Not a Binary Predicate

(32) contains a referring term, 'f(x)', that is associated with 'might'. Its content, in a context and under an assignment, interacts with the content of 'might', in that context, to produce an appropriate semantic content for 'might$_{f(x)}$'. C&H's brief remarks about 'might' do not indicate

exactly how the function-term interacts with 'might' to produce the content of 'might$_{f(x)}$'. But C&H seemingly want us to think that 'might' is a binary predicate whose content takes the content of 'f(x)' (in a context, given an assignment) as one of its arguments and yields a content for 'might$_{f(x)}$', which they (apparently) take to be a unary modal property of propositions. There are two reasons to think that this is how they intend the content of 'f(x)' to work. First, they want their proposal about 'might' to parallel their proposal about 'nearby', and they seem to assume that the latter predicate is a binary predicate (at least on one disambiguation). A second, weaker, reason to think that they hold that 'might' is binary is that a significant number of semanticists who think about 'might' also hold this, and C&H may be aware of this and agree with it. On this way of construing their proposal, 'might' semantically expresses, in every context, a binary relation. In fact, C&H's proposal is most plausibly construed as one on which 'might' is *syntactically* a binary predicate, at least when it appears in (31), for in (31) the third occurrence of the variable 'x' is bound by the occurrence of 'λx'.

On this view, the functor 'f' varies in content from context to context. But does the content of 'might' also vary from context to context, independently of 'f'? In my opinion, an advocate of C&H's analysis would be better off denying this, for such a "double context-sensitivity" hypothesis would undermine their account of ascriptions like Hudson's. If 'might' varies in content from context to context, independently of the content of 'f', then the semantic content of (32), in Hudson's content, is true only if the content of 'might' in her context is the same as the contents of 'might' in both Moriarty's context and Lestrade's context. [24] But there is

[24] I assume here that the semantic content of 'might$_{f(x)}$' in a context C (under an assignment to 'x') is a structured entity whose constituents are the content of 'might' in C and the content of 'f(x)' in C (under that assignment). This assumption entails that (32) is true in Hudson's context only if 'might' has the same content in Hudson's, Lestrade's, and Mycroft's contexts. (Thanks to a referee for suggesting that I clarify my reasoning here.) An

no reason to think that, if 'might' is context-sensitive, then it has the same content in all three contexts. So the most straightforward way to assure that C&H's account makes (32) true in Hudson's context is to hold that *only* 'f' is context-sensitive. Therefore I shall assume that, on C&H's proposal, 'might' semantically expresses the same binary relation in every context. So, 'might' is context-*in*sensitive (by Kaplan's austere standards), and C&H's proposal would be more accurately called a binary invariantist theory of 'might', rather than a contextualist theory of 'might'. (Compare it with the earlier proposal for 'nearby'.)

Unfortunately for C&H's analysis, there is considerable evidence that 'might' is not a binary predicate. For one thing, the claim that 'might' is semantically binary does not fit well with the syntax of 'might'. Syntactically speaking, 'might' appears to be a unary modifier of some sort. Consider a typical sentence containing 'might', such as (2).

(2) Holmes might be in Paris.

In (2) 'might' seems to function syntactically as a unary auxiliary verb, or as a unary adverb, or as a unary sentence modifier (an "ad formula", to use Montague's [1974] terminology for 'possibly'). The seemingly unary syntactic status of 'might' strongly suggests that 'might' is semantically unary, and that its semantic content (in a context) is a unary property of propositions (or perhaps properties).

A defender of C&H might point out that predicates sometimes appear to function

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advocate of C&H's view might instead hold that the content of 'might$_{f(x)}$' is simply an (unstructured) property determined by the content of 'might' and the content of 'f(x)'. But even on this view, it would be remarkable if (32) is true in Hudson's context while 'might' has different contents in her, Lestrade's, and Mycroft's contexts. (There is an alternative to C&H's view on which 'might' is "doubly context-sensitive," not because 'might' is context-sensitive, but because 'might' is associated with two context-sensitive function terms. I discuss this alternative view in note 27 below.)

syntactically as unary predicates and yet seem to semantically express binary relations. Consider, for example, 'ready' in sentence (37).

(37) Mary is ready.

(37) is grammatically complete, which suggests that 'ready' functions syntactically in it as a unary predicate. Yet this predicate appears to function semantically as binary predicate (on at least one reading). An advocate of the C&H-style proposal could hold the same about 'might'.

But there are obvious differences between (37) and sentences containing 'might', such as (2). (37) feels elliptical or incomplete. (I am using 'elliptical' here in its ordinary, non-technical sense.) A hearer can be sure that someone who utters (37) means something richer, such as that Mary is ready for lunch, or to go to work. But sentences containing 'might', such as (2), provoke no such feeling of ellipsis or incompleteness. Furthermore, there are sentences in which 'ready' seems to function *overtly* as a syntactically binary predicate, as in (38) below.

(38) Mary is ready to go to work.

But we do not find sentences in which some overt phrase functions syntactically as a second argument for 'might'.

Some theorists would dispute my claim that 'might' never overtly functions syntactically as a binary predicate. Kratzer (1977), von Fintel (2006), von Fintel and Gillies (2011), and Bach (2011) claim that some sentential prefixes contain arguments for 'might'. Kratzer mentions prefixes that contain the phrase 'in view of', such as (39).[25]

(39) In view of what we have just learned, John might have been in Boston last night.

On a Kratzerian view, 'might in view of' is a binary predicate, even though it is not a syntactic

[25] Kratzer (1977), in fact, makes no claims about 'might'. The phrase 'in view of' in her examples always appears before clauses containing 'must' or 'can'. But many who follow her extend a similar view to 'might'.

constituent of sentences like (39). Such a view implies that 'what we have learned' serves as an argument for 'might in view of'. Bach (2011) and von Fintel (2006) give other examples, like the following.

(40) Given the information available to the local authorities, the fire might have been caused by lightning. (Bach)

(41) According to Jill's preliminary diagnosis, Jack might have a concussion. (Bach)

(42) As far as Elton John knows, Richard Branson might go to the moon by 2015. (Bach)

(43) For all that Billy Joel knows, Madonna might run for President in 2012.

(44) Considering the evidence before us, Moriarty might have robbed the Bank of London. (von Fintel)

Bach (2011) explicitly holds that the prefixes supply a second argument for 'might'. Von Fintel and Gillies (2007, 2011) call such prefixes 'restrictors' and propose a logical form for sentences like those above that indicates that the restrictors provide arguments for 'might'. Bach and Kratzer hold that such prefixes determine the modal properties that these sentences semantically express, in contexts.

All of these claims are dubious. The prefixes in these sentences appear to be simple unary sentential modifiers (or preposed verb phrase or V′ modifiers). Their syntax suggests that they express properties of propositions and suggests that sentences containing them attribute properties to the propositions expressed by the clauses that follow. This is how these prefixes appear to function in the *non-modal* sentences below.

(39′) In view of what we have just learned, we now think that John was in Boston last night /we have decided to go to Boston.

(40′) Given the information available to the local authorities, they are justified in thinking that the fire was caused by lightning / they will soon propose new legislation concerning fire prevention.

(41′) According to Jill's preliminary diagnosis, Jack has a concussion.

(42′) As far as Elton John knows, Richard Branson went to the moon in 2009.

(43′) For all that Billy Joel knows, Madonna is the leading candidate for the Democratic nomination for President in 2012.

(44′) Considering the evidence before us, we believe that Moriarty did not rob the Bank of London / we have rejected the proposal to arrest Moriarty.

Notice that the main clauses of (39′)-(44′) do not contain 'might' or other modal expressions, and so in these sentences the prefixes cannot serve as arguments for 'might' or any other modal expression.[26] But it would be hard to justify the claim that these prefixes perform different semantic functions in (39)-(44) than they do in (39′)-(44′).

There is another problem with the above view of 'might'. If the above prefixes provided arguments for 'might' in the way suggested above, then a sentence that contains 'might' and one of these modality-determining prefixes should semantically express the same modality in all contexts.[27] But this is inconsistent with at least the spirit of contextualism. To explain, I begin

[26] I assume here that attitude verbs, such as 'believe', are not modal expressions. But even on (mistaken) theories that say that they are modal, they are not expressions that take the contents of the above prefixes as arguments.

[27] More accurately, this would be so on C&H's view, as I explicated it above, and on many other contextualist views of 'might'. On my explication of C&H's view, the value of 'f(x)', relative to a context and assignment, fully determines the content of 'might$_{f(x)}$' in a context. If the content of 'f(x)' in a context can be fixed by a prefix like one of those above (or if 'f(x)' can be simply replaced by such a prefix), then a sentence that contains a prefix and 'might' semantically expresses the same modality in all contexts. Kratzer's original (1977) theory also entails that

with ‘may’. ‘May’ is a modal expression that can be used to say something about either deontic or epistemic modality. Consider (45).

(45) In view of the commands of the Koran, John may go to Mecca.

On the C&H-style contextualist view under consideration, (45) does not vary in its context from context to context. Yet different speakers who utter (45) can clearly say different things with it.

‘might’ sentences with such prefixes express the same modality in all contexts. So does the version of Kratzer’s theory presented by Portner (2009, 50-56). But some contextualist theories, such as von Fintel and Gillies’s (2011), do not have this consequence. On their view (roughly speaking), ‘might’ expresses a quantifier over possible worlds, and the domain of worlds over which this quantifier ranges may vary from context to context. Prefixes like those above further restrict the domain of worlds over which ‘might’ quantifies in a context, but do not prevent it from varying in its range from context to context. Thus a sentence containing ‘might’ and a prefix can express different modalities in different contexts, and the criticism that follows below in the main text does not apply to their view. However, such a view is seemingly vulnerable to the same sorts disquotation objections that afflict other contextualist views about ‘might’; and it also seems vulnerable to parallel disquotation objections concerning ascriptions that contain *prefixed* ‘might’ sentences in their that-clauses. (There are complications. See note 24.) A theorist who is attracted to von Fintel and Gillies’s theory, or who is attracted to “double context-sensitivity”, might propose a C&H-like revision of F&G’s theory. Such a theory would say that ‘might’ interacts with *two* context-sensitive function terms, represented with ‘f’ and ‘g’ in ‘might$_{f(x)g(x)}$’. On this view, Hudson’s ascription (31), on one reading, expresses the same proposition as ‘Lestrade and Mycroft said that λx (Holmes might$_{f(x)g(x)}$ be in Paris)’. (Thanks to a referee for mentioning this alternative view.) An advocate of such a view should say that ‘might’ itself is context-*in*sensitive, for otherwise there would be no guarantee that Hudson’s ascription is true in her context, for reasons like those I gave in section 4 and note 24. But this alternative view has problems similar to, and perhaps worse than, C&H’s. First, it seems committed to saying that ‘might’ is a *ternary* predicate. (Von Fintel and Gillies themselves are not committed to this.) Second, it has the same problems with validity as C&H’s theory (to be described in the main text below). A more detailed examination of this “two context-sensitive functors” view, and F&G’s theory, will have to await another occasion.

One speaker who utters (45) may say something deontic, such as that John's going to Mecca is compatible with the commands of the Koran. Another speaker who utters it might instead say something epistemic, such as that John's going to Mecca (in the future) is consistent with everything the speaker knows, including facts about the commands of the Koran. To account for this, contextualists must either (a) hold that at least one of these speakers says something distinct from the semantic content of the sentence in the speaker's context, or (b) hold that (45) varies in semantic content from context to context. But (b) is inconsistent with the contextualist view we are considering. Option (a) is contrary to the spirit of most contextualists' desire to make the semantic contents of sentences, in contexts, fit with the intuitive truth-values of what speakers say with these sentences; admitting (a) would deprive the binary view of much of its motivation. With a little work, we can make parallel points about (39)-(44). Imagine a group of philosophers considering whether a person's location at a time is essential to that person. A member of this group might utter 'We all know that John was not in Boston last night', and then utter (39), thereby using 'might' to say something about metaphysical modality. Imagine that Elton John is wondering whether Branson's going to the moon in 2015 is consistent with facts about the state of Branson's rocket. He might utter 'I don't know whether Branson might go to the moon by 2015', meaning that he does not know whether it is technologically possible. We might utter (42) in order to say that Elton John doesn't know whether Branson's going to the moon is technologically consistent with facts about Branson's rockets.

Summarizing: 'might' shows no obvious signs of being a binary predicate, contrary to C&H's apparent proposal. Indeed, the evidence suggests that it is a unary predicate.[28]

[28] There is a second way of understanding C&H's lambda-predicate proposal, on which 'might' is not a binary predicate. I think it does not capture their intent, but is worth considering briefly. On this *unary interpretation* of

5.2 'Might', Collective and Quantified Ascriptions, and Validity

Validity poses another problem for the C&H proposal. Their analysis says that there is a reading of (31) that can be true even though there is no single thing that both Lestrade and Moriarty say. This analysis thereby conflicts with facts about validity. Imagine that Mrs. Hudson utters the argument in (46).

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

b. Therefore, there is something that (both) Lestrade and Mycroft said.

The argument seems valid. More carefully, it seems to be valid on all readings of its premise and conclusion. (And more specifically, the argument seems to be an instance of existential generalization, on all readings.) But according to the C&H analysis, the premise is ambiguous,

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C&H, 'might' is a unary predicate that semantically expresses, in all contexts, the same unary modal property of propositions, namely possibility. The function term 'f(*x*)' is syntactically a modifier of 'might', much like an adverb or auxiliary verb. Its content, in a context (under an assignment), is a (higher-order) property that can modify the property of being possible, just as the contents of 'nomologically' and 'metaphysically' modify the content of 'might', in the contents of 'nomologically might' and 'metaphysically might'. The following notation better indicates how 'might' functions as an argument of 'f(*x*)', on the unary interpretation of C&H: Lestrade and Mycroft λ*x*(*x* said that f(*x*)(might) Holmes is in Paris). On the unary interpretation, 'Holmes might be in Paris' is semantically complete (since 'might' is unary on this proposal), in much the same way that 'Holmes runs' is complete on standard views of that latter sentence. So the unary interpretation of C&H's proposal for Hudson's says-that ascription is analogous to the view that 'Lestrade and Mycroft said that Holmes runs' has a *reading* (a *semantic disambiguation*) on which it is synonymous with 'Lestrade and Mycroft λ*x*(*x* said that Holmes f(*x*)(run)), where the content of 'f(*x*)' in a context is a property of running, such as being quickly (done) or slowly (done). I assume the latter proposal is implausible. The unary version of C&H's analysis is equally implausible.

and on its true lambda-predicate disambiguation, given in (47), the argument is invalid. [29]

(47) a. Lestrade and Mycroft λx(*x* said that Holmes might$_{f(x)}$ be in Paris).

b. Therefore, (Some *y* : *y* is a thing) (Lestrade said *y* and Mycroft said *y*).

(47) is invalid because (roughly speaking) there are contexts in which the premise is true, and yet Lestrade and Mycroft say different things, and there is nothing that both of them say. So on C&H's theory, (46) itself has a reading on which it is invalid.

Here is a more detailed proof of the invalidity of (47), and so the invalidity of (46) under the non-standard reading that C&H's theory attributes to it. Say that *S* is true at a context *C* and model *M* iff *S* is true at the world of *C* in *M*. Define logical validity (and logical truth) for sentences containing context-sensitive expressions as follows: a sentence *S* is logically valid iff for every indexical model *M*, and every context *C* in *M*, *S* is true at *C* in *M*. (This is Kaplan's [1989] definition.) Define logical validity for arguments as follows: an argument *A* is logically valid iff for every indexical model *M*, and every context *C* in *M*, if all of the premises of *A* are true at *C* in *M*, then the conclusion of *A* is also true at *C* in *M*. Consider the premise of argument (47), namely (47a), and sentence (48) below.

(48) Lestrade said that Holmes might$_{f(Lestrade)}$ be in Paris and Mycroft said that Holmes might$_{f(Mycroft)}$ be in Paris.

(48) follows from (47a) by distribution and lambda-conversion. Moreover, (47a) (on its distributive reading) follows from (48) by term-conjunction and lambda-abstraction. So let us assume (without further proof) that (47a) is logically equivalent to (48). That is, assume that

[29] The conclusion of (46) could alternatively be represented by '(Some *y* : *y* is a thing) (Lestrade and Mycroft λx[*x* said *y*])'. But C&H seemingly assume that conjunctive-term distribution and lambda-conversion are valid, and I shall too. If distribution and lambda-conversion are valid, and the alternative symbolization is valid, then (47) is also valid. See also the next paragraph in the main text.

(48) is true in every context and model in which (47a) is true, and vice versa. This assumption is entirely congenial to C&H's view. Therefore, we can assume, consistently with C&H's theory, that argument (47) is logically valid iff argument (49) is.

(49) a. Lestrade said that Holmes might$_{f(\text{Lestrade})}$ be in Paris and Lestrade and Mycroft said that Holmes might$_{f(\text{Mycroft})}$ be in Paris.

b. Therefore, (Some *y* : *y* is a thing) (Lestrade said *y* and Mycroft said *y*).

C&H hold that, in some contexts (and models), the semantic content of 'f' is a function such that 'might$_{f(\text{Lestrade})}$' and 'might$_{f(\text{Mycroft})}$' differ in content. (In fact, that is the whole point of their analysis.) In such a context and model, 'that Holmes might$_{f(\text{Lestrade})}$ be in Paris' and 'that Holmes might$_{f(\text{Mycroft})}$ be in Paris' refer to different propositions. So, there is a context *C* and model *M* such that (49a) is true at *C* and *M* because (speaking roughly now) Lestrade said *P* and Mycroft said *Q*, and *P* is distinct from *Q*, and neither said anything else. But (49b) is false at such a *C* and *M*. Therefore, argument (49) is logically invalid. Therefore, (47) is logically invalid, and so (46) is logically invalid under the non-standard reading that C&H's analysis attributes to it.

C&H's theory has parallel problems with validity for many other structurally similar arguments that contain other embedded sentences and other attitude verbs, such as arguments (50) and (51).

(50) a. Lestrade and Mycroft said that it is not the case that Holmes might be in Paris.

b. Therefore, there is something that both Lestrade and Mycroft said.

(51) a. Lestrade and Mycroft denied that Holmes might be in Paris.

b. Therefore, there is something that both Lestrade and Mycroft denied.

Both of these arguments are valid (on all readings), but C&H's theory attributes readings to the

premises on which the arguments are invalid, namely those given in (52) and (53), respectively.

(52) a. Lestrade and Mycroft λx(*x* said that it is not the case that Holmes might$_{f(x)}$ be in Paris).

b. Therefore, (Some *y* : *y* is a thing) (Lestrade said *y* and Mycroft said *y*).

(53) a. Lestrade and Mycroft λx(*x* denied that Holmes might$_{f(x)}$ be in Paris).

b. Therefore, (Some *y* : *y* is a thing) (Lestrade denied *y* and Mycroft denied *y*).

I can imagine several ways in which an advocate of C&H's view might reply to the preceding objection. I shall consider two. Both replies say that (47) is valid, and both claim that I overlooked some important facts about 'say' when I tried to show that (47) is invalid.

An advocate could (correctly) point out that if (47a) is true in a context *C*, then'Lestrade said that Holmes might$_{f(Lestrade)}$ be in Paris' is true in *C*. The advocate might then claim that if this is true in *C*, then Lestrade also said some weaker modal propositions in the world of *C*. For our purposes, it does not matter which type of weaker modality that the advocate claims is involved, so let us assume that the advocate claims that (roughly speaking) Lestrade also said (in the relevant world) that it is *metaphysically possible* that Holmes is in Paris. (The advocate could argue that the proposition that Holmes might$_{f(Lestrade)}$ be in Paris necessitates the proposition that it is metaphysically possible that Holmes is in Paris. He might further claim that Lestrade said every proposition that is necessitated by the proposition that Holmes might$_{f(Lestrade)}$ be in Paris. But our advocate need not make claims that are this strong.) Parallel points hold for Mycroft. Therefore, both of them said that Holmes might$_{metaphysically}$ be in Paris (speaking roughly). Therefore, there is something that both of them said, and so the conclusion

of (47) is true. So (47) is valid, and therefore so is (46) under C&H's analysis. [30]

Our imaginary advocate tries to reply to my objection by deriving the conclusion of (47) from its premises using nothing but logically valid inferences. Let's inspect that derivation more closely.

(54) a. Lestrade and Mycroft λx(*x* said that Holmes might$_{f(x)}$ be in Paris). [premise]

b. Lestrade said that Holmes might$_{f(\text{Lestrade})}$ be in Paris and Mycroft said that Holmes might$_{f(\text{Mycroft})}$ be in Paris. [from (a)]

c. Lestrade said that Holmes might$_{f(\text{Lestrade})}$ be in Paris. [from (b)]

d. Lestrade said that Holmes might$_{\text{metaphysically}}$ be in Paris. [from (c)]

e. Mycroft said that Holmes might$_{f(\text{Mycroft})}$ be in Paris. [from (b)]

f. Mycroft said that Holmes might$_{\text{metaphysically}}$ be in Paris. [from (e)]

g. (Some *y* : *y* is a thing) (Lestrade said *y* and Mycroft said *y*). [from (d), (f)]

Each inference in derivation (54) must be logically valid if it is to show that argument (47) is logically valid. We can grant that the inferences from (54a) to (54b), and from (54b) to (54c),

[30] Thanks to Chris Kennedy and Nat Hansen for replies along roughly this line, and thanks to Ishani Maitra for a related reply. My presentation of the reply runs roughshod over use and mention. In particular, it ignores the distinction between two claims: (a) for some model *M* and context *C* in *M*, 'Lestrade said that Holmes might$_{f(\text{Lestrade})}$ be in Paris' is true in *C* and *M*, and (b) Lestrade said that Holmes might$_{f(\text{Lestrade})}$ be in Paris in the world of *C* (and *M*). But (a) could be true while (b) is false, for there are *unintended* models in which the members of *C* (and *W*) are not really contexts (or worlds), but rather arbitrary objects, such as numbers, and in which the extension of 'say' at *C* and *M* is not a set of ordered pairs in which the first object *says* the second, but rather a set of arbitrary ordered pairs. These unintended models are (nevertheless) relevant to logical validity: a sentence is logically valid only if it is true at such (unintended) *C* and *M* (as well as contexts in the intended model). Some of the initial plausibility of the reply may rest on a failure to notice this.

are valid. But the step from (54c) to (54d) is not. This step is logically valid only if the following conditional is logically valid: 'If Lestrade said that Holmes might$_{f(Lestrade)}$ be in Paris, then Lestrade said that Holmes might$_{metaphysically}$ be in Paris'. But this conditional, even if true in the story we considered, is not *logically* valid. Even in the intended model, there are contexts in which Lestrade says (roughly) that for all he knows, Holmes is in Paris, but in which he has no thought about metaphysical modality. In such contexts, Lestrade does not say that it is metaphysically possible that Holmes is in Paris. [31]

An advocate of C&H's view could reply in various ways. She might claim that my conception of logical validity is too narrow. She might maintain that under any reasonable logic for 'say', the inference from (54c) to (54d) is logically valid.[32] Or she might concede that the inference is logically *in*valid, but claim that (54c) *necessitates* (56d). On the latter alternative, she might go on to claim that every step in the derivation necessitates its succeeding step, and so claim that (54a) necessitates (54g). So she might claim that the premise of (47) necessitates its conclusion, and therefore the premise of (46), under its C&H-reading, necessitates its conclusion. She might then maintain that this is enough to explain our mistaken intuition that (46) is logically

[31] A further point: Logical truth requires truth at all contexts in all models, including *unintended* models. In some contexts of some unintended models, the extensions of 'that'-clauses are not propositions, but rather sequences of numbers, and the extension of 'say' is an (arbitrary) set of ordered pairs of (i) numbers that are members of the total domain of the modal and (ii) sequences of numbers which are the extensions of 'that'-clauses in that context and model. In some contexts of some of these unintended models, (54c) is true and (54d) is false. As I just indicated in the main text, I believe that there are also contexts in the intended model in which (54c) is true and (54d) is false.

[32] A logic of this sort would require that all models (and contexts and worlds in those models) satisfy certain general principles regarding 'say'. This would rule out unintended models of the sort I described in the preceding note.

valid, under all of its readings. Alternatively, an advocate could make parallel claims about *analyticity*: (54c) analytically entails (54d) (even if the former does not logically entail the latter), and similarly for all of the other steps of (54). So (46) analytically entails its conclusion, and this is enough to explain our mistaken intuition that (46) is logically valid under all readings.

I reply that there is no reasonable logic of 'say' under which (56c) logically entails (56d), for (as I indicated above), an agent can say a proposition regarding some epistemic modality and yet have no grasp of metaphysical modality. Such an agent would fail to say a proposition regarding metaphysical modality. So, no reasonable logic for 'say' would have (56c) logically entail (56d). For similar reasons, I maintain that (56c) does not analytically entail, or necessitate, (56d).

But even if the advocate's claims about logic, analyticity, or necessitation were right, they would not suffice to solve all of C&H's problems with validity.[33] Consider argument (50) again. I say that it is logically valid, but its C&H reading in (52) is invalid. Furthermore, the following conditional is not logically true (or necessarily true, or analytically true): 'If Lestrade said that *it is not the case that* Holmes might$_{f(\text{Lestrade})}$ be in Paris, then Lestrade said that *it is not the case that* Holmes might$_{\text{metaphysically}}$ be in Paris'. So no derivation resembling (54) can show that (56) is logically valid, or that its premise necessitates, or analytically entails, its conclusion. And so no such derivation can show that the premise of (52) logically entails, or necessitates, or analytically entails its conclusion, under the C&H reading of its premise. So no such derivation can explain the validity (or apparent validity) of argument (50), under all of its readings.

Let us consider one more attempt to show that (47) is valid. [34] An advocate of C&H's

[33] Thanks to Michael McGlone for suggesting a reply along the following lines.

[34] Thanks to a referee for suggesting that I consider an objection much like the following one.

view might claim that if Lestrade said that Holmes might$_{f(\text{Lestrade})}$ be in Paris, then Lestrade also said a certain existential generalization of what he said, namely that for some person *z*, Holmes might$_{f(z)}$ be in Paris. Parallel remarks hold for Mycroft. So the advocate might try the following derivation.

(55) a. Lestrade and Mycroft λx(*x* said that Holmes might$_{f(x)}$ be in Paris). [premise]

b. Lestrade said that Holmes might$_{f(\text{Lestrade})}$ be in Paris and Mycroft said that Holmes might$_{f(\text{Mycroft})}$ be in Paris. [from (a)]

c. Lestrade said that Holmes might$_{f(\text{Lestrade})}$ be in Paris. [from (b)]

d. Lestrade said that for some person *z*, Holmes might$_{f(z)}$ be in Paris. [from (c)]

e. Mycroft said that Holmes might$_{f(\text{Mycroft})}$ be in Paris. [from (b)]

f. Mycroft said that for some person *z*, Holmes might$_{f(z)}$ be in Paris. [from (e)]

g. (Some *y* : *y* is a thing) (Lestrade said *y* and Mycroft said *y*). [from (d), (f)]

As before, the inferences from (55a) to (55b), and from (55b) to (55c) are logically valid. But the inference from (55c) to (55d) is not. This inference is logically valid only if the following conditional is logically true: 'If Lestrade said that Holmes might$_{f(\text{Lestrade})}$ be in Paris, then Lestrade said that some person *z* is such that Holmes might$_{f(z)}$ be in Paris'. But this conditional is not logically true. Even if Lestrade (in fact) always says the existential generalizations of the things he says (which is doubtful), it is not logically true that he does so.

An advocate of C&H's view might reply that the inference from (55c) to (55d) is logically valid under a broader conception of logic that includes the logic of 'say'. Alternatively,

he might say that (55c) necessitates or analytically entails (55d). But even if these dubious claims were true and helped with (55) and (47), they would not help with other problems that C&H have with validity. Consider argument (51) again. I said that it is logically valid, though the C&H reading of it given in (53) is not. No derivation resembling (55) could show that (53) is valid, for the following conditional is not logically true: 'If Lestrade *denies* that Holmes might$_{f(\text{Lestrade})}$ be in Paris, then Lestrade *denies* that some person *z* is such that Holmes might$_{f(z)}$ be in Paris'. To see this, notice that there are contexts (in the intended model), in which the content of 'might$_{f(\text{Lestrade})}$' is (roughly) the property of being compatible with everything that Lestrade knows, and the content of 'might$_{f(z)}$', with respect to an assignment of a person *A* to 'z', is the property of being compatible with everything that *A* knows. (55c) is true in such a context iff (roughly speaking) at the world of the context, Lestrade denies that, for all he knows, Holmes is in Paris. (55d) is true at such a context iff (roughly speaking) at the world of the context, Lestrade denies that there is someone such that Holmes's being in Paris is compatible with that person's knowledge. But there are contexts and worlds of this sort (in the intended model) in which Lestrade is reasonable, and denies that Holmes's being in Paris is compatible with his own knowledge, but does not deny that there is someone (else) such that Holmes's being in Paris is compatible with that (other) person's knowledge.

6. Conclusion

Contextualist theories of 'might' have a serious problem with collective and quantified says-that ascriptions. Cappelen and Hawthorne's attempt to deal with this problem fails. I know of no

better contextualist response. [35] I conclude that we have good reason to doubt contextualist theories about 'might' and good reason to seek alternative theories. [36]

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[35] The contextualist theories that I have considered assume that a 'that'-clause refers, in a context *C*, to the semantic content of its embedded sentence, in *C*. The objections to contextualism from collective and quantified says-that ascriptions, and my criticisms of C&H's analysis, also rely on that assumption. Perhaps an advocate of contextualism would wish to deny it. (Thanks to a referee for pointing this out.) But no published theory that I know of does so. I believe that contextualist theories of 'might' that say that 'that'-clauses refer to sentences are also vulnerable to objections from collective and quantified ascriptions. So, I think, are Davidsonian theories that hold that attitude ascriptions refer (in contexts) to utterances. Other alternative contextualist theories might claim that 'that'-clauses containing 'might' refer to Kaplanian characters, or other similar non-propositional entities (such as functions of various sorts). I suspect that theories of this last sort would have problems independent of those I mention here. In any case, replying to such alternative theories must await another occasion.

[36] I presented an early version of this paper at a workshop on contextualism in philosophy of language at Queens University in Kingston, Ontario, in September 2009. Thanks to Adèle Mercier and Arthur Sullivan for organizing the workshop and inviting me to speak at it. Thanks to Richard Vallée for his comments on my talk. I also thank those who commented on my paper during the discussion period and afterwards, including Kent Bach, Michael Glanzberg, Nat Hansen, Claire Horisk, Chris Kennedy, Barry Lam, Ishani Maitra, Michael McGlone, François Recanati, and Brett Sherman. Thanks to Andy Egan and Janice Dowell for helpful conversations. Thanks to Michael McGlone for helpful written comments on an earlier version. Thanks to an anonymous referee for many helpful suggestions.

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