

Performative uses and the temporal interpretation of modals*

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Abstract

Expressions with a modal semantics vary with respect to whether they are suited to ‘performative uses’. Modals like *must* and *have to* can easily be used to give a command and hence create an obligation, but the same does not seem to be true for predicates like *be obligated to* and *be under an obligation to*. This fact poses a challenge for an otherwise attractive class of analyses that take the ‘performative effect’ (i.e., the creation of an obligation) to arise pragmatically from a claim made with the usual, descriptive modal semantics. Seeing as the different modals are typically assigned the same truth-conditional content, a pragmatic account predicts that there should not be a difference in the availability of performative uses.

In this paper, I will explore possible avenues for meeting this challenge while preserving the attractive features of a pragmatic account. My starting point will be the observation that certain commonly-made assumptions about temporal interpretation in fact block a pragmatic derivation of the performative effect. Then I will consider how this conclusion can be avoided for modals that have performative uses. We either have to assume that these modals have a more liberal temporal interpretation or that the performative effect arises in a different manner than assumed by existing accounts. Quite independently from the issue of anti-performativity, this paper demonstrates that two seemingly independent phenomena—temporal interpretation and performative uses of modals—are in fact intertwined, hence we can shed light on one by studying the other.

1 Introduction

Modal sentences with *must*, *have to*, *may* and *can* can be used not only to *state* that an obligation or permission is in force, but also to *create* an obligation or permission, provided the speaker has the requisite authority. Thus an utterance of (1a) can count as a command, and bring about an obligation for the child to be home by 7pm, and an utterance of (1b) can constitute the granting of a permission to go out and play. In what follows I will focus on the case of necessity modals, as permission-granting uses raise a range of issues that are orthogonal my present concerns (most notably, Lewis’s (1979) ‘problem about permission’).

- (1) [Parent to child.]
a. You have to / must be home by 7pm.
b. You may / can go out and play.

There are other expressions with modal meanings that appear to resist such ‘performative uses’. While the sentences in (2) can be used to inform the addressee about a pre-existing obligation, they are not well-suited as the initial command that brings the obligation into effect.¹

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¹Some of these sentences, especially (2d), have an irrelevant reading as a verbal (eventive) passive of an explicit performative like *I (hereby) require you to be home by 7pm*, on which they can be used performatively. This reading can be forced by inserting *hereby* (*You are hereby required to be home by 7pm*). I assume that, on this reading, they are semantically equivalent to their active counterparts, and function as spelled out in Condoravdi and Lauer (2011).

- (2)
- a. You are obligated to be home by 7pm.
 - b. You are supposed to be home by 7pm.
 - c. You are obliged to be home by 7pm.
 - d. You are required to be home by 7pm.
 - e. You are under an obligation to be home by 7pm.

I take it to be obvious that there is a contrast between the modals in (1) and the expressions in (2), which I am going to refer to as ‘anti-performative modals’.² For most of this paper, I will talk as if anti-performativity is categorical, *i.e.*, I will take for granted that there are at least some modal expressions that are completely incompatible with performative uses. In Section 3.3.3, I will consider the possibility that anti-performativity is a matter of degree.

If there are modals that lack performative uses, then any satisfactory theory of modal meaning should explain not only why some modals have performative uses, but also why others do not. One class of accounts attributes the performative use to a dynamic ‘performative meaning’, which directly updates the obligations of the addressee (Lewis 1979, van Rooy 2000). Given that *have to* and *must* also have descriptive, non-performative uses, such accounts essentially assume these modals to be ambiguous. As a consequence, they can easily account for the existence of anti-performative modals by assuming that these lack the performative reading. Besides stipulating an ambiguity, however, such accounts are incompatible with an attractive conception of the form-force mapping, according to which all declarative sentences (including modal sentences), have the same type of denotation and a uniform grammatically-determined dynamic effect on the context.

Another kind of approach to performative uses, first suggested by Kamp (1978) and recently defended by Kaufmann (2012), is compatible with this conception. It takes modals to be unambiguous, and to always have their ‘descriptive’ meanings, which determine ordinary truth-conditional contents, and are always used to make modal claims. Performative uses are explained by assuming that a speaker who has the requisite authority can create an obligation by claiming that it exists. This pragmatic approach is quite attractive, but the existence of anti-performative modals poses a significant challenge for it. Standardly, the sentences in (2) are assigned the same meanings as the sentences in (1), and consequently utterances of both kinds of sentences result in the same modal claim. But then, on the pragmatic approach, there should be no difference in the availability of performative uses.

In this paper, I will explore possible avenues for reconciling a pragmatic account of performative uses with the existence of anti-performative modals. Ultimately, the pragmatic approach will have to assume that there is *some* difference in meaning between modals that have performative uses and those that do not. The question is what this difference in meaning could be, given that the two classes of modals appear to make equivalent claims on their descriptive uses.

My starting point will be the observation that certain commonly-made assumptions about temporal interpretation in fact block a pragmatic derivation of the performative effect for anti-performative modals (Section 2). Then I consider how the same conclusion can be avoided for modals that *do* have performative uses. We either have to assume that these modals have a more liberal temporal interpretation than anti-performative modals (Section 3.1) or that the performative effect arises in a different manner than assumed by existing accounts (Section 3.3).

²The issue of anti-performativity was brought to my attention by Igor Yanovich (p.c.), who made me realize that Csipak and Bochnak’s (2015) observation that *be supposed to* apparently does not have performative uses generalizes to various other modal expressions.

2 Blocking performative uses via temporal interpretation

Pragmatic accounts of performative uses have the following four features (for the purposes of the present section, it does not matter how the crucial (iii) comes about).

- (i) On its performative use, a modal sentence ‘Must(p)’ denotes the same proposition as on its descriptive use, *viz.*, the proposition that p is deontically necessary.
- (ii) On a performative use, the speaker claims that this proposition is true (*i.e.*, he commits to the truth of the proposition and/or proposes to add it to the conversational common ground in the sense of Stalnaker (1978)).
- (iii) In so doing, the speaker creates an obligation for p .
- (iv) Thereby, the proposition denoted by the modal claim is made true.

In this section, I will argue that, given some plausible assumptions about their temporal interpretation, anti-performative modals will fail (iv), even if (i)–(iii) are true. This arguably is sufficient to explain why anti-performative modals do not have performative uses.

For the sake of concreteness, I use the following formal set-up, though the argument made here is largely independent from the technical details. I assume that untensed sentences denote properties of intervals, which are convex sets of (linearly ordered) moments in time. The interpretation of (deontic) modals is stated in terms of a modality \Box^d , indexed to moments. $\Box_m^d(\phi)$ hence is to be read as ‘at moment m , ϕ is obligatory’.³ I also assume an ontology that contains *events* as concrete particulars, along with a function τ from events to intervals that maps any event to its run-time. Furthermore, I will assume that the domain of events consists not only of the eventualities talked about, but also contains *utterance events*. For reasons that will become transparent shortly, it will be convenient to assume that the interpretation function $\llbracket \cdot \rrbracket^u$ receives the current utterance u as a parameter.

With these preliminaries out of the way, we can state the six assumptions that jointly block the performative use for anti-performative modals. While not universally accepted, assumptions I–V all have some independent motivation, assumption VI captures the essence of the idea that performative uses are truly performative.

Assumption I: Anti-performative modals are stative predicates. That is, I take *be obligated to* to be of the same aspectual type as *be asleep*. For present purposes, it is immaterial how states are represented. For simplicity, I will describe the interpretation of modal statives directly in terms of quantification over moments.

Assumption II: A stative predicate is true at an interval i if the state holds throughout i . While certainly not uncontroversial, this assumption is familiar from the literature (*e.g.* Bennet and Partee 1972, Taylor 1977, Partee 1984, Dowty 1986, Ogihara 2007). For our modal statives, it amounts to the following (here and throughout, I represent the prejacent of the modal as a propositional atom, as its interpretation does not concern us):

- (3) $\llbracket \text{You be obligated to be home by seven} \rrbracket^u = \lambda i . \forall m \in i : \Box_m^d(\text{you-home-by-7})$

³The d in \Box^d serves as reminder that the necessity is construed deontically. How obligatoriness is cashed out is irrelevant for present concerns. For concreteness, the reader may assume that \Box_m^d universally quantifies over the set of worlds that are deontically ideal at moment m .

Assumption III: A matrix present tense stative sentence requires that the stative predicate is true at the speech time s^* . Consequently:

- (4) $\llbracket \text{You are obligated to be home by seven} \rrbracket^u = 1$ iff $\forall m \in s^* : \Box_m^d(\text{you-home-by-7})$
 where s^* is the speech time of u

Assumption IV: For any given utterance $u : s^* = \tau(u)$. For present purposes, we need to be specific as to which interval, exactly, the ‘speech time’ is supposed to be. An obvious idea is that s^* is just the run-time of the current utterance event. This is indeed what Ogihara (2007) assumes, and we adopt this assumption here. Hence:

- (5) $\llbracket \text{You are obligated to be home by seven} \rrbracket^u = 1$ iff $\forall m \in \tau(u) : \Box_m^d(\text{you-home-by-7})$

Assumption V: If a state of affairs s is a result of an event e , then s will not obtain before the final moment of $\tau(e)$. That is, if some state of affairs is the result of an event, the state will not obtain before the event is completed. Consequently, a resultant state will either temporally abut the run-time of the event, or overlap it in the final moment.

Assumption VI: The obligation is created as a result of the utterance of the modal sentence.

Assumptions V and VI directly imply that, even if an utterance of *you are obligated to be home by seven* were to create the obligation in question, the proposition in (5) would still be false, since for any non-final moment m' in $\tau(u)$ it is not the case that $\Box_{m'}^d(\text{you-home-by-7})$ —the obligation comes into existence ‘too late’ to make the denoted proposition true.

Given assumptions I–VI, then, anti-performative modals are predicted to lack performative uses. It is noteworthy that while the assumptions are arguably all plausible, they are not without alternatives.⁴ The foregoing should be seen as a proof-of-concept—it shows that there are plausible assumptions which would block the performative use for anti-performative modals on a pragmatic account.

3 Performative modals revisited

Assumptions II–VI jointly imply that no use of a present tense stative sentence can be self-verifying. This turns the table on the pragmatic approach: It is no longer a puzzle why anti-performative modals do not have a performative use, but rather why other modals do. To account for their performative uses, we must either assume that modals like *must* and *have to* are not stative, or we must give up the assumption that performative uses of modals make the proposition they assert true.

3.1 Performative modals as non-stative

The pragmatic account is home free if we assume that modals that can be used performatively have a more liberal temporal interpretation than anti-performative modals. Concretely, suppose *must* and *have to* only require that the state of obligation *overlap* with the time of evaluation, as in (6). Then the considerations in Section 2 do not apply, and claims made with these modals can be self-verifying, provided the necessity comes about in the final moment of $\tau(u)$.

⁴In particular, assumption II has a salient alternative: Instead of requiring that a stative predicate hold *throughout* the interval of evaluation, we may require that it the state only temporally *overlap* with the interval of evaluation (Kamp and Reyle 1993, Stechow 1995, Condoravdi 2002). The argument in this section would obviously not go through in this case—unless assumption VI is strengthened to enforce non-overlap of events and their result states.

(6) $\llbracket \text{You have to be home by 7pm} \rrbracket^u = 1$ iff $\exists m \in \tau(u) : \Box_m^d(\text{you-home-by-7})$

This idea is lent some plausibility by the observation that there is a syntactic difference between the anti-performative modals we have seen, and modals like *must* and *have to*: The former involve copular constructions, the latter do not. It is hence tempting to assume this syntactic difference implies a difference in semantic types—say, true statives denote properties of Davidsonian eventualities, while proper modals denote properties of intervals directly, as in Condoravdi (2002). This difference in semantic types could then be responsible for the difference in temporal interpretation.

On this view, adjectival modals like *be obligated to* lack performative uses because they are true statives, whose temporal interpretation precludes self-verification. This would solve the problem posed by the anti-performativity of such predicates in a rather elegant manner. However, unless we find independent evidence from descriptive uses for the hypothesized difference in temporal interpretation, it remains somewhat stipulative. Unfortunately, I have not been able to find any such evidence. This lack of independent motivation does not show that there is no difference in temporal interpretation, but it should give the defender of the pragmatic account pause.⁵

Potentially even more problematic is the fact that it is not clear that the class of anti-performative modals coincides with the class of adjectival modal expressions. Csipak and Bochnak (2015) claim that the German modal *sollen* does not have performative uses.⁶ Similarly, some adjectival modal predicates, like *be allowed to* and *be permitted to*, seem to have performative uses, cf. (7).

(7) You are now allowed to enter the building.

3.2 Performative uses as non-performative

Given these doubts, let us assume that the temporal interpretation of all modals is the same (even if they have different semantic types), and that self-verification is blocked for all of them via the reasoning in Section 2. Is there any way to account for the performative uses of *must* and *have to*, without assuming that they are ambiguous between a descriptive and a performative meaning?

Before giving my own answer, I will briefly discuss a possibility which I do not think is viable.⁷ It will be useful to compare and contrast it with the proposal I spell out in the following section. The idea is the following: Maybe it is wrong to assume that it is the utterance itself that creates the obligation. Instead, it is created by a mental act of the agent who has deontic authority; what brings the obligation into effect is the speaker ‘making up his mind’ as to what the addressee should do. Then, the putatively-performative modal utterance simply reports the existence of the newly-created obligation. In fact, this idea seems to be implicit in the version of the pragmatic account that Kamp (1978) considered (and criticized). Here is his sketch:

Suppose that *A* has authority over *B* and that this fact is common knowledge shared between *A* and *B*. Then *B* may be expected to react to *A*’s utterance: ‘You may take an apple’ with the reflection: ‘It is up to *A* whether I may take an apple or not. Therefore he knows whether what he says is true or false. It may be assumed moreover that he is not saying

⁵It certainly is not surprising that no such evidence can be found in the present tense—even if it is semantically possible to report an obligation with a modal sentence at the very same time at which it comes into effect, there would be very few occasions where speakers would plausibly do so. But given a number of non-trivial assumptions, we would expect to find evidence of the hypothesized difference in past tense sentences with *had to* and *was obligated to* (anchored to a particular evaluation time by means of a *when*-clause, say). I leave this issue for future research.

⁶They attribute the absence of performative uses to a lexical idiosyncrasy of *sollen*, viz. an evidential meaning component that requires that the modal claim be based on a prior utterance event. I do not have the space to discuss this proposal in detail here, but if it turns out to be correct, *sollen*’s incompatibility with performative uses would not be an argument against the line pursued in this section.

⁷Igor Yanovich suggested this possibility to me in conversation (without endorsing it).

what he knows to be false, as this would go against established principles of conversational propriety. So I may conclude that I have the permission to take an apple.'

(Kamp 1978, p. 275)

On this view, performative uses are not truly performative—they are regular, descriptive uses. This avoids the 'timing problem' from Section 2, since the speaker will have made up his mind prior to making his utterance, and hence the obligation will be in effect throughout $\tau(u)$. However, it should be clear that, were we to adopt this view, the problem posed by anti-performative modals is back (with a vengeance). That is, it is once again a mystery why expressions like *be obligated to* cannot be used to report mentally-created obligations, while modals like *have to* can.

Moreover, the suggested account is otherwise quite problematic. In particular, it falls prey to a challenge raised by Hans Kamp:

The problem with this explanation is that it doesn't go quite far enough. [...] Suppose *A* says to *B* 'You may take an apple', *B* then takes an apple, whereupon *A* berates him for doing so, claiming he had no permission to take an apple. In such a situation it is not just that *B* can excuse himself by pointing out that he was *misled* by *A*'s utterance. No, *B* can justly claim that he *had* the permission, in virtue of what *A* said to him. There are situations where *A* just cannot mislead *B* simply because his utterance constitutes the granting of the permission.

(Kamp 1978, p. 275)

Kamp's objection is that an account like the one considered here fails to predict that a performative modal utterance is *sufficient* for creating an obligation or permission. We may add that it also fails to account for the fact that, intuitively, the utterance is *necessary* for creating the obligation or permission: Suppose *A* and *B* are talking on the phone, *A* has authority over *B*. *A* makes up her mind that *B* should do something. She draws her breath, ready to utter the corresponding modal sentence. In that moment, the connection is cut off, which *A* notices, hence she does not say anything. On the account considered in this section, we are forced to say that *B* has an obligation in this case (he just does not know it). But it seems intuitively much more appropriate to say that *A* did not get a chance to impose the obligation, and hence that no obligation is in effect.

In summary, assuming that allegedly-performative uses of modal sentences are really descriptive uses that report a mentally-created obligation not only reinstates the problematic prediction of the pragmatic account we started out with, it also fails to accord with the intuition that, under appropriate circumstances, the utterance itself is both necessary and sufficient for creating the obligation or permission in question. I hence conclude that this view is not viable.

3.3 Performative uses as claims about preferences

We can have our cake and eat it, too. We can accept that modal sentences can never be self-verifying, but hold on to the idea that performative uses are truly performative, in the sense that it is the utterance itself that creates the obligation or permission. And we can do so in a way that predicts that anti-performative modals do not have performative uses.

What we have to do is to give up the assumption that performatively-used modals denote propositions about what is deontically required. I want to suggest that, on their performative uses, these modals instead express propositions about what is necessary, given the preferences of the speaker (*i.e.*, they have a broadly-speaking bouletic interpretation). We already know that assertions about speaker preferences can be 'performative', in the sense that they can count as commands and create obligations. Consider (8), after Condoravdi and Lauer (2009).

(8) [Parent to child] I want you to be home by 7pm.

By virtue of the use of the predicate *want*, (8) is a claim about the speaker's preferences, and yet, in the right context, an utterance of the sentence can create the same obligation that a performative use of a modal would create. Taking this observation as a starting point, I propose the following conception of performative uses: If a speaker is a deontic authority, then whenever a speaker has a public preference for p , p is obligatory. With a performatively-used modal, the speaker publicizes a preference, thereby creating an obligation. The rest of this paper spells this idea out using the apparatus of the *dynamic pragmatics* of Lauer (2013), in a way that meets Kamp's challenge.

3.3.1 Preliminaries

I can only sketch the required formal set-up here, and refer the reader to Condoravdi and Lauer (2011), Lauer (2013) for the details. First, besides their deontic interpretation \Box^d , I assume that modals have a preference-related interpretation \Box^{Sp} . ' $\Box_m^{Sp}(\phi)$ ' represents that ϕ is necessarily true if the speaker's preferences are optimally satisfied. This does not require us to assume that modals are lexically ambiguous, instead we can take modals to be underspecified in the style of Kratzer (1981).⁸

Second, I assume that our models represent the *commitments* of interlocutors, which come in two kinds. *Doxastic commitments* are commitments to treat a proposition as true and are represented via an operator PB_m (for 'public belief'). *Preferential commitments* are commitments to treat a proposition as desirable and are represented via an operator PEP_m (for 'public effective preference').

Third, I assume that these commitments are subject to a number of consistency constraints, which can be implemented as constraints on admissible models (*cf.* Lauer (2013, Ch. 5.3.2)). Only two of these will be relevant here:

(9) If ϕ entails ψ , then for all a, m :

$$PB_m(a, \phi) \supset PB_m(a, \psi)$$

(10) For all moments m , agents a and propositions φ :

$$PB_m(a, \Box_m^a \varphi) \supset PEP_m(a, \varphi)$$

(9) requires that doxastic commitment is closed under entailment. (10) requires that if an agent is committed to believe that φ is necessary for optimally realizing her preferences, she is also committed to treat φ as desirable.⁹

Finally, I assume the following DECLARATIVE CONVENTION (*cf.* Condoravdi and Lauer 2011), intended to model the conventionally-determined dynamic effect of declarative sentences. As in Lauer (2013, Ch. 5.4), such conventions can likewise be implemented as constraints on admissible models. Here I state it informally.

(11) DECLARATIVE CONVENTION

If a speaker Sp makes an utterance u of a declarative sentence with content ϕ he incurs the following commitment (where m is the final moment of $\tau(u)$):

$$PB_m(Sp, \phi)$$

⁸See Condoravdi and Lauer (2015) for a Kratzer-style implementation of the \Box^{Sp} -reading. As we do there, I furthermore assume that the not *all* the speaker's preferences are taken into account, but only her *effective* preferences, in the sense of Condoravdi and Lauer (2011, 2012), Lauer (2013), Condoravdi and Lauer (2015). What matters for present purposes is that these are preferences that 'win out' against any conflicting desires the agent may have.

⁹In Lauer (2013, Ch. 6.3, p. 158) I consider a similar, but weaker consistency constraint, which requires only that a speaker who is committed to believe that φ is one of his (basic) effective preferences be also committed to prefer φ . (11) is stronger in that it also requires that a speaker is committed to such a preference if he is committed to believe that φ merely is true whenever his basic effective preferences are optimally realized. This would be true, *e.g.*, if φ is merely a precondition for something the agent prefers.

3.3.2 Deriving the performative effect

Suppose now that Sp makes an utterance u of (12), on its preference reading, and let n be the final moment of $\tau(u)$. By (11), this will result in the commitment in (13).

(12) You have to be home by 7pm.

(13) $PB_n(Sp, \forall m \in \tau(u) : \Box_m^{Sp}(\text{you-home-by-7}))$

By (9), this means that Sp also has the commitment in (14).

(14) $PB_n(Sp, \Box_n^{Sp}(\text{you-home-by-7}))$

From this, it follows by (10) that Sp also has the commitment in (15).

(15) $PEP_n(\text{you-home-by-7})$

That is, if a speaker utters (12), on its preference reading, he thereby becomes publicly committed to a preference for you-home-by-7.

The final ingredient of the account is a suitable conception of what it is to have deontic authority. In Lauer (2013, p. 147), I proposed the following conception (building on Condoravdi and Lauer (2009)). An agent a is a deontic authority with respect to a proposition p if p is obligatory whenever a is publicly committed to prefer p .¹⁰

(16) **Deontic authority with respect to p**

An agent a is a deontic authority with respect to p iff:

$$\forall m : PEP_m(a, p) \supset \Box_m^d(p)$$

Now suppose that, in the context of u , the speaker Sp is a deontic authority with respect to you-home-by-7. Then from (15), it follows that (17) is true.

(17) $\Box_n^d(\text{you-home-by-7})$

That is, by uttering *You have to be home by 7pm*, the speaker has created an obligation for the addressee to be home by 7pm. Thus we account for the performative effect. And we do so in a way that meets Kamp's challenge, because according to (16) the existence of the obligation is dependent on the *public commitments* of speaker. Hence, the obligation will come into existence regardless of whether the agent has the preference he professes to have—all that matters is whether he is committed to having it. Furthermore, it is the utterance itself that creates the commitment (and, therewith, the obligation), and it cannot fail to do so, in virtue of the DECLARATIVE CONVENTION and the consistency constraints on commitments. The present account hence correctly accounts for the intuition that the utterance of a performatively-used sentence is both sufficient and necessary for the obligation to come about.¹¹

¹⁰This conception also can be used to account for command-uses of desideratives like (8), as well as command-uses of imperatives, on either the account defended in Condoravdi and Lauer (2012, on which *Be home by 7pm!* directly induces the commitment in (15)) or a variant of the account of Kaufmann (2012, on which *Be home by 7pm!* denotes the proposition $\Box_n^{Sp}(\text{you-home-by-7})$).

¹¹Even though Kamp's challenge is met, we may wonder (as an astute reviewer did) whether the present account can explain the fact that it is odd to challenge a performatively used modal sentence as false.

(i) A : You have to be home by 7pm.

B : ??That's not true, you don't want me to be home by 7pm.

Nothing that has been said so far excludes such challenges. However, on the present account, B can certainly be said to be 'missing the point'. Even if A 's claim were in fact false, he still would have created an obligation, and his utterance would still constitute a command, which presumably this was A 's intention. But this would be irrational if A did not in fact have the effective preference he claims to have. Perhaps this is enough to explain why B 's challenge seems infelicitous. I leave this issue for future work.

3.3.3 Anti-performative modals

On the proposed account, modal expressions like *be under an obligation to* are predicted to lack performative uses because they are lexically constrained to express deontic necessities. That is, unlike (12), (18) only has the reading in (18a), but not the one in (18b). Since performative uses proceed via an assertion with content (18b), no performative use is predicted for (18).¹² Anti-performativity is due, then, to lexical constraints on the kind of necessity a modal is compatible with. We hence do not expect that there is a clean separation between, say, adjectival modal expressions and others.¹³

- (18) You are under an obligation to be home by 7pm.
- a. can mean: $\forall m \in \tau(u) : \Box_m^d(\text{you-home-by-7})$
 - b. cannot mean: $\forall m \in \tau(u) : \Box_m^{Sp}(\text{you-home-by-7})$

The proposal is also compatible with the possibility that anti-performativity is not always categorical. For *be under an obligation to*, performative uses seem to be categorically ruled out, but it has been suggested to me (by Tom Wasow, Chris Potts and Dan Lassiter) that things may be different for other predicates, especially *be required to*.

- (19) You are required to be home by 7pm.

(19) is at least somewhat resistant to performative uses, but some speakers seem to be able to imagine such a use. We can make sense on this by assuming that, in addition to (or instead of) categorical lexical constraints on modal backgrounds, speakers have gradable preferences for particular construals. Perhaps *be required to* is not strictly incompatible with a preference construal, but just strongly biased against it. Given enough contextual pressure, speakers may be able to overcome this bias, resulting in a performative use.

It is noteworthy that even if *all* anti-performative modals are only biased against, rather than incompatible with, performative uses, what has been said in this paper remains relevant. For on the unamended Kamp/Kaufmann approach, graded anti-performativity is just as unexpected as categorical anti-performativity—the anti-performative modals all are either categorically restricted to, or heavily biased in favor of, deontic construals. If performative uses proceeded via a deontic modal claim, modals like *be obligated to* should not resist performative uses, but be biased in favor of them.

4 Conclusion

If a pragmatic account of performative uses is to be reconciled with the existence of anti-performative modals, such modals must differ semantically from the ones that have performative uses. This paper has investigated two possibilities for such differences in meaning: Either the two classes of modals differ in their temporal interpretation, or they differ with respect to the kinds of modal backgrounds they are compatible with. The latter necessitates significant revisions to the pragmatic account. Quite independently from the issue of anti-performativity, this paper has demonstrated that two seemingly independent phenomena—temporal interpretation and performative uses of modals—are in fact intertwined, hence we can shed light on one by studying the other.

¹²In principle, this explanation for the absence of a performative effect for (17) would be available even if we don't make the assumptions in Section 2. Except we would have to worry, in that case, whether there aren't *two* routes to the performative effect, one via an assertion with content (18b) and one (à la Kamp/Kaufmann) via an assertion with content (18a), which would again predict a performative use for (18). Adopting the assumptions in Section 2 precludes this possibility.

¹³But we may expect tendencies. As Hacquard (2013) points out, 'lexical' modals (which include the adjectival ones) tend to be more constrained with respect to the kinds of modal backgrounds they combine with than 'grammatical' ones like *must*.

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