"Won't you?" question tags in American English as a window into the semantics-pragmatics interface.

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1 Introduction

The relationship between linguistic forms of utterances and the speech acts they express has been the subject of much recent debate. We follow the line of research that divides this computation into two separate stages in which the first step is determining the sentential force of the utterance, a meaning at the semantics-pragmatics interface which is closely tied to linguistic form, followed by the second step, a pragmatic computation to determine the corresponding speech act (e.g. Chierchia & McConnell-Ginet 2000, Murray & Starr 2021).

The illocutionary force (speech acts) results from the sentential force via pragmatic reasoning that takes into account speakers' aims and contextual factors. Chierchia & McConnell-Ginet (2000) define sentential force as "what the grammar assigns to the sentence to indicate how that content is conventionally presented," the semantic correlate of (declarative, interrogative, or imperative, a.o.) sentence type. As noted by many scholars (e.g. Levinson 1983), the same sentence can be used to perform many illocutionary acts, at times several illocutionary acts at the same time. For instance, the utterance in (1) is compatible with the speech act of assertion, defined by Searle (1969) as the speech act type whose "point or purpose [...] is to commit the speaker [...] to something's being the case, to the truth of the expressed proposition". It is also compatible with a directive speech act, whose "illocutionary point [...] consists in the fact that they are attempts [...] by the speaker to get the hearer to do something." It is not compatible with the act of wishing abstractly that something may happen. In contrast, the utterance in (2) could be used to convey a directive speech act or a wish for the addressee to have a good time, but not an assertion.

(1) You will help her.

(2) Go have an adventure!

In addition, it is often explicitly or implicitly assumed that speech acts fall into several clearly distinguished categories, and this is sometimes encoded in covert

speech act operators that drive the semantic/pragmatic computation (e.g. Haegeman 2004, Frey 2012, Krifka 2014, 2015, Korotkova 2017). In the simplest case, the covert speech act operator is associated with the syntactic clause type of its sentence as a Force operator: declarative sentences are then taken to encode assertions, interrogative sentences correspond to queries, etc. More complex theories of the semantics-pragmatics interface associate individual aspects of speech acts, such as speaker commitment, with specific linguistic forms, including declarative or interrogative clause types, as well as intonation.

This paper develops an account of the semantics-pragmatics interface that falls into the tradition of sentential force followed by a separate pragmatic process to determine the speech act, and where different aspects of sentential force, such as speaker commitments, are expressed by different aspects of linguistic form. This allows us to derive meanings that combine aspects of different speech act types, accounting for utterances that express essentially 'hybrid' speech acts.

To provide a window into the nature of the semantics-pragmatics interface, we study an utterance modifier which cuts across both clause type and speech act categories, calling for a unified analysis. We look at the question tag *won't you?* in American English, which can be attached to declarative or imperative clauses alike. We demonstrate that a syntactic encoding of speech acts is not fine grained enough to capture the semantic flexibility of utterance modifiers such as the one studied here.

We start from two empirical observations about *won't you?*: that a tagged utterance expresses a single speech act, and that for some utterances this single effect is the same, whether it is produced by tagged declarative or tagged imperative utterances. The two observations lead us to investigate how to bridge the gap from the semantics of a sentence to the speech act realized by its utterance.

We first spell out the semantic components of *won't you?* utterances and consider these components' impacts on the conversational scoreboard in the Table model of conversational dynamics (Farkas & Bruce 2010: subsequently, F&B). We analyze *won't you?* tags as elliptical preposed negation questions, using Romero's (2015) and Repp's (2013) VERUM/FALSUM operators. Further, we model the contribution of imperative utterances to the scoreboard by adapting Kaufmann's (2016) proposal to the F&B model. We argue that F&B's scoreboard is not a model of speech acts, but rather of conventional dynamic semantic effects. We modify and extend the model to propose a unified analysis of the meaning of imperatives and declaratives, and the way that *won't you?* tags modify it. The tag does this by changing the dynamics of the conversational scoreboard, which represents aspects of meaning closely tied to linguistic form of the utterance, and thereby affecting the pragmatic calculations that use the scoreboard as their starting point. We follow with a sketch of this pragmatic reasoning from conventional meaning to the direct or

indirect speech act. Finally, we compare our proposal to previous scholarship on the modelling of tag questions in the conversational scoreboard and on the semantics of clause types.

2 The empirical landscape

In this paper, we specifically investigate the English question tag *won't you?*, as seen in (3–4). This question tag frequently occurs attached to declarative or imperative anchor clauses:

(3) You will take care of her, won't you?

(4) Excuse us, won't you?

Intuitively, the speaker seems to be uttering a kind of confirmation request in both cases. The phenomenon consists of three data patterns, which we present in this section.

2.1 The first pattern

We start by noting that the effect of the anchor+tag (3) differs markedly from examples like (5), in which the anchor and the question appear as independent utterances.

(5) You will take care of her. Won't you?

The most natural analysis of (5) is that the two clauses represent two separate speech acts. In contrast, the reversed-polarity tag in (3) might represent one or two speech acts. Prior scholars argue for different analyses: thus, Reese & Asher (2007) propose that the declarative anchor and the question tag represent two speech acts, the effect of the second one interacting with that of the first, while Wiltschko et al. (2018) treat the tag as a modifier of the anchor within a single speech act.

We observe that the tag question (3) has the effect of a mitigated (possibly polite) request. This construction is used frequently in English to politely request real-world actions from the hearer. In contrast, (5) invites the inference that the speaker has taken part of their first utterance back. A very strong assertion or order uttered in the first sentence is partially retracted by the speaker after the fact, by adding the second sentence. An order or request uttered in the first sentence, when followed by the separate "Won't you?" question, conveys uncertainty that it will be carried out, since the question is a request for explicit commissive confirmation from the hearer, doubling-down on the initial request and indirectly also taking away from the initial authority or certainty behind it.

The difference between the tagged utterance (3) and the separate two-utterance discourse (5) shows that the tag prevents the anchor from realizing the full speech

act effects that it would have if it remained untagged. We can see this from the fact that the felicity conditions for the two cases are quite different: (5) is only felicitous if the speaker has a high level of social authority over the hearer, similar to the bare utterance of the anchor without the tag, while (3) is felicitous even if the speaker has no specific authority over the hearer (that is, the speaker can't make the hearer do anything). We conclude that (3) represents a single modified speech act, while (5) represents two separate ones. It remains to be shown what exactly the contribution of the tag is to the meaning of the entire utterance.

The following naturally occurring examples[1] demonstrate *won't you?*-utterances which would be infelicitous if replaced by a two-sentence sequence, since it's odd for the speaker to make the commitment induced by the first sentence:

(6) You'll have children, won't you? They make such a difference.

(7) A: Now let's get up front, huh?
B: You really will let my father go, won't you?
A: Why would I hurt the old boy [...]?

To figure out what is different about *Won't you?* as a separate utterance, we searched the BYU SOAP corpus (Davies 2011–). In contrast to the *won't you?* tag, of which there were 191 examples in the corpus, we found only 6 instances of the separate *Won't you?* utterances following declaratives, and 3 more with *Won't you?* doubling the tag.

These rare instances of *Won't you?* as a separate utterance following up on a declarative statement or declarative request all result in an interpretation wherein the speaker revises their initial speech act:

(8) EJ: And I trust that you will do what is right to make sure that our children aren't affected by Rafe's recent erratic behavior . Won't you ?
Source: Days of Our Lives (2011-04-05)

In (8) we can see the speaker begins with a declarative assertion marked with a certainty marker, an epistemic 'I trust'. This speech act is then immediately undermined by the question *Won't you?* which serves as an attempt to extract a promise of compliance from the addressee.

(9) I will do whatever it takes to beat this, to beat this curse, because you will wait for me. You will . Wont you ?
Lucy: Yeah. I I will wait for you.
Source: Port Charles (2003-01-20)

1 Both examples are from the OpenSubtitles corpus (Lison & Tiedemann 2016).

In (9) the prediction that Lucy will wait for the speaker is presented in a factive construction, so the speaker presents himself as initially strongly committed to it. The question *Won't you?* makes that commitment dependent on the hearer's answer.

2.2 The second pattern

Having concluded that *won't you?* is an utterance modifier that affects the kind of speech act realized by the utterance, we must now investigate at which level in the semantic/pragmatic computation the operator comes in to achieve this effect. We observe that the tag *won't you?* cannot apply simply to the proposition denoted by the anchor, since it can occur with types of anchor clauses that do not denote propositions. The imperative anchors in tag questions like (4) may or may not denote propositions. In addition, in corpus data we even find *won't you?* tag questions with interrogative anchors, such as (10) from the SOAP corpus (Davies 2011–). The interrogative anchor in (10) cannot denote a proposition (Groenendijk & Stokhof 1984, Francez 2017).

(10) Why don't you hold me down outside for a moment, won't you?

While the anchor is syntactically interrogative in (10), it does not express a query speech act. The interrogative in the anchor is instead interpreted as a directive, creating the impression that the tag modifies the fully-interpreted indirect speech act of the anchor. The fact that "Why don't you"-questions can be used as indirect directives in English is a matter of linguistic convention ("Why don't you"-questions are a common way of expressing suggestions, advice, or even requests). We thus conclude that the tag *won't you?* comes in at the level of the (conventional) speech act expressed by the anchor to modify it.

As just shown, clause types do not always match the speech act of the anchor (including clauses modified by tags (Holmes 1984, Heim et al. 2016)). In the case of *won't you?*, the speech act of the utterance is often a kind of directive. Directives with both declarative and imperative anchors are often very similar to each other in terms of the effect of the *won't you?* tag. The modified request in (3), repeated here, could also be rephrased using an imperative anchor:

(11) You'll take care of her, won't you?

(12) Take care of her, won't you?

A model of discourse that accounts for this pattern must have enough flexibility to encode modifiers like *won't you?*, whose meaning cuts across clause types and speech acts to create an utterance expressing a blended/hybrid meaning combining elements of different speech acts, such as directive and query.

This is problematic for several types of syntactic approaches to speech acts. Any theory that encodes sentential force ((Chierchia & McConnell-Ginet 2000: p.214), Portner (2004), Murray (2010), Starr (2010)) via "assert", "question", and "direct" operators, cannot account for tag question data, which shows that there are blended/intermediate types of utterances. For instance, the definition of the ASSERT operator in Krifka (2014) and the associated notion of commitment (liability for the truth of the proposition, such as providing evidence for it) provide no way of handling non-assertive speech acts (cf. in contrast, Scheffler (2008, 2013)), or hybrid speech act types.

A more flexible approach, in which syntax constrains aspects of sentential or illocutionary force, without the discrete operators determining the total force of a clause, would fare better in this respect, since we no longer would need different tag versions for attaching to the different types of clauses in (3,12), losing the generality that the same effect is derived in both variants. In this paper, we pursue such an approach, using the conversational scoreboard model (Farkas & Bruce 2010).

2.3 The third pattern

Declarative *won't you?* tag questions show an additional ambiguity. In addition to or instead of the modified request reading, some declarative tag questions are understood as true confirmation questions about the speaker's prediction about the future. The difference is obvious with these examples from the OpenSubtitles corpus (Lison & Tiedemann 2016).

(13) You will keep an eye on them, won't you?

(14) Now you'll sulk, won't you?

Both sentences have declarative anchors. While (13) can be interpreted as a (polite) request to "keep an eye on them", (14) cannot be understood as a request. It is clear that sulking is not something a speaker would ever prefer a hearer to do, and thus not something she would request of the hearer. Instead, the anchor contributes the prediction by the speaker that the hearer will be in a bad mood. The tag *won't you?* acts as a confirmation request to check whether the speaker's predictions about the hearer's future actions are true. As a confirmation question, *won't you?* is a regular reverse polarity question tag (cf. Cattell 1973, Ladd 1981, Tottie & Hoffmann 2006, Dehé & Braun 2013, Malamud & Stephenson 2014: among others) in (14). The tag matches the anchor in agreement features, but in this case, also in its future tense. The utterance parallels a reverse polarity tag question in present tense like:

(15) He's sulking, isn't he?

Given this possible interpretation for (14), it becomes clear that (13) can also be interpreted in this way. In addition to the action request reading, (13) has another reading as a confirmational check question, by which the speaker wants to reassure herself of the hearer's future actions: In this case, the speaker checks to confirm whether the hearer will in fact "keep an eye on them", as she predicts. This reading may be more salient if the speaker has no preference over who keeps an eye on them, or whether they are being watched at all.

In this section, we have presented the empirical patterns involving the *won't you?*-construction in English. We have described *won't you?* as a question tag that can attach to anchors of different clause types, in particular imperatives and declaratives. For both types of anchors, *won't you?* acts as a speech act modifier, the resulting construction is used as a polite request in American English. This usage differs markedly from cases where *won't you?* is added as a separate, additional question after the completion of the first utterance. Finally, we have observed that *won't you?* tag questions with declarative anchors also allow for another reading which acts not as a request for speaker action, but as a confirmation question. This reading is similar to general reverse polarity tag questions, and is the only contextually available reading in some cases (14). In the following, we introduce our analysis of the meaning of this construction in several steps. First, we discuss the semantic components in the next section. We then describe the theoretical approach to pragmatic computations before proposing our model of *won't you?* and, finally, addressing the mentioned empirical patterns.

3 The model of the semantics-pragmatics interface

We assume that (most) linguistic expressions carry static semantic content, which is eventually used by pragmatic calculations to arrive at a speech act expressed by an utterance. This is mediated by an intermediate dynamic semantic representation serving as the site of the semantics-pragmatics interface. Following other authors, we continue to call this intermediate level the conversational scoreboard, even though its content is closely tied to aspects of linguistic form (such as clause type and intonation) and it does not represent felicity conditions or other properties of speech acts.

We assume a static semantics of the standard kind: declaratives denote propositions (sets of possible worlds), interrogatives denote questions (sets of propositions), and imperatives denote special kinds of propositions (Schwager (2006a), Kaufmann (2012, 2016); see also Condoravdi & Lauer (2012)). In tagged utterances like (3–4), as well as in their counterparts in which *won't you?* occurs as a separate utterance, we propose that the interrogative tag *won't you?* is a preposed-negation interrogative clause (with VP ellipsis). The semantics of such clauses has

been discussed by Han & Romero (2002), Romero & Han (2004), Romero (2006, 2015); we adopt the last (2015) version of the analysis.

3.1 Conversational Scoreboard

Our point of departure is the model presented by Farkas & Bruce (2010) (henceforth **F&B**), building on Hamblin (1971), Gunlogson (2003), Ginzburg (2012) and others, and further developed in Farkas & Roelofsen (2017). F&B's representation of the "conversational state" (or Lewis-style "scoreboard") includes the elements in (16).

(16) Scoreboard components:

a. DC_X: for each participant X, X's public discourse commitments.

b. Table: stack of "proposals" or issues to be resolved (the top issue first), where issues are represented as sets of propositions, in which one or more proposition in a proposal may be highlighted[2] (made available for future anaphora) (Farkas & Roelofsen 2017)[3]. The issues remain on the Table only while they have not been resolved yet, in the sense of the propositions entering the CG or the participants agreeing to remove the issue from the Table (cf. Ginzburg 2012, Roberts 1996).

c. Common Ground (CG): the set of propositions that all speakers are publicly committed to.

d. Projected CGs (F&B's "Projected Set"): a set of potential CGs giving possible resolution(s) of the top issue on the Table in the expected (canonical) next stage of the conversation.

For F&B, the commitment sets and the Table completely determine the other two elements of the scoreboard: the CG consists of propositions that both (all) participants are committed to, while the projected CG consists of these joint commitments updated with all possible resolutions to the issues on the Table.

However, we need to slightly modify the dynamics of the projected CG, to account for not-at-issue commitments (such as presuppositions to be accommodated), which are not addressed at all in the Farkas & Bruce (2010) model. On the one hand, they are not on the Table, since they do not provide discourse referents for anaphoric elements such as response particles. On the other hand, these not-at-issue contributions do become joint commitments, and thus enter the CG, once the utterance introducing them is accepted into the CG. For example, in the semantics of

2 Highlighted propositions will be in **boldface**.

3 Below we point out the differences between the (Farkas & Roelofsen 2017) proposal we are adopting and the original F&B Table.

imperatives Kaufmann (2012) proposes, the presuppositions associated with them must be accepted by the hearer, to ensure the effect of the imperative utterance (see below).

One approach to not-at-issue commitments in a scoreboard model would be to follow Murray (2010), in that novel not-at-issue commitments directly enter the CG. However, the CG is generally taken not as an independent component of the scoreboard, but rather as the intersection of the public commitments of the interlocutors. Directly modifying it would mean that one speaker's utterance has the power to publicly commit another speaker to something, which goes directly against the main idea of the F&B model, in which utterances are proposals to change the CG.

We propose a different approach, in which the projected CG consists of the existing CG updated with all possible resolutions to the issues on the Table, plus the not-at-issue commitments not already in the CG that are part of the current utterance. This preserves the basic idea that each speaker can only change those portions of the scoreboard over which they hold "ownership", while still ensuring that not-at-issue commitments such as conventional implicatures or accommodated presuppositions end up in the CG.

For example, "Pat is a climber" is a novel not-at-issue commitment, that is a conventional implicature, for the speaker who utters "Pat, a climber, scaled the Grand Teton". When this utterance is accepted, the CI, as well as the main assertion, becomes part of the common ground. Similarly, presuppositions such as "Chris has a sister" for an utterance of "Chris's sister is here", as well as other preconditions on utterances, such as felicity conditions on speech acts, must be accepted by all interlocutors, entering the CG, in order for the utterance to go through.[4]

Every utterance comes with additional pragmatic presuppositions, such as the presupposition that its felicity conditions are satisfied. We will, in general, not represent such not-at-issue preconditions, assuming they enter the CG as part of general cultural and linguistic knowledge of the interlocutors. In some cases, when especially relevant, we might explicitly represent these presuppositions, as we do novel not-at-issue commitments of other types, such as conventional implicatures, secondary speech acts (Bach 1999), etc. [5]

In the F&B model, conversational moves – in F&B's terminology, specifically, assertions, queries, and their modified variants – are distinguished by the way their associated denotations are added to the scoreboard. We will step away from speech

4 This does not preclude the possibility of certain at-issue and not-at-issue commitments to be tied to a contextually determined judge, such as the speaker. Thus, accepting Alice's utterances "This is tasty! The chef is damn good!" does not commit the hearer Boris to finding the dish tasty (an at-issue commitment indexed to Alice) or sharing Alice's attitude to the chef.

5 Distinguishing the effects of these different types of not-at-issue commitments in the general case is beyond the scope of this paper.

act terminology to describe scoreboard updates representing sentential force, and more accurately use terms established for clause types such as declarative, interrogative, or imperative. In our proposal, as outlined above, if A utters a declarative with the content proposition p and not-at-issue contribution q that is not already in the CG, then p and q are added to DC_A, the highlighted $\{\mathbf{p}\}$ (Farkas & Roelofsen 2015) is added to the top of the Table, and p and q are added to each Projected CG (17.i). If B accepts the utterance (a separate move), this removes $\{\mathbf{p}\}$ from the Table and adds p and q to the CG (17.ii).[6] The Table in (17) illustrates these changes in the scoreboard in a case where the proffered utterance is a declarative assertion whose content is p = "Pat, a climber, scaled the Grand Teton." and which has a not-at-issue commitment not already in the CG, namely, the CI q = "Pat is a climber." This CI enters the CG when the utterance is accepted.

(17) A utters: *Pat, a climber, scaled the Grand Teton*
in an empty context (nothing noted in the commitments, on the Table, or in the CG, though we assume general pragmatic presuppositions to be part of the CG).

	(i) after A's utterance	(ii) after B accepts A's utterance
DC_A	{Pat scaled GT, Pat is a climber}	{ }
DC_B	{ }	{ }
Table	⟨{**Pat scaled GT**}⟩	⟨ ⟩
CG	{ }	{Pat scaled GT, Pat is a climber}
Proj. CGs	{ {Pat scaled GT, Pat is a climber} }	{ {Pat scaled GT, Pat is a climber} }

In contrast, a polar interrogative with the content $\{\mathbf{p}, \neg p\}$ (with the highlighted proposition corresponding to the pronounced alternative in the question) and a novel not-at-issue contribution q in the same context creates projected CGs containing p and q as well as ones containing $\neg p$ and q. The table in (18.i) illustrates this, again in a case where p = "Pat, a climber, scaled the Grand Teton." This is a case where the not-at-issue commitment is new to the context, so it is not already part of the CG.

6 We follow the convention from F&B that when p is added to the CG, it is also removed from any individual commitment sets; this just avoids redundancy, since common ground propositions are public commitments of every participant in the conversation.

(18) (Similarly, the previous CG, commitments, and the Table are empty.)
A asks: *Did, Pat, a climber, scale the Grand Teton?*
B answers: *Yes*.

	(i) after A utters	(ii) after B answers	(iii) after A accepts B's answer
DC_A	{Pat is a climber}	{ }	{ }
DC_B	{ }	{Pat scaled GT}	{ }
Table	⟨{**Pat scaled GT**, Pat didn't scale GT}⟩	⟨{**Pat scaled GT**}⟩	⟨⟩
CG	{ }	{Pat is a climber}	{Pat is a climber Pat scaled GT}
Proj. CGs	{{Pat scaled GT, Pat is a climber}, {Pat didn't scale GT, Pat is a climber}}	{{Pat scaled GT, Pat is a climber}}	{{Pat scaled GT, Pat is a climber}}

Thus, a declarative that p pushes the singleton $\{\mathbf{p}\}$ on top of the Table, while a polar interrogative whether p pushes the proposal $\{\mathbf{p}, \neg p\}$ on the Table. In both cases p is highlighted (Farkas & Roelofsen 2015). The content of the Table and highlighting are modelling the availability of propositional discourse referents for subsequent anaphora. Specifically, in F&B's proposal as recast by Farkas & Roelofsen (2015), the polar particles *yes* and *no* responding to assertions and polar questions refer, anaphorically, to the highlighted propositions. Content that bypasses the Table, like CIs or presuppositions, is not available for such anaphora.

3.2 Relationship between scoreboard updates and speech acts

F&B's model builds on the common ground / scoreboard proposals in (Stalnaker 1978, Roberts 1996, Ginzburg 1996) and others; in particular, it retains Stalnaker's and Roberts's use of speech act labels such as "assertion" for the conversational moves reflected in the scoreboard. Unlike Stalnaker and Roberts, F&B and subsequent proposals in (Farkas & Roelofsen 2015) tie the nature of the scoreboard update to the linguistic form of the utterance, specifically declarative clause type with falling intonation and (polar) interrogative clause type with rising intonation. However, the clause type (and morphosyntactic shape of an utterance more generally) underdetermine the speech act it is used to express. This means that a scoreboard update is not, in fact, a speech act. Since F&B do not specifically discuss

the relationship between scoreboard updates and speech acts, this leads to potential conflation between the two.[7]

We feel that it is important to avoid speech act labels for the meanings which are determined by grammatical convention, and to clarify the relationship between updates (what some scholars have termed "sentential force", e.g. Chierchia & McConnell-Ginet (2000: p.214), Portner (2004), Murray (2010), Starr (2010)) and speech acts. We will thus take as our starting point the F&B model while terming these moves declarative and (polar) interrogative, respectively, and we will proceed to discuss the relationship between the initial scoreboard update and the intended speech act.

For example, a declarative directive (19) will have essentially the same effect on the scoreboard as a declarative assertion, namely, adding the content proposition to the speaker's commitments, and pushing the singleton set containing this proposition (highlighted) onto the Table, as in (17).

(19) You will take care of her.

Based on this update, the speech act expressed by this utterance is computed via pragmatic reasoning, taking into account the felicity conditions obtaining in the extra-linguistic context (we assume reasoning along the lines of Searle (1965, 1975), Grice (1975)). In the case of (19), the speaker is publicly committing to the proposition that the hearer will do something and proposing to add this proposition to the CG. Assuming that the speaker is sincere (Searle 1965)/observing the Maxim of Quality (Grice 1975), and in the absence of a context in which the speaker is prophetic, the reason enabling the speaker's commitment to the hearer's future action is the high level of social authority that the speaker has over the addressee. The utterance is therefore inferred to be a directive speech act, and the speaker to be very sure of the hearer's compliance.

One prediction of this analysis is that unmodified declarative directives with falling intonation, unlike imperatives, are compatible with only a narrow range of directive meanings, specifically, those where compliance is very likely, such as orders. This means that, unlike their imperative counterparts, the utterance of a falling declarative (20) cannot be a wish, the one in (21) cannot be an offer, and (22) cannot be a polite request.

(20) You will get better.

(21) You will have a cookie.

7 One example of such conflation is Yuan & Hara (2019)'s proposal for Mandarin assertion and question modifiers in the F&B model. Such conflation is not limited to work based on the F&B model, but is a pitfall of any proposal for the semantics-pragmatics interface which does not draw a clear distinction between aspects of utterance meaning determined by grammar and those determined by pragmatic reasoning, e.g. see our discussion of Krifka (2014) in §2.2.

(22) You will open the door.

In our interpretation of the F&B model, the scoreboard reflects the sentential force of the utterance, which constrains but does not capture its illocutionary force. This is similar to the proposal in (Roberts 1996) in that conversational moves reflect some but not all properties of the speech act the utterance expresses. For example, both the assertion "You will marry your mother, Oedipus" and the directive "You will excuse us" are moves involving a public commitment to and expected acceptance into the CG of the content proposition; while the queries "Where is Jo?" and "I wonder if you know where Jo is." are different moves effecting different scoreboard updates. This is because, unlike Roberts (1996), we consider the aspects reflected in the scoreboard to be semantic in nature, and thus a query speech act expressed indirectly by a declarative and a pragmatically similar query speech act expressed directly by an interrogative would have different effects on the scoreboard.

These dynamic effects are tied to the form of the utterance (in the sense of syntactic clause type and intonation), as they are in both the F&B and Farkas & Roelofsen (2015) frameworks (and Groenendijk & Stokhof (1984), among others, before that), while potentially also being to some extent sensitive to contextual factors, such as salience and interlocutors' goals.

We will be extending this dynamic framework to include imperative utterances and *won't you?* tags. We will then outline pragmatic reasoning that uses this scoreboard as well as the context of the utterance as its input to derive the full speech act.

3.3 Preposed negation questions and VERUM/FALSUM operators

Our starting point is the semantics of preposed negation questions, such as *won't you?* or (23–24).

(23) Won't you help her?

(24) Didn't Maribel win?

Repp (2006) hypothesizes that preposing the negation-bearing auxiliary can introduce the epistemic operator FALSUM, expressing something like "don't add the prejacent to the Common Ground" or "remove the prejacent from the Common Ground". FALSUM is a direct antonym of the VERUM operator, proposed as the translation of *really* and preposed negation in Romero & Han (2004). These operators have an epistemic component, but are argued to be operating at a pragmatic level, essentially expressing meta-linguistic propositions that the relevant conversational participant is sure that the prejacent proposition should be added to the common ground (in the case of VERUM) or should not be added to the common

ground (in the case of FALSUM) (Stalnaker 1978). Repp (2006, 2009, 2013) relegates these operators to a separate speech-act dimension called "Common Ground (CG) Management".

Romero (2015) modifies this proposal in two ways. First, she proposes that, in addition to their epistemic contribution in the CG-management dimension, there is also an at-issue contribution of VERUM and FALSUM, which is trivial (an identity function).

(25) $[\![\text{FALSUM}]\!] =$
$\lambda p_{<s,t>}[p]$ (at-issue)
$\lambda p_{<s,t>}\lambda w.\forall w' \in Epi_x(w)[\forall w" \in Conv_x(w')[p\neg \in CG_w"]]$ (CG-manag.)
$= \lambda p \lambda w.\text{FOR-SURE-NOT-CG}_x(p)(w)$
where $Epi_x(w)$ is the set of epistemic alternatives of x at w, and $Conv_x(w')$ is the set of worlds where all the conversational goals of x in w' are fulfilled.

Second, Romero (2015) builds on the standard Hamblin (1973)/Karttunen (1977) (cf. Groenendijk & Stokhof 1984) denotation for polar (yes/no) questions, in which polar interrogatives contain the question morpheme Q; she assumes for Q identical denotations at the at-issue level of meaning and the CG-management level of meaning:

(26) $[\![Q]\!] = \lambda p_{<s,t>}\lambda w_s \lambda q_{<s,t>}.[q = p \vee q = \neg p]$

A preposed negation question such as (24) is ambiguous between two LFs (27), corresponding to Ladd's ambiguity (Ladd 1981).

(27) a. Q [VERUM [not [Maribel won]]]
= Are you sure we want to add "Maribel didn't win" to the CG?
cf. Didn't Maribel win either?

b. Q [FALSUM [Maribel won]]
= Are you sure we don't want to add "Maribel won" to the CG?
cf. Didn't Maribel win too?

The second reading (with FALSUM) is often judged as more natural, and tag questions arguably don't have a VERUM reading (28). The reading in (28a) is clearly Ladd's outer negation reading, corresponding to the FALSUM operator. The reading in (28b) does not correspond to a preposed negation question with *either* (a diagnostic for the VERUM operator).

(28) a. Alice: Maribel and Veneeta will pass the exam.
Bea: But you'll pass too, won't you? ∼ But won't you pass the exam, too?

b. Alice: That exam was so hard, nobody is going to even pass it.
Bea: But you'll pass, won't you? $\not\sim$ But won't you pass the exam, either?

From the contrast between the tag and the question with *either*, we conclude that tags only have the FALSUM reading. A polar interrogative with FALSUM raises the meta-linguistic issue of whether the interlocutor(s) are sure that the positive prejacent should not be added to the common ground. Posing such a question leads to the positive epistemic implicature that the speaker of sentences like (24) is biased in favor of the non-negated proposition (that Maribel won) (Romero 2006).

This meaning is explicitly spelled out in (30). The at-issue contribution explains the behavior of polar response particles *yes* and *no* (Lance Nathan p.c. to Maribel Romero), which fail to pick up on the contribution of FALSUM and address the prejacent instead (29). The response pattern is completely in line with the data in Farkas & Bruce (2010) – *yes* picks out the positive answer, while *no* picks out the negative answer, regardless of the polarity of the question itself.

(24) Didn't Maribel win?

(29) a. Yes(, she did).
b. No(, she didn't).

(30) Didn't Maribel win?
at-issue: { Maribel won, Maribel didn't win }
CG manag.: { FOR-SURE-NOT-CG (Maribel won), ¬FOR-SURE-NOT-CG(Maribel won)}

We adopt this proposal for the meaning of *won't you?*, and recast it in the pragmatic framework of Farkas & Bruce (2010). Specifically, the at-issue question is placed on the Table, capturing the intuition that the Table models the behavior of response particles. At the same time, the CG-management content, like all other not-at-issue content, bypasses the Table but affects the Projected Common Ground. Specifically, different projected CGs contain resolutions to both the at-issue and CG-management questions put forth by the preposed negation question. Combinations of resolutions that are contradictory are excluded, since a proposed CG cannot be inconsistent. This means that proposing to put Open(B,door) in the common ground is incompatible with being sure it shouldn't enter the CG, and also that proposing to put ¬Open(B,door) in the common ground is incompatible with being unsure that Open(B,door) should be kept out of the CG.

(31) Assuming an empty context: nothing in the commitments, the Table, or the CG
A: Won't you open the door?

B: Yes/Okay.

	(i) After A asks	(ii) After B answers
DC_A	{}	{}
DC_B	{}	{}
Table	⟨{**Open(B,door)**, ¬Open(B,door)}⟩	⟨⟩
CG	{}	{ Open(B,door) }
Proj. CGs	{{sure-not-in-CG Open(B,door), ¬Open(B, door)}, {¬ sure-not-in-CG Open(B, door), Open(B,door)}}	{{ Open(B,door) }}

In the remaining projected CGs, we can omit the weaker metalinguistic propositions when they are superseded by stronger at-issue propositions in the same projected CG. We therefore propose that the scoreboard resulting from the preposed negation question in (31) is functionally equivalent to the simplified one in which the Projected CGs are just {{¬Open(B,door)},{Open(B,door)}}. The positive answer such as *Yes* then narrows it down and puts Open(B,door) into the CG itself, since both interlocutors are now committed to it.

3.4 Imperatives

There have been several proposals for the interpretation of imperative clauses couched in frameworks similar to F&B's conversational scoreboard (Starr 2010, Cormany 2013, Rudin 2018b). We choose instead to adopt the semantics of imperatives proposed by Schwager (2006b), Kaufmann (2012, 2016), which allows us to easily separate the semantic content of an imperative utterance from its pragmatic effect, which we can then integrate into the conversational scoreboard. In section §5, we discuss the compatibility of our analysis with other models of imperatives, including the proposal in Condoravdi & Lauer (2012).

For Kaufmann, committing to a proposition p means adding to the common ground the proposition that necessarily, according to the speaker's epistemic alternatives, p is true. Imperatives, like declaratives, express propositions, though these propositions come with presuppositions that ensure their differences from declarative assertions. Specifically, an imperative is self-verifying and non-descriptive.

By uttering an imperative like "Help her", a speaker S commits to the proposition that the hearer should[8] help her, and in addition requires, via presuppositions, that the utterance is performative and the right kind of modal base and ordering source are used. More formally:

(32) In a context c containing a salient Question Under Discussion Π_c, salient modal base f_c and ordering source g_c, an imperative expresses the speaker's commitment to the proposition $\Box^{f_c,g_c}p$, and carries two presuppositions regarding the context of the utterance:

Epistemic authority: [9] The speaker S is considered an epistemic authority in c. This means that at all $< w,t' >$ such that $< w,t >\in CS$ and $t' \in [t,t+]$, for all p,
$\Box^{f,g}p$ at $< w,t' > \leftrightarrow \Box^{R^e_S}\Box^{f,g}p$ at $< w,t' >$.
Paraphrase: At every point of evaluation in the Stalnakerian Context Set CS, propositions are necessary with respect to the modal base f and ordering source g, if they are necessary wrt. f and g in the epistemic alternatives of the speaker S.

Non-descriptivity: The context c is practical for the addressee A or else expressive. This means that either
The context is practical for A: The QUD Π_c is a set of non-overlapping propositions where each cell represents a future course of events that is choosable for A, g_c represents a set of rules, preferences, or goals, and CS entails that the f_c, g_c characterize the modality relevant to resolving Π_c.
or
The context c is expressive, which means there is no agent α such that c is a practical context for α (e.g., in wishes).

8 We use "should" in the paraphrases sometimes, but note that the actual content of the imperative is not equivalent to "should" in all contexts. Where the ordering source creates obligations, then the "should" paraphrase is appropriate. However, imperatives are compatible with a wider range of ordering sources than the modal "should", e.g. (i) does not create obligations. We briefly discuss this further in §3.4.1. For more discussion of ordering sources and modal flavours of imperatives, see Kaufmann (2012), Condoravdi & Lauer (2012), among others.

i. Get well!

9 Epistemic authority is different from social authority. The former is a presupposition causing the imperative to be self-verifying, as paraphrased here. The latter is a felicity condition for directive speech acts – that the speaker has the authority to ask the hearer to perform some action. For example, imperative wishes like *Get well soon!* involve epistemic but not social authority, while declarative directives like *You will help me.* involve social but not epistemic authority, illustrating the difference.

Kaufmann embeds this proposal in a pragmatic framework, in which committing to a proposition has an effect on the Stalnakerian Context Set *CS*, as well as a Robertsian QUD Π_C. We will move away from this framework, and instead express the sentential force of an imperative utterance in the F&B-style scoreboard.

3.4.1 Proposal: imperatives in the scoreboard

We adopt Kaufmann's proposal that the utterance of an imperative denotes the proposition $\Box^{f_c,g_c}p$. If imperatives were treated exactly as assertions in the F&B style scoreboard, uttering an imperative would update the scoreboard as follows:

(33) (Take 1 – to be revised) $\Box^{f_c,g_c}p$ is added to DC_A, to the Table, and to the projected *CG*.

With respect to the imperatives' effect on the QUD, which might be thought equivalent to F&B's Table, Kaufmann (2012) states that imperatives and performative modal declaratives are identical in their at-issue content, while Kaufmann (2016) observes that either the whole modal proposition or just the prejacent can be at-issue[10], in the sense of providing a (partial) answer to the QUD[11]. Her example (34) illustrates the case when the whole modalised proposition is at-issue (also illustrated in (35)).

(34) Bella: Which of these two films should I show?
Alice: Show this one. (based on Kaufmann 2016: ex. 25)

(35) Bella: Which of these two films should I show?
Alice: You should show this one.

However, we argue that the proposition most relevant to the QUD and the at-issue proposition can be different for imperatives. In most cases, the issue that the speaker of an imperative "Do the action" puts on the Table is whether you will do the action, even if the context suggests that the QUD is whether you should do the action.

The Table in the F&B model was designed to model those propositions and issues that are up for discussion and are picked up by response particles **after** an

10 Kaufmann (2012) proposes that the future orientation of imperatives is due to the imperative operator itself (p.96). The object that goes on the Table, is, thus, not just the timeless prejacent, but rather the prejacent forward-expanded in time by the imperative operator (cf. Condoravdi 2002). For perspicuity, we will spell out this future-expanded prejacent as "You will ...", but nothing in our analysis depends on this one way or another.

11 We note that both of those options are fully compositional, because the imperative operator combines with the prejacent as its argument to form the modal proposition.

utterance. The issues on the Table are, in a sense, anaphoric antecedents for expressions like response particles, and we can think of them as issue-sized discourse referents (cf. Murray 2010). Such referents are assumed to become available through a grammar-driven semantic interpretation process (Kamp 1981, Heim 1982); their salience and availability for pragmatic computation are often influenced by both grammatical and contextual factors (Walker et al. 1998, Malamud 2006).

In this sense of at-issueness, diagnostics for the most part point to the proposition that the imperative puts on the Table being along the lines of *you will help her; you will show this one*, that is, just the prejacent proposition.

This is illustrated in (36–39) below.[12]

(36) Bella: Which of these two films should I show?
Alice: Show this one.
Bella: **Okay** (= "I will show this one", not "I should show this one")

(37) Ann, wish him a happy Father's Day for all of us.
ANN: **Yes**, I will. NPR (COCA)

(38) MITCHELL: Well, tell us what it is, Mika.
BRZEZINSKI: **No** , I won't. I won't do it. CBS (COCA)

(39) Mom: Have a nice day at school!
Son: **No**, I won't! (attested)

Conversely, attempts to use response particles to address the modal proposition, such as those in (40–42), are infelicitous on directive uses, as has been noted by Kaufmann (2012), Condoravdi & Lauer (2012), among others, as well as on wish uses.

(40) Alice (suggestion to a colleague): Show this film.
Bella: # Yes, though I won't do it.
(Intended: "I should show this film, though I won't do it.")

(41) Alice (addressing a sullen teen): Have a nice day in school.
Bella: # No, you don't really wish that./# No, I shouldn't have a nice day in school.

(42) Ann, wish him a happy Father's Day for all of us.
ANN: # **No**, I shouldn't
(Intended: "I shouldn't wish him a happy Father's Day for all of you/us.")

However, this preference for the prejacent being on the Table is not categorical. For instance, the modal proposition seems to be at-issue in this anaphoric sense in disinterested advice uses of imperatives. A "yes" response to the advice in (43) is

12 "Okay" is not a strong marker of issues on the Table, unlike "yes" and "no".

infelicitous, because it conveys that Bella, the hearer, can independently commit to the proposition "Bella should take the 'A' train to get to Harlem", which is in contrast with Bella asking for advice in the first place. So, on the advice uses, it appears that the modal proposition is on the Table, since "yes" picks up on it. We can conclude that availability of the modal proposition for response particles is affected by the speech act expressed by the imperative, since it seems to become at-issue when the hearer's preferences and goals drive the ordering source, as in these disinterested advice uses.

(43) Bella: How do I get to Harlem?
Alice: Take the 'A' train.

We therefore suggest that imperatives don't place any issue on the Table automatically, but that either the modal proposition or the prejacent proposition might be pushed to the fore by contextual factors, specifically, by interlocutors' goals. This means that the scoreboard (and the notion of sentential force it represents) is not a purely semantic object, since the Table updates are affected by such clearly pragmatic considerations. The prejacent proposition can become salient more easily, since the modal proposition comes with the presupposition of the speaker's epistemic authority and thus is unlikely to be up for debate. However, contextual factors can override this preference, such as, for the disinterested advice uses, mutual public knowledge that the speaker doesn't care if the hearer follows the advice. Note that this is another difference between imperatives and "should" declaratives, in that the latter always put the modal proposition on the Table.

We thus propose the following minimal change to (33):

(44) (Take 2 – to be amended) Imperatives put $\Box^{f_c,g_c} p$ on DC_A, but unless contextual factors override this default, the issue on the Table (and therefore in the projected CG) is $\{\text{will-}p\}$.

We note that this change is not crucial to our proposal for independent "Won't you?" utterances following an imperative, or for *won't you?* tags. In the case of the former, the imperative issue, whether $\Box p$ or will-p, is superseded by the issue introduced by the question. In the case of the tag, the issue that the imperative puts on the Table is disambiguated in favor of the one introduced by the tag question. This means that B's response in (45) cannot be interpreted as a disinterested friendly advice responding to the question directly, but only as a request to play the movie.

(45) Bella: Which of these two films should I show?
Alice: Show this one, won't you?

In addition, the imperatives impose preconditions on their input context corresponding to the two presuppositions proposed in (Kaufmann 2016) and explained

in (32). If the context doesn't already meet these preconditions, they are accommodated in the DC_A and projected CG, but not added to the Table (see our discussion of not-at-issue commitments above, cf. ex. 17).

The two presuppositions contributed by the imperative make the imperative itself self-verifying. As a result, the full modalized proposition $\Box^{f_c,g_c}p$ is presented as a public commitment of the speaker destined for the CG. Recall that based on the evidence in this section, we conclude that the modalized proposition bypasses the Table in most cases, and is added directly to the projected CG. Determining the exact status of this modalized not-at-issue proposition within the typology of not-at-issue commitments lies beyond the scope of this paper.

Given our adaptation of Kaufmann's analysis, a typical imperative directive or wish has the following effect on the scoreboard:

(46) (Final take) Assuming an empty context: nothing noted in the commitments, the Table, or the CG, though we assume general pragmatic presuppositions to be part of the CG).
A: Open the door!
B: Okay.

	(i) after A's utterance	(ii) after B accepts A's utterance
DC_A	$\Box^{f_c,g_c}$ B open the door	$\{\,\}$
DC_B	$\{\,\}$	$\{\,\}$
Table	$\langle\{$**B will open the door**$\}\rangle$	$\langle\,\rangle$
CG	$\{\,\}$	$\{\{\Box^{f_c,g_c}$ B open the door, B will open the door$\}\,\}$
Proj. CGs	$\{\{\Box^{f_c,g_c}$ B open the door, B will open the door$\}\,\}$	$\{\{\Box^{f_c,g_c}$ B open the door, B will open the door$\}\,\}$

Note that after the hearer commits to "B will open the door", this proposition becomes a joint commitment of the speaker and hearer – a part of the CG. The speaker's side of this commitment comes about in the same way that all dependent commitments do (Gunlogson 2008), by taking the hearer's word for it, since putting a proposition on the Table does not constitute any kind of commitment to it.

Such a proposal for future joint commitment without simultaneous speaker commitment is a normal feature of questions, which propose future joint commitments to an answer, as well as other constructions. In the case of imperatives, the speaker endorsement that is part of the modal proposition prevents the speaker from continuing an imperative with "but I don't want you to". Continuations such as "though I doubt you will" are perhaps not semantically precluded, but they are in

conflict with the felicity conditions for directive uses of imperatives, and possibly with felicity conditions for the wish uses. However, examples like (47) are possible, demonstrating lack of speaker commitment to the prejacent proposition of the imperative.

(47) A: What do I do to win the race? - B: Practice every day, though I doubt you will.

In the absence of independent commitment of the hearer to the prejacent proposition "B will open the door", such as when the hearer only signals uptake and not agreement, only the modal proposition $\Box p$ makes it to the CG, and so neither interlocutor becomes committed to "B will open the door".

In this analysis, all imperatives have the same effect on the scoreboard modulo the Table, as described above. As with previous proposals, the different speech acts, such as (48), are derived via pragmatic reasoning from the scoreboard and felicity conditions reflected in the context. Such contextual factors may include, e.g., the presence in the scoreboard of a previous question about the speaker's future choice of action, deriving the disinterested advice interpretation.

(48) a. Get well! (wish)
b. Have a cookie! (invitation/offer)
c. How do I get to Harlem? – Take the A train! (disinterested advice)

4 Our proposal

The semantic content of declarative or imperative anchors and of *won't you?* tags, together with some contextual considerations, is used to dynamically update the conversational scoreboard, which reflects the sentential force of the utterance. The scoreboard, in turn, serves as the input to further pragmatic reasoning whereby the speech act expressed by the utterance is determined. We will now propose a model of various utterances involving declaratives, imperatives, and *Won't you?* as a separate utterance and as a tag, based on the F&B style scoreboard interpreted as tracking the dynamic semantics of utterances.

4.1 Separate *Won't you?* utterances in the scoreboard

As our starting point, let us consider the effect of *Won't you?* as a separate utterance on the conversational scoreboard:

(49) Open the door! Won't you?

(50) You will open the door. Won't you?

(51) Now you'll sulk. Won't you?

First, let us consider the effect of the interrogative *Won't you?* itself in (49–51). The ellipsis in the question is resolved by mechanisms which are beyond the scope of this paper, so that the elliptical questions above are interpreted as *Won't you open the door?* in (49–50) and as *Won't you sulk (now)?* in (51). We have no cues that would tell us whether these preposed-negation questions are double-checking p or $\neg p$, so we don't know which side of Ladd's ambiguity the interpretation falls on. For the sake of explicitness, we will work through the reading of (49) involving FALSUM, rather than VERUM, as spelled out in (52).

(52) a. LF: [Q [FALSUM [you will open the door]]]

b. at-issue content: {you will not open the door , you will open the door}

c. CG-management: $\{\text{FOR-SURE-NOT-CG}_x(\text{you will open the door}), \neg\text{FOR-SURE-NOT-CG}_x(\text{you will open the door})\}$

Dynamically and pragmatically, this move contributes several effects, though perhaps not all at the same time: (i) the at-issue dynamic semantic effect is to place the issue of whether you will open the door on the Table; (ii) the CG-management content gives rise to the positive epistemic implicature p that the speaker thinks it likely that the hearer will open the door; (iii) it suggests that there may be some epistemic conflict between this prior speaker bias and some new evidence that the hearer won't open the door, reflecting the presence of the bias while raising the issue.

Next, let us discuss how the effect of *Won't you?* interacts with the contribution of the imperative in (49). As we described above, the plain imperative, as in (46), puts only the singleton issue $\{\text{will-}p\}$ on the Table, while committing the speaker to the modal proposition $\Box^{f(c),g(c)}p$, as well as contributing presuppositions ensuring that the modal proposition is interpreted performatively. The projected CG reflects the state of the Table in that it contains will-p as part of the single path forward envisioned for the conversation in the normal course of events. In the absence of further remarks by the speaker, the hearer can resolve the issue on the Table by accepting the proposition $\{\text{will-}p\}$ into the CG. Since this is a singleton issue, not much of a contribution is required for the acceptance to go through, e.g. it can be tacit.

The example (49) is modeled as updating this post-"Open the door" context with interrogative "Won't you?", which adds the issue of $\{\text{will-}p, \neg\text{will-}p\}$ to the Table. Coming right after a move that already put the singleton $\{\text{will-}p\}$ on the Table, this move expands the projected CG to include the negative possibility. The interrogative serves to request a verbal response from the addressee, since implicit agreement is

not sufficient to resolve this issue consisting of two incompatible propositions. The choice of the proposition to move the conversation forward is up to the hearer.

In addition, when the speaker of the imperative continues to the interrogative utterance, there is a presumption of tacit acceptance of the not-at-issue content of the imperative by the hearer, putting the modal proposition $\Box^{f(c),g(c)}p$ in the CG.

(53) Assuming an empty context: nothing noted in the commitments, the Table, or the CG
A: Open the door! Won't you?

	(i) after imperative	(ii) after *Won't you?*
DC_A	$\Box^{f_c,g_c}$ Open(B,door)	$\Box^{f_c,g_c}$ Open(B,door)
DC_B	$\{\}$	$\{\}$
Table	$\langle\{$**Open(B, door)**$\}\rangle$	$\langle\{$**sure-not-in-CG Open(B,door)**, $\neg$ sure-not-in-CG Open(B, door)$\}$, $\{$~~**Open(B,door)**~~$\}\rangle$
CG	$\{\}$	$\{\{\Box^{f_c,g_c}$ Open(B,door) $\}\}$
Proj. CGs	$\{\{\Box^{f_c,g_c}$ Open(B, door), Open(B,door)$\}\}$	$\{\{\Box^{f_c,g_c}$ Open(B,door), Open(B, door)$\}$, $\{\Box^{f_c,g_c}$ Open(B, door) $\}\}$

The scoreboard update serves as an input to pragmatic reasoning leading to the interpretation of the imperative as a directive, wish, or disinterested advice, depending on the context and whether the imperative includes an action under the hearer's control. We have no new proposal regarding this step (Searle 1965, 1975, Grice 1975). The interpretation of the independent *Won't you?* utterance following an imperative depends on the speech act the imperative expresses.

We can see two alternative inferences that may arise from adding the interrogative following an imperative directive. If this solicitation of the hearer's input is a sign that the speaker does not have full social authority for a directive speech act, this could be a partial walking back of the directive. If the raising of the issue and requesting hearer's answer is interpreted as an insistence that the hearer address the issue, then there is no "walking back" feeling, but more of a "nagging" feeling expressed, where the speaker is doubling down and asking the hearer to concede and promise compliance with the imperative directive.

Disinterested advice uses of imperatives are not felicitously followed up by querying whether the hearer will follow the advice, since the query contradicts the speaker's lack of personal interest, with the result that the preceding imperative becomes reinterpreted as a directive.

(54) How do I get to Harlem? – # Take the A train! Won't you?

Finally, it seems that wish uses of imperatives, such as "Get well" cannot be felicitously followed up by querying whether the hearer will or won't get well, since it is common knowledge that the hearer is not in a position to resolve this issue.

(55) Get well! # Won't you?

Turning to the interaction of a **declarative** utterance and a *Won't you?* question in the following utterance, let us first consider the directive in (50).

(50) You will open the door. Won't you?

Recall that the declarative adds the content proposition that the hearer will open the door to the speaker's commitment set, while also pushing the singleton set containing this proposition onto the Table. Pragmatic reasoning, based on this update and contextual factors, results in a directive interpretation for this utterance (likely an order, or other types of directives resulting when the speaker has a high level of social authority). Following this speech act with the *Won't you?* question can be either a signal that the speaker does not have full social authority after all, which is a break with the previous high-authority context and thus a partial walking back of the directive. Alternatively, as with the imperative followed by *Won't you?*, this sequence could be interpreted as nagging the hearer to concede and promise compliance.

Finally, when the independent utterance of *Won't you?* follows a declarative interpreted as an assertion, as in (51), a pragmatic tension arises between the speaker's commitment to the content proposition, and the question raising the issue of whether that same proposition holds or not.

(51) Now you'll sulk. Won't you?

The result is a feeling that the speaker is partially taking back the commitment expressed by the assertion. Formally, this "taking back" move is reflected in the projected CG, which first contains only possible common grounds with "will-p", but after addition of *Won't you?* must be extended to include both compliant and noncompliant worlds. Willingness to entertain noncompliant worlds signals a willingness to take back the original commitment expressed by the declarative.

4.2 *Won't you?* tags in the scoreboard

4.2.1 Speaker commitments in tagged utterances

Tags differ from independent *Won't you?* utterances in that the anchor and the tag effect a single scoreboard update. The overall update consists of the effect of the utterance on the speaker's commitments and its effect on the Table.

In considering commitments of imperative and declarative anchors in *won't you?* tagged sentences, we follow the discussion in (Jeong 2018, Rudin 2018a,b) who treat the overall effect of an independent utterance as arising from two sources: clause type of the declarative or imperative, and the falling or rising final tune with which it is uttered. Specifically, Rudin (2018a) attributes the raising of the singleton issue in both declaratives and imperatives to the clause type of the utterances, whereas the speaker commitment to a particular proposition is attributed to the falling intonation assigned to the utterance. To show this separation of commitment from the clause type, Rudin uses sequences of incompatible rising utterances, which are nevertheless felicitous (56, Rudin (2018b) from ex. 9).[13]

(56) Bella: I'm having trouble managing my time lately. I dont know what my plans should be for this evening, do you have any advice?

a. Alice: Work on your paper? Blow it off and go to the beach?

b. Alice: Work on your paper. # Blow it off and go to the beach.

We observe that similarly incompatible anchors with *won't you?* tags are in contrast infelicitous (57). This indicates that either the tags introduce infelicity, or else that such utterances express speaker commitment to the modal proposition in the anchor (or both). The tags are elliptical preposed-negation questions, which give rise to positive epistemic implicatures. The first tag in (57) implicates that Bella will work on her paper, whereas the second tag implicates that Bella will go to the beach instead. As we note below, incompatible sequences of preposed-negation

13 Rudin (2018a,b) argues that sequences of contradictory rising imperatives present a problem for both Kaufmann's proposals and Condoravdi & Lauer (2012), because these are different from sequences of rising modal declaratives that paraphrase Kaufmann's semantics for imperatives and of rising *want* statements that paraphrase Condoravdi & Lauer (2012)'s proposal. We feel that these objections might not be fully fair, in that the behavior of the declarative paraphrase under changing intonation might well differ from that of the imperative original, including that, as we point out in our discussion of Kaufmann's proposal, *should*-declaratives are not equivalent to imperatives to begin with. In addition, Condoravdi & Lauer (2012) never propose that imperatives are equivalent to a *want*-statement. Moreover, in recent work, Condoravdi and Lauer argue that rising imperatives (like declaratives) yield list readings which are fully compatible with their analysis (Condoravdi 2019).

questions are similarly infelicitous, which suggests that this contrast between two implicatures is sufficient to account for the infelicity of the sequence in (57).[14]

(57) Work on your paper, won't you? # Blow it off and go to the beach, won't you?

Commitments in tagged declaratives like (58) are similarly present, regardless of whether the utterance is interpreted as a directive or as a (modified) assertion.

(58) You will work on your paper, won't you? # You will blow it off and go to the beach, won't you?

A tagged declarative like (58) differs from (57), because there is a pragmatic tension between a commitment to will-p (the proposition presented by the declarative anchor) and putting the issue $\{\text{will-}p, \neg\text{will-}p\}$ on the Table, which results in projected CGs with will-p as well as projected CGs with $\neg$will-p. Thus, the commitment inferred in this case is a tentative one. We may reflect this tentativeness by placing will-p in the set of projected speaker commitments, DC^*_A (Malamud & Stephenson 2014), rather than DC_A. As with the projected CG, the presence of a proposition in the speaker's projected commitment set signals that they expect to become fully committed to the proposition in the normal course of the conversation. Such an expectation covers a broad pragmatic range, from a speaker briefly delaying full commitment due to reluctance or contrary information, to a speaker expressing a dependent commitment that they're willing to undertake once they have their interlocutor's word for it, etc.

4.2.2 The overall effect of tagged imperatives

The central insight underlying our overall analysis of *won't you?* tags is that the anchor and the tag constitute a single speech act and, in fact, a single scoreboard update that serves as the basis for pragmatic reasoning. This intuition emerges when we compare the independent utterance *Won't you?* in (49) with the tag in (59).

(59) Open the door, won't you?

The tagged imperative in (59) feels quite different, in that in out-of-the blue contexts, the felicity condition of the speaker's social authority is not fully applied

14 In addition to this infelicity triggered by the interrogative tags, the anchors in (57) may commit the speaker to two incompatible modal propositions, similar to falling imperatives. This commitment could arise in two ways. First, the intonational contour in a tagged utterance could be contributing commitment, just like the falling intonation in a stand-alone utterance. The second option is that this commitment arises by default (contra Rudin (2018a,b)) and is actively suspended by rising intonation in his examples.

in the first place: the tag seems to serve to lower the social authority threshold for directives, leading to an interpretation as a polite request. In other contexts, other interpretations arise. This ultimate context-dependent effect is achieved in two steps. First, the scoreboard update is compositionally derived from the effects of the anchor and the tag. Second, pragmatic reasoning computes the ultimate interpretation based on this scoreboard update and the context. In the following we go over the steps in detail.

We propose that, while the imperative by itself puts only {*you will open the door*} (abbreviated as Open(B, door)) on the Table on most uses, in contrast, the tagged imperative puts the possibility where the hearer won't do it on the Table as well in the form of the proposition that Open(B, door) should not be added to the CG. This is just the expected effect of an interrogative clause containing FALSUM on the scoreboard. As a result, the projected CG following a tagged imperative contains one option that doesn't include Open(B, door).

The projected CG also contains the modalized proposition $\Box^{f_c,g_c} p$ expressed by the imperative anchor, which in most cases is a not-at-issue contribution by the speaker (cf. discussion in §3.4.1). Recall that all not-at-issue contributions are added to the corresponding speaker's public commitments, as well as to the projected CG, since they will be unchallenged and enter the CG, in the normal course of the conversation. This multi-step process in which not-at-issue commitments enter into the CG only when the utterance is accepted by both interlocutors is in contrast to Murray (2010)'s direct-to-CG approach.

The state of the scoreboard after the utterance (59) is nearly identical to the state of the scoreboard after the question in (49), except that the tagged utterance does not involve any changes to the actual CG. This state of the scoreboard is shown in (60). However, this final result for the tagged utterance is achieved without passing through the intermediate state in which the issue on the Table is only {*you will open the door*}, and in which a minimal lack-of-objection response is sufficient to put "you will do it" in the CG.

(60) (Assuming an empty context: nothing noted in the commitments, the Table, or the CG)
A: Open the door, won't you?
B: Okay

	(i) after A's utterance	(ii) after B accepts
DC_A	$\Box^{f_c,g_c}$ Open(B, door)	$\{\,\}$
DC_B	$\{\,\}$	$\{\,\}$
Table	$\langle\{$**sure-not-in-CG Open(B,door)**, $\neg$ sure-not-in-CG Open(B,door)& Open(B,door)$\}\rangle$	$\langle\,\rangle$
CG	$\{\,\}$	$\{\{\Box^{f_c,g_c}$ Open(B,door), Open(B,door)$\}\,\}$
Proj. CGs	$\{\{\Box^{f_c,g_c}$ Open(B,door), Open(B,door)$\}$, $\{\Box^{f_c,g_c}$ Open(B,door)$\}\,\}$	$\{\{\Box^{f_c,g_c}$ Open(B,door), Open(B,door)$\}\,\}$

One aspect of the effect of (59) is that the tagged imperative is requesting a verbal response from the addressee – in this respect, the tag *won't you?* is functioning like a regular question. The tag creates a call on the addressee to respond through the general pragmatic pressure to resolve issues on the Table and move propositions towards the common ground (Ettinger & Malamud 2015). This call on the addressee is issued simultaneously with the speaker's (inferred) commitment to $\Box^{f(c),g(c)}p$, but in the meantime $\Box^{f(c),g(c)}p$ has not been accepted into the common ground yet. As with any question, different interpretations arise based on the motivation that the addressee infers for the speaker's issuing this call. For instance, if the call on the addressee is taken as the speaker seriously seeking input, this means that the addressee receives a share of authority and a more explicit choice of whether to accept the necessity of p, simultaneously with the necessity of p being introduced. When the tagged imperative is interpreted as a directive speech act, the result is that the directive is taken as a polite request. On the other hand, if it's clear that the speaker cannot be seriously asking for information or confirmation, then the call is taken as an attempt to get the hearer to explicitly acknowledge that they will comply with the directive.

Untagged imperatives that work well to express wishes[15] have tagged versions that are very similar in meaning (61).

(61) a. Have a nice vacation.

b. Have a nice vacation, won't you?

Since the future proposition is clearly not something that the hearer has knowledge about, the tag is not taken as a serious confirmation or information question.

15 Deriving different readings of imperatives, including the wish readings, lies beyond the scope of this paper. See discussions in (Kaufmann 2016, Condoravdi & Lauer 2012).

Hence the similarity in effect between the tagged and untagged version. As above, the call on the addressee contributed by the addition of the tag has the effect of eliciting an explicit response (compare with 'facilitating' uses of tags discussed by Holmes (1983)).

In analogy with untagged imperatives followed by an independent *Won't you?* utterance, disinterested advice readings are not possible for tagged imperatives (62), presumably for the same reasons.

(62) How do I get to Harlem? – # Take the A train, won't you?

4.2.3 The overall effect of tagged declaratives and comparison with preposed-negation questions

For declarative anchors tagged with *won't you?* such as (58), the final state of the scoreboard is nearly identical to the two separate utterances such as (50). The only difference between them is the presence of a singleton issue on the Table underneath the top-level "will you? will you not?" issue introduced by the question, in the case of the two independent utterances, and the lack of this singleton issue in the stack for the tagged declarative.

Nevertheless, the difference between the tagged declaratives like (58) and an untagged declarative followed by a separate *Won't you?* question is more pronounced than it is for the imperatives discussed above. That is because, in addition to the differences in the dynamics of the scoreboard, the untagged declarative utterance expresses a full public commitment to the at-issue proposition. However, in the case of the tagged utterance, there is no point at which the speaker is publicly fully committed to the anchor proposition $\{$*you will open the door*$\}$. We model a tentative commitment expressed in a tagged declarative by putting this proposition in the speaker's projected commitments (Proj. DC_A, cf. Malamud & Stephenson (2014)) instead.

(63) (Assuming an empty context: nothing noted in the commitments, the Table, or the CG)
A: You will open the door, won't you?
B: Yes

	(i) after A's utterance	(ii) after B accepts A's utterance
DC_A	{ }	{ }
Proj. DC_A	{ B will open the door }	{ }
DC_B	{ }	{ }
Table	⟨{**B will open the door**, B won't open the door}⟩	⟨⟩
CG	{ }	{ B will open the door }
Proj. CGs	{{B will open the door}, {B won't open the door}}	{{B will open the door}}

This brings up a related construction, which also results in the same final scoreboard, while, like tagged declaratives, never fully committing the speaker to the at-issue proposition – the preposed-negation questions like (64).

(64) Won't you open the door?

Preposed negation questions and tagged declaratives share many properties. First, sequences of preposed negation questions are infelicitous (65) just like we have seen for *won't you?* tagged utterances in (57–58), and unlike rising declaratives and rising imperatives (56). As we note above, this indicates at least some level of speaker commitment to the at-issue proposition.

(65) Won't you open the door? # Won't you leave the door closed?

Second, predictably, both tagged utterances and preposed-negation questions, unlike rising declaratives (66), are infelicitous in negative-bias contexts (67).

(66) George Stephanopoulous: "Those are sacrifices?"

(67) a. # Those are sacrifices, aren't they?

b. # Aren't those sacrifices?

Third, both tagged declaratives and preposed-negation questions licence "oh" responses, which express dependent commitment based on another interlocutor's independent public commitment Gunlogson (2008).

These similarities in expressed speaker commitment result in many examples where the two constructions seem interchangeable. To explore this similarity, we conducted a pilot corpus annotation experiment, which indicated that there are some differences in the meaning expressed by the two constructions, including possible speech acts they convey e.g. in (68–69).

(68) a. Now you'll sulk, won't you?

b. Now won't you sulk?

(69) a. You'll keep ratting on us, won't you?

b. Won't you keep ratting on us?

However, our annotation experiment did not yield any clear and systematic differences between tagged utterances and preposed negation questions with *won't you?*. Our current model as shown in (63) is identical for the two constructions, and therefore does not distinguish between them.

In contrast, Krifka (2015) predicts differences in commitment patterns between the two constructions, but the specific predictions are, so far, not corroborated by the meaning differences uncovered in our corpus study. For instance, Krifka (2015) predicts that a speaker of a high negation question, such as (64), is asking the hearer to express a non-commitment towards the proposition that the hearer opens the door. This is in direct contradiction with the request uses of such questions, as well as with all the other examples in this section. Our analysis, while it does not capture potential subtle distinctions between preposed negation questions and *won't you?*-tagged declaratives, is more in line with the commitments expressed in the data. We leave a detailed empirical and theoretical investigation of the differences between these two constructions for future work.

5 Comparison with other approaches

5.1 Other approaches to imperatives

We base our analysis of imperatives tagged with *won't you?* on Kaufmann's semantics of imperatives. However, our claims about the semantics-pragmatics interface and pragmatic inferencing are relatively independent of the details of her analysis. For instance, as far as we can see, our proposal is compatible with the propositional analysis of imperatives proposed by Condoravdi & Lauer (2012). The only difference would be the content of the not-at-issue proposition that enters the speaker's commitments. In fact, the effective preference structures proposed by Condoravdi & Lauer (2012) can be imported into Kaufmann's semantics by serving as ordering sources for the modal proposition.

Starr (2010, 2012), Murray & Starr (2021) is a competing proposal for the semantics of imperatives that is, in fact, a unified approach to declarative, imperative, and interrogative clause types. On Starr's approach, the content of the CG is not propositional, but rather, a preference state – a set of propositions with a preference ordering relation on them. An utterance dynamically updates this preference state, with the nature of the update depending on the clause type. A declarative clause updates the preference state to eliminate possible worlds incompatible with the at-issue proposition. An interrogative clause partitions the preference state according

to Groenendijk & Stokhof's (1984) question denotation. An imperative clause such as *Open the door!* imposes a preference for *you open the door* over *you don't open the door*. Our discussion of speaker commitments translates directly to the dynamics of this preference state, except that speakers commit to preference states, rather than to propositions. The computation of the Table is a separate component altogether. AnderBois (2017) has proposed a model for modified imperatives which uses the Table model, and builds effective preferences directly into the conversational scoreboard, like Starr (2010). His proposal is that an imperative puts the effective preference for $p > \neg p$ on the Table. If this proposal is accepted, this preference enters a novel scoreboard component, *Common Preferences*. We however believe that the Table is not the correct place for proposed effective preferences, because they are not under discussion, as argued in section 3.4.1. We therefore leave full details of such a recasting of our proposal for future work.

A recent proposal by Portner (2018) builds on Portner (2004)'s model for imperatives, in which a component of the conversational scoreboard termed *To Do List* is updated with a (structured) proposition that the addressee fulfills the property expressed by the imperative. He proposes that functional variability of the imperatives can be captured by positing different types of scoreboard updates for "strong" imperatives such as commands and "weak" imperatives such as invitations, and posits that intonation serves as a cue for the different updates. On this approach, the scoreboard does not represent the dynamic semantics of imperative clause types, but rather a pragmatics of speech acts. It is not clear to us that Portner (2018)'s model successfully captures the functional variability of imperatives. Moreover, given the fundamentally pragmatic nature of the scoreboard in his proposal, we cannot easily recast our dynamic semantics for *won't you?* tags in Portner's framework.

5.2 Potential empirical coverage

English tag questions have received treatment in the Table model in prior scholarship, most notably in (Malamud & Stephenson 2014) and (Farkas & Roelofsen 2017). In addition, many related constructions have been analysed in the model, including final rises on declaratives and imperatives (Farkas & Roelofsen 2017, Malamud & Stephenson 2014, Rudin 2018a), utterance final particles in Mandarin (Ettinger & Malamud 2015), Japanese (Yuan & Hara 2019), German (Clausen & Scheffler 2020a,b) and other languages, and evidentials (AnderBois 2017, Faller 2014).

Two prior treatments of reverse-polarity tag questions in the Table model are in our opinion insufficient for capturing the empirical facts relating to *won't you?* described in this paper.

Malamud & Stephenson (2014) consider three utterance modifiers with declarative anchors: reverse-polarity tags, like (69a), rising intonation, and same-polarity tags, like (70), and their functions in American English.

(70) You'll just keep on ratting on us, will you?

To capture the distinct patterns of interlocutors' commitments in these constructions, Malamud & Stephenson (2014) extend the basic Farkas & Bruce (2010) framework to include the notion of projected commitment – propositions to which speakers expect themselves or their hearers to become publicly committed in the normal course of the conversation. They do not examine how the effects they propose come about based on the contributions of the anchor and the utterance modifier, and they do not consider non-declarative anchors.

Extending this work, Ettinger & Malamud (2015) consider the Mandarin utterance-final particle *ba* in comparison with the reverse-polarity *won't you?* in English. Both modifiers attach to a variety of speech acts and clause types, including directives. They propose a scoreboard which models speech acts, adopting the dynamic semantics of declarative, interrogative, and imperative clause types from Starr (2010). The model, however, is lacking any proposal for the semantics-pragmatics interface, which is necessary, since Starr's model is purely semantic. As a result, the Ettinger & Malamud (2015) proposal seems limited to modifiers attached to declarative assertions and imperative directives, blurring the lines between dynamic semantics of clause types and pragmatics of speech acts. Like Malamud & Stephenson (2014), the Ettinger & Malamud (2015) model is not compositional.

In contrast, our current proposal describes dynamic semantic updates derived from the contributions of the anchor and the tag, which serve as input to pragmatic reasoning leading to ultimate effects of the tagged declaratives and imperatives in context.

The next steps in this line of research are to examine whether the model has enough "moving parts" to differentiate the semantic updates of various constructions within the same language and cross-linguistically. We suggest that some constructions in different languages that represent the same semantic update can produce different pragmatic effects due to cross-linguistic differences in the division of pragmatic labor between competing constructions. We plan to examine such potentially semantically synonymous but pragmatically distinct constructions in future work, in addition to testing our model against data from multiple related constructions within a single language.

6 Discussion and Conclusion

In this paper, we address the question what kind of "ontological entity" the conversational scoreboard (Roberts 1996, Farkas & Bruce 2010, Starr 2010, Malamud & Stephenson 2014, Murray & Starr 2021, Farkas & Roelofsen 2017, Rudin 2018a) is – is it a semantic or pragmatic thing? We see it as a model of sentential force, and therefore mostly falling on the semantic side of the semantics-pragmatics interface, but still affected by pragmatic factors such as interlocutors' goals. We outline how other speech act effects are derived by pragmatic computations on top of that, clarifying the dynamics of the semantics-pragmatics interface. In particular, our model argues that linguistic form produces underspecified (rather than default) speech act interpretations, which pragmatics then helps clarify.

We spell out the effect of not-at-issue commitments on the conversational scoreboard. In addition, building on the discussion in Murray (2010), we also clearly separate two notions of at-issueness: the first, the notion of providing a discourse referent for anaphoric uptake, such as via a response particle, from the second, the notion of relevance to the QUD. Only the first of these is modelled by the scoreboard Table on our account.

These theoretical points emerge through an empirical investigation of *won't you?* tags. We provide an account of the meaning of these tag questions as regular reverse-polarity tag questions, which are in turn treated as elliptical negated polar questions. The tag forms a single unit causing a single scoreboard update with its anchor clause (cf. the first empirical pattern from §2). The meaning of this unit emerges compositionally from the meaning of the interrogative tag itself and the meaning of the imperative or declarative anchor. As a sentential force modifier, the tag cuts across clause types (cf. the second empirical pattern from §2) and produces uniform effects regardless of the ultimate speech act expressed (cf. the third empirical pattern from §2). In developing this account, we also explore the effect of imperative clauses on the conversational scoreboard. Our analysis of *won't you?* uses only the standard ingredients independently proposed for such interrogatives, as well as imperatives and declaratives, recasting these prior accounts in our framework. The empirical patterns presented by this construction turn out to be fully explainable once we examine them in light of their components, so recast. The resulting analysis is a first unified account of preposed-negation tags with both declarative and imperative clauses, and the variety of resulting speech acts.

References

AnderBois, Scott. 2017. An illocutionary account of reportative evidentials in imperatives. In *Proceedings of semantics and linguistic theory*, vol. 27, 459–479.

Bach, Kent. 1999. The myth of conventional implicature. *Linguistics and Philosophy* 22(4). 327–366.

Cattell, Ray. 1973. Negative transportation and tag questions. *Language* 49(3). 612–639.

Chierchia, Gennaro & Sally McConnell-Ginet. 2000. *Meaning and grammar: An introduction to semantics*. MIT press.

Clausen, Yulia & Tatjana Scheffler. 2020a. Commitments in German tag questions: An experimental study. In *Proceedings of the 24th workshop on the semantics and pragmatics of dialogue*, Virtually at Brandeis, Waltham, New Jersey: SemDial.

Clausen, Yulia & Tatjana Scheffler. 2020b. A corpus-based analysis of meaning variations in German tag questions: Evidence from spoken and written conversational corpora. *Corpus Linguistics and Linguistic Theory* 1–31. https://doi.org/https://doi.org/10.1515/cllt-2019-0060. Ahead of print.

Condoravdi, Cleo. 2002. Temporal interpretation of modals: Modals for the present and for the past. In David I. Beaver, Stefan Kaufmann, Brady Z. Clark & Luis D. Casillas (eds.), *The construction of meaning*, 59–88. CSLI.

Condoravdi, Cleo. 2019. Imperative strength. In *ESSLLI 2019*, Riga.

Condoravdi, Cleo & Sven Lauer. 2012. Imperatives: Meaning and illocutionary force. In *Empirical issues in syntax and semantics*, vol. 9, 37–58.

Cormany, Edward. 2013. *A preference analysis of imperatives: Connecting syntax, semantics, and pragmatics*: Cornell University dissertation.

Davies, Mark. 2011–. Corpus of american soap operas: 100 million words. Available online at https://www.english-corpora.org/soap/.

Dehé, Nicole & Bettina Braun. 2013. The prosody of question tags in English. *English Language and Linguistics* 17(01). 129–156. https://doi.org/10.1017/S1360674312000342.

Ettinger, Allyson & Sophia A. Malamud. 2015. Mandarin utterance-final particle ba in the conversational scoreboard. In Eva Csipak & Hedde Zeijlstra (eds.), *Proceedings of Sinn und Bedeutung 19*, http://www.brandeis.edu/~smalamud/MILa/ba-paper.pdf.

Faller, Martina. 2014. Reportativity, (not-)at-issueness, and assertion. In *Annual meeting of the Berkeley Linguistics Society*, vol. 40, 62–84.

Farkas, Donka & Kim Bruce. 2010. On reacting to assertion and polar questions. *Journal of Semantics* 27(1). 81–118.

Farkas, Donka & Floris Roelofsen. 2015. Polarity particle responses as a window onto the interpretation of questions and assertions. *Language* 91(2). 359–414.

Farkas, Donka F. & Floris Roelofsen. 2017. Division of labor in the interpretation of declaratives and interrogatives. *Journal of Semantics* 34(2). 237–289.

Francez, Itamar. 2017. Suggesterrogatives. Presentation at the Workshop "Questioning Speech Acts", Konstanz, Germany.
Frey, Werner. 2012. On two types of adverbial clauses allowing root-phenomena. In Lobke Aelbrecht, Liliane Haegeman & Rachel Nye (eds.), *Main clause phenomena: New horizons*, 405–429. Benjamins.
Ginzburg, Jonathan. 1996. Dynamics and the semantics of dialogue. In Jerry Seligman & Dag Westerståhl (eds.), *Language, logic and computation*, vol. 1 CSLI Lecture Notes, 221–237. Stanford: CSLI.
Ginzburg, Jonathan. 2012. *The Interactive Stance: Meaning for Conversation*. Oxford: Clarendon Press.
Grice, H.Paul. 1975. Logic and conversation. In P. Cole & J.L. Morgan (eds.), *Syntax and semantics*, vol. III. Speech acts, 41–58. New York: Academic Press.
Groenendijk, Jeroen & Martin Stokhof. 1984. *Studies on the semantics of questions and the pragmatics of answers*: University of Amsterdam dissertation. http://dare.uva.nl/en/record/123669.
Gunlogson, Christine. 2003. *True to form: Rising and falling declaratives as questions in English*. New York: Routledge.
Gunlogson, Christine. 2008. A question of commitment. *Belgian Journal of Linguistics* 22. 101–136.
Haegeman, Liliane. 2004. The syntax of adverbial clauses and its consequences for topicalisation. *Antwerp Papers in Linguistics: Current Studies in Comparative Romance Linguistics* 107. 61–90.
Hamblin, C. L. 1971. Mathematical models of dialogue. *Theoria* 37(2). 130–155.
Hamblin, Charles L. 1973. Questions in Montague grammar. *Foundations of Language* 10(1). 41–53.
Han, Chung-hye & Maribel Romero. 2002. Verum focus in negative yes/no questions and Ladd's p/-p ambiguity. In Brendan Jackson (ed.), *Proceedings of SALT XII*, 204–224. Cornell University, Ithaca, NY: CLC Publications.
Heim, Irene. 1982. *The semantics of definite and indefinite NPs*: University of Massachusetts at Amherst dissertation.
Heim, Johannes, Hermann Keupdjio, Zoe Wai-Man Lam, Adriana Osa-Gómez, Sonja Thoma & Martina Wiltschko. 2016. Intonation and particles as speech act modifiers: A syntactic analysis. *Studies in Chinese Linguistics* 37(2). 109–129.
Holmes, Janet. 1983. The functions of tag questions. *English Language Research Journal* 3. 40–65.
Holmes, Janet. 1984. Modifying illocutionary force. *Journal of Pragmatics* 8(3). 345–365.
Jeong, Sunwoo. 2018. Intonation and sentence type conventions: Two types of rising declaratives. *Journal of Semantics* https://doi.org/doi:10.1093/jos/ffy001.

Kamp, Hans. 1981. A theory of truth and semantic representation. In Paul H. Portner & Barbara H. Partee (eds.), *Formal semantics: The essential readings*, 189–222. Blackwell.

Karttunen, Lauri. 1977. Syntax and semantics of questions. *Linguistics and Philosophy* 1(1). 3–44.

Kaufmann, Magdalena. 2012. *Interpreting imperatives* (Studies in Linguistics and Philosophy 88). Springer.

Kaufmann, Magdalena. 2016. Fine-tuning natural language imperatives. *Journal of Logic and Computation* https://doi.org/10.1093/logcom/exw009.

Korotkova, Natasha. 2017. Evidentials and (relayed) speech acts: Hearsay as quotation. In *Semantics and linguistic theory*, .

Krifka, Manfred. 2014. Embedding illocutionary acts. In Tom Roeper & Margaret Speas (eds.), *Recursion: Complexity in cognition*, 59–87. Cham: Springer.

Krifka, Manfred. 2015. Bias in commitment space semantics: Declarative questions, negated questions, and question tags. In *Semantics and linguistic theory*, vol. 25, 328–345.

Ladd, D. Robert. 1981. A first look at the semantics and pragmatics of negative questions and tag questions. In R. Hendrick, C. Masek & M. F. Miller (eds.), *Proceedings of the Chicago Linguistic Society*, vol. 17, 164–171.

Levinson, Stephen C. 1983. *Pragmatics* Cambridge Textbooks in Linguistics. Cambridge University Press. https://doi.org/10.1017/CBO9780511813313.

Lewis, David. 1979. Scorekeeping in a language game [reprinted 2002]. In P. Portner & B. H. Partee (eds.), *Formal semantics: The essential readings*, 162–177. Oxford: Blackwell.

Lison, Pierre & Jörg Tiedemann. 2016. OpenSubtitles2016: Extracting large parallel corpora from movie and TV subtitles. In *Proceedings of the 10th international conference on language resources and evaluation*, LREC.

Malamud, Sophia A. & Tamina C. Stephenson. 2014. Three ways to avoid commitments: Declarative force modifiers in the conversational scoreboard. *Journal of Semantics* 1–37. https://doi.org/10.1093/jos/ffu002.

Malamud, Sophia Alexandra. 2006. *Semantics and pragmatics of arbitrariness*: University of Pennsylvania Philadephia, PA dissertation.

Murray, Sarah E. 2010. *Evidentiality and the structure of speech acts*: Rutgers, The State University of New Jersey dissertation.

Murray, Sarah E. & William B. Starr. 2021. The structure of communicative acts. *Linguistics and Philosophy* 44. 425–474. https://doi.org/10.1007/s10988-019-09289-0.

Portner, Paul. 2004. The semantics of imperatives within a theory of clause types. In *Proceedings of semantics and linguistic theory*, 235–252.

Portner, Paul. 2018. Commitment to priorities. In Daniel Fogal, Daniel W. Harris & Matt Moss (eds.), *New work on speech acts*, chap. 11. Oxford University Press.

Reese, Brian & Nicholas Asher. 2007. Prosody and the interpretation of tag questions. In E. Puig-Waldmüller (ed.), *Proceedings of Sinn und Bedeutung 11*, 448–462.

Repp, S. 2009. *Negation in gapping* Oxford Studies in Theoretical Linguistics. OUP Oxford. https://books.google.de/books?id=VXQn--TD-38C.

Repp, Sophie. 2006. ¬(A&B). gapping, negation and speech act operators. *Research on Language and Computation* 4(4). 397–423. https://doi.org/10.1007/s11168-006-9022-y.

Repp, Sophie. 2013. Common ground management: Modal particles, illocutionary negation and verum. In Daniel Gutzmann & Hans-Martin Gärtner (eds.), *Beyond expressives: Explorations in use-conditional meaning*, 231–274. Brill.

Roberts, Craige. 1996. Information structure in discourse: Towards an integrated formal theory of pragmatics. In *OSU working papers in linguistics, vol 49: Papers in semantics*, The Ohio State University Department of Linguistics. http://www.ling.ohio-state.edu/~{}croberts/infostr.pdf. (Originally published 1996, revised 1998.).

Romero, Maribel. 2006. Biased yes/no questions: The role of verum. *Sprache und Datenverarbeitung* 30(1). 9–24.

Romero, Maribel. 2015. High negation in subjunctive conditionals and polar questions. In Eva Csipak & Hedde Zeijlstra (eds.), *Proceedings of Sinn und Bedeutung 19*, 519–536.

Romero, Maribel & Chung-Hye Han. 2004. On negative *Yes/No* questions. *Linguistics and Philosophy* 27(5). 609–658.

Rudin, Deniz. 2018a. *Rising above commitment*: UC Santa Cruz dissertation.

Rudin, Deniz. 2018b. Rising imperatives. *Semantics and Linguistic Theory* 28. 100–119.

Scheffler, Tatjana. 2008. *Semantic operators on different dimensions*: University of Pennsylvania dissertation.

Scheffler, Tatjana. 2013. *Two-dimensional semantics: Clausal adjuncts and complements*, vol. 549 Linguistische Arbeiten. Walter de Gruyter.

Schwager, Magdalena. 2006a. Conditionalized imperatives. In C. Tancredi, M. Kanazawa, I. Imani & K. Kusumoto (eds.), *Proceedings of SALT XVI*, .

Schwager, Magdalena. 2006b. *Interpreting imperatives*: University of Frankfurt/Main dissertation. Revised as Kaufmann (2012).

Searle, John. 1975. Indirect speech acts. In P. Cole & J.L. Morgan (eds.), *Syntax and semantics*, vol. III. Speech acts, 59–82. Academic Press.

Searle, John R. 1965. What is a speech act. *Perspectives in the philosophy of language: a concise anthology* 2000. 253–268.

Searle, John R. 1969. *Speech acts: An essay in the philosophy of language*. Cambridge University Press.

Stalnaker, Robert. 1978. Assertion. In P. Cole (ed.), *Syntax and semantics 9: Pragmatics*, vol. 9, 315–332. New York: Academic Press.

Starr, William B. 2010. *Conditionals, meaning and mood*: Rutgers, The State University of New Jersey dissertation.

Starr, William B. 2012. A preference semantics for imperatives. In *Workshop in philosophy of language and semantics*, University of Chicago.

Tottie, Gunnel & Sebastian Hoffmann. 2006. Tag Questions in British and American English. *Journal of English Linguistics* 34(4). 283–311. https://doi.org/10.1177/0075424206294369.

Walker, Marilyn A., Aravind K. Joshi & Ellen F. Prince. 1998. Centering in naturally occurring discourse: An overview. In *Centering theory in discourse*, Clarendon Press.

Wiltschko, Martina, Derek Denis & Alexandra D'Arcy. 2018. Deconstructing variation in pragmatic function: A transdisciplinary case study. *Language in Society* 47(4). 569–599.

Yuan, Mengxi & Yurie Hara. 2019. Guiding assertions and questions in discourse. *Natural Language & Linguistic Theory* 37(4). 1545–1583.

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