# **THREE WAYS TO AVOID COMMITMENTS:** THE PRAGMATICS OF DECLARATIVE FORCE MODIFIERS\*

SOPHIA MALAMUD TAMINA STEPHENSON Brandeis University and Yale University

# **1** Introduction

We discuss three constructions which seem to modify the illocutionary force of an utterance: reverse-polarity tag questions **[RP-tags]** (1a), same-polarity tag questions **[SP-tags]** (1b), and non-interrogative rising intonation **[NI-rise]** (1c). Rising intonation is indicated with a question mark ("?").<sup>1</sup> Rising intonation on syntactically declarative sentences (1c) has been discussed in Gunlogson (2003, 2008), among others.

- (1) a. **[RP-tag]** Sue likes licorice, doesn't she?
  - b. **[SP-tag]** Sue likes licorice, does she?
  - c. [NI-rise] Sue likes licorice?

The three markers we examine all seem to indicate some kind of uncertainty of the speaker, and/or a desire to seek confirmation from the addressee, but as we will show, they differ in numerous and fine-grained ways. To account for their behavior and the fine-grained distinctions between them, we will give an analysis within a dynamic approach to pragmatics, in which conversational moves are defined by the effects they produce on a multi-faceted conversational scoreboard.

The outline of the remainder of the paper is as follows: in the next section, we discuss taste predicates and their relevance for the three markers we discuss, introducing the core examples involving taste. §3 discusses the relevant features of vague scalar predicates, and introduces a core example that uses one. In §4 and §5 we introduce and develop a model of conversational context, and §§6–8 present the consequences that this model has for the three constructions. Finally, §9 presents our concluding discussion, with a summary of results and comparison with prior work.

<sup>\*</sup>Thank you to the audience at Sinn und Bedeutung 16, as well as audiences at WPSI 4, SemDial 15, and the Yale Linguistics Department, for extremely helpful comments and discussion.

<sup>&</sup>lt;sup>1</sup>We're concerned here with RP-tag examples that are "rising" and "post-nuclear," that is, the entire utterance has a final-rising tune, with a rise on the tag itself (Ladd, 1981, Reese and Asher, 2007). We leave both "nuclear" tags and "falling tune" tags to future work.

#### **Taste predicates** 2

Contexts involving taste predicates such as *tasty* and *attractive* are useful because they provide a more clear-cut way to distinguish which participant(s) a particular discourse commitment belongs to. As observed by Lasersohn (2005) and others, when X says, e.g., that Y is attractive, this typically conveys that Y is attractive as judged by X, but not necessarily as judged by X's interlocutors. In other words, X being committed to p is effectively equivalent to X being committed to 'p as judged by X.' Stephenson (2007) sketches a pragmatic system built largely around this observation, a version of which we will adopt in §4.2. The important point for now is simply that when the content conveyed with a taste predicate seems to involve the judgment of one particular participant in a conversation, this generally means that a commitment of that participant is involved.<sup>2</sup> Note, though, that there is an asymmetry between discourse commitments and evidence. For instance, if person A has seen person C and judged C to be attractive, of course A is in a position to commit herself to the proposition that C is attractive. If A then tells B that C is attractive, then B is also in a position to make the same commitment, even without any basis for direct judgment, provided B has some reason to defer to A's judgment. This could happen because B believes A's taste to be similar to B's, or because B is just presupposing similarity of taste for the purposes of conversation. Crucially, we will assume in this case that this counts as a discourse commitment of B's. In the terminology of Gunlogson (2008), this is a "dependent" commitment; we'll discuss this and related notions further in §9.1.

Let's turn now to some examples. First consider (2), which we'll call "Blushing/Innuendo."

- (2) "Blushing/Innuendo" Context: A and B are gossiping. A doesn't know anything about B's neighbor. B says, blushing, "You've GOT to see this picture of my new neighbor!" Without looking, A replies:
  - a. # A: He's attractive, isn't he?
    b. <sup>OK</sup> A: He's attractive, is he?
    c. <sup>OK</sup> A: He's attractive?

  - d. #A: He's attractive.

In (2), B's judgment of attractiveness is at issue and A's is not. Here an RP-tag is infelicitous (2), as is a plain declarative (2), while an SP-tag or NI-rise is fine (2, 2). This suggests that both SP-tags and NI-rises involve independent commitments of the addressee, and may or may not involve dependent commitments of the speaker.

Next consider (2), "Seeking agreement."

- "Seeking agreement" Context: A and B are discussing various traits of their mutual (3) acquaintances. B says, "I think Bill, more than anything else, is just a really nice guy." A replies:
  - a. <sup>OK</sup>A: (But) he's attractive too, isn't he?
  - b. # A: He's attractive too, is he?
  - c. # A: He's attractive too? d.  $^{OK}$  A: He's attractive too.

Here, both A's and B's judgments are at issue. An RP-tag or plain declarative is felicitous (2, 2), while an SP-tag or NI-rise is not (2, 2), suggesting that RP-tags and plain declaratives involve independent commitments of both speaker and hearer.

<sup>&</sup>lt;sup>2</sup>Note that this observation does not apply to "exocentric" uses, which will not be relevant here.

Finally, consider (2), "Unsure of move."

- "Unsure of move" Context: B hasn't met A's neighbor, and asks, "What do you think of (4) your new neighbor?" A isn't sure if B wants to know about neighborliness or suitability for dating. A replies:
  - # A: He's attractive, isn't he? a.
  - # A: He's attractive, is he? <sup>OK</sup> A: He's attractive? <sup>OK $\square$ </sup> A: He's attractive. b.
  - с.
  - d.

Here only A's judgment is at issue, but A is unsure what sort of judgment is called for. An NI-rise is felicitous (2) while tags are not (2, 2). A plain declarative (2) is fine but doesn't express A's intended uncertainty (indicated by <sup>OK<sup>D</sup></sup>). This suggests that NI-rises and plain declaratives both involve independent speaker commitments (and possibly dependent hearer commitments).

#### Vague scalar predicates 3

Vague scalar predicates such as *tall* or *red* are useful because they allow for cases where discourse commitments pertain to the appropriate standards of application rather than to objective facts (see, e.g., Barker, 2002). In some situations, making sure two people apply the same standard is more important than what exactly that standard is. In that case, a speaker may be free to commit to a standard with conviction or to tentatively suggest one and check that the hearer approves before committing to it. In particular, consider "Borderline paint" (3).

- "Borderline paint" Context: A and B are sorting paint cans in a store into a "red" bin and (5) an "orange" bin. B points to orangish-red paint and says, "What color would you say this is?" A replies:
  - OK A: It's red, isn't it? a.
  - b. # A: It's red, is it? c.  $^{OK}$  A: It's red? d.  $^{OK\Box}$  A: It's red.

In (3) A and B are trying to agree on a classification for a borderline case. Here an RP-tag or NI-rise is fine; the RP-tag suggests a higher degree of confidence about the judgment (3) than the NI-rise (3), but both indicate some lack of confidence. A plain declarative is fine but indicates essentially total confidence. An SP-tag is not felicitous (3). This crucially differs from the otherwise similar taste example in "Seeking agreement" (2), where only the RP-tag was felicitous (2).

The pattern of felicity for the three markers is summarized in Table 1.

Table 1: Summary	RP-tag	SP-tag	NI-rise	Decl.
(2) "Blushing/Innuendo" (uninformed speaker)	#	OK	ОК	#
(2) "Seeking agreement"	OK	#	#	OK
(2) "Unsure of move" (uncertain re: speech act)	#	#	ОК	ОК□
(3) "Borderline paint" (uncertain standard)	OK	#	OK	OK□

# 4 Pragmatic background

We turn now to the pragmatic framework we will be using. Our point of departure will be the model presented by Farkas and Bruce (2010) (henceforth **F&B**), building on Hamblin (1971), Gunlogson (2003), Ginzburg (forthcoming) and others, and further developed in Farkas and Roelofsen (2011).

### 4.1 The conversational scoreboard

F&B's representation of the "conversational state" (or Lewis-style "scoreboard") includes the elements in (4.1).

- (6) a.  $DC_X$ : for each participant X, X's public discourse commitments.
  - b. Table: stack of propositions/questions to be resolved (the top issue first).<sup>3</sup>
  - c. Common Ground (CG): the set of propositions in the Stalnakerian CG.
  - d. Projected CGs (F&B's "Projected Set"): set of potential new CGs, i.e., possible resolution(s) of the top issue on the Table in the next stage of the conversation.

In effect, the commitment sets and the Table completely determine the other 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.

In F&B's system, conversational moves (including assertions or questions) are distinguished by where their associated propositions are added in the scoreboard. For example, if A asserts a proposition p, then p is added to  $DC_A$  (along with any presuppositions it carries), to the top of the Table, and (as a consequence of its presence on the Table) to each Projected CG (4.1.i). If B accepts the assertion (a separate move), this removes p from the Table and adds it to the CG (4.1.ii).<sup>4</sup>

(7) (For purposes of illustration, assume that previously in the discourse, A has committed to some proposition r and the CG includes some proposition q.)

A asserts: The king is here.

	(previously)	(i) A asserts	(ii) B accepts
DCA	$\{r\}$	$\{r, \exists king, king is here\}$	$\{r\}$
$DC_{\rm B}$	{ }	{ }	{}
Table	$\langle \rangle$	$\langle king is here \rangle$	$\langle \rangle$
CG	$\{q\}$	$\{q\}$	$\{q, \exists \text{ king}, \text{king is here}\}$
Proj. CGs	$\{\{q\}\}$	$\{\{q, \exists king, king is here\}\}$	$\{\{q, \exists king, king is here\}\}$

In contrast, the corresponding yes/no question creates projected CGs containing p as well as ones containing  $\neg p$  (4.1.i).

<sup>&</sup>lt;sup>3</sup>This is a slight simplification. For F&B, an item on the Table is a pair of a syntactic representation and a denotation, where crucially the syntactic part includes a core sentence representing propositional content, which is then available for discourse purposes such as anaphora. Farkas and Roelofsen (2011) use sets of propositions, one of which may be "highlighted" and thus similarly available. On our formulation, the proposition added to the Table corresponds to the denotation of the core sentence or the highlighted proposition. This makes no difference here since we only consider cases where just one proposition is highlighted (ignoring, e.g., wh-questions).

<sup>&</sup>lt;sup>4</sup>Following F&B, propositions added to the CG are removed from individual commitment sets, since anything in the CG is, by definition, a public commitment of all participants.

	(previously)	(i) A asks	(ii) B answers	(iii) A accepts
DCA	$\{r\}$	$\{r, \exists \text{ king}\}$	$\{r\}$	$\{r\}$
$DC_{\rm B}$	с	$\{r\}$	{king is here}	{ }
Table	$\langle \rangle$	$\langle king is here \rangle$	$\langle$ king is here $\rangle$	$\langle \rangle$
CG	$\{q\}$	$\{q\}$	$\{q, \exists \text{ king}\}$	$\{q, \exists \text{ king}, \\ \text{king is here}\}$
Proj.		$\{ \{q, \exists king, king \}$	$\{ \{q, \exists \text{ king}, $	$\{ \{q, \exists \text{ king}, $
CGs	$\{\{q\}\}$	is here}, $\{q, \exists \text{ king}, d\}$	king is here } }	king is here } }
		king is not here} }		

(8) (Similarly, A has previously committed to *r* and the CG includes *q*.)A asks: *Is the king here?* B answers: *Yes*.

The framework constrains the way that propositions and issues enter and leave various parts of the scoreboard. For instance, there are two ways for a proposition to enter the CG — either (i) through the Projected CG, or (ii) by becoming an independent commitment of every discourse participant. As noted above, propositions in the Projected CG are resolutions to the issues on the Table; issues can remain on the Table only until they are resolved in the CG (cf. Ginzburg, forthcoming).

### 4.2 Taste and standards

We assume a view of assertion of taste judgments based on the view of Stephenson (2007), with some adaptations and simplifications. On this view, propositions are true or false relative not only to a world but also to an individual "judge." For present purposes, this just means if a statement of taste, e.g., *the cake is tasty*, is added to a speaker A's public commitments, this is equivalent (only) to A having the commitment that the cake tastes good to A; however, if 'the cake is tasty' is added to the Common Ground, then this is equivalent to making it common ground that the cake tastes good to the whole group of participants in the conversation.<sup>5</sup>

Turning to vague scalar predicates, we follow Barker (2002:p. 4) in that "part of the ignorance associated with a use of a vague predicate is uncertainty about the applicability of a word." Scalar predicates like *tall* need a contextual standard to be fully interpreted. The lexicon includes restrictions on standards, which are based on scalar properties — e.g., "if John is taller than Bill, then we disallow standards that count Bill as tall but not John."

For the sake of presentation, we will add to the scoreboard a set of Common Standards (CS), which represents the standards compatible with what has been accepted for the purpose of conversation. Thus, if 'John is tall' is in the CG, the CS will be restricted to standards where the threshold for tallness is no higher than John's height (Barker, 2002). In an empty context, then, all sorts of standards are possible, provided they meet lexical restrictions on scale structure. If someone asserts *John is tall* in a context where we know John is 6 feet tall, the speaker becomes committed to the standard being no higher than 6 feet. When the hearer(s) accept this move, all standards are removed from the CS that don't count John as tall. (Because of lexical restrictions on scales, anyone taller than John will then count as tall, too.) As Barker (2002) discusses, an assertion like *John is tall* can target the "factual" CG or the standards in place (CS), or both.

<sup>&</sup>lt;sup>5</sup>For one recent opposing view, see Pearson (To appear).

# 5 A modification

The F&B framework is not fine-grained enough to capture the behavior of the three markers. Thus, we suggest a modification: in addition to projected CGs, we posit "projected" versions of the other parts of the conversational state. Unlike F&B's system, this allows for moves that give tentative commitments (by adding propositions to the speaker's projected, rather than present, commitments), or to offer the speaker's best guess of commitments of other participants (by adding to others' projected commitment sets). It also allows speakers to tentatively raise issues (by adding them to the projected Table).

This modification complicates the scoreboard in two different ways. First, obviously, it adds more parts to the scoreboard (projected commitments and the projected Table). But importantly, more of the parts are primitives as well. For example, F&B's Projected CG can be defined in terms of the current CG and the Table, while ours cannot. We will try to show that both of these complications are justified.

In the modified system, the effect of an assertion that p is given in (5), without the move whereby the hearer(s) accept the assertion.

Curren	t		Projected	
CG {	}	CG*	$\{\{\ldots,p\},\ldots,\{\ldots,p\}\}$	(proposes to add $p$ to the CG)
CS {]	}	CS*	{}	(no change to common standards)
$DC_{A} $ {,	<i>p</i> }	$DC_{A}^{*}$	$\{\{,p\},,\{,p\}\}$	(adds <i>p</i> to A's current and projected commitments)
$DC_{\rm B} \{\ldots$	}	$DC_{\rm B}^*$	$\{\{\ldots\},\ldots,\{\ldots\}\}$	(no change to B's commitments)
$DC_{C} \{\ldots$	}	$DC_{\rm C}^*$	$\{\{\},,\{\}\}$	(no change to C's commitments)
Table $\langle p, $	>	Table*	$\{\langle \ldots \rangle, \langle \ldots \rangle, \ldots, \langle \ldots \rangle\}$	(adds <i>p</i> to the top of table; proposes that it be resolved)

(9) A asserts *p* (no vague predicates):

It should be noted that projected speaker commitments in our system are similar to "contingent commitments" in the framework of Gunlogson (2008), to be discussed in §9 below. Projected hearer commitments, on the other hand, have no equivalent in Gunlogson (2008).

# 6 RP-tags

At first glance, it might seem as if RP-tags could be analyzed straightforwardly in F&B's system. One might suggest that an assertion with an RP-tag differs from a normal assertion only in that p is not added to the speaker commitments. However, in a conversations with more than two participants, e.g., (6), C is contradicting both A and B, rather than just B — that is, both A and B are on the hook, committed to p. Thus, the unmodified F&B system which does not commit the utterer of the RP-tag to the tagged proposition is insufficient to capture this scenario.

(10) **Speaker A:** It's raining, isn't it? **Speaker B:** Yes. **Speaker C:** No it isn't!

In our richer system, we can model RP-tags using the speaker's **projected** commitments rather than their current commitments. We propose, then, that a declarative p with an RP-tag adds p to the projected CGs, to the speaker's projected commitments, and to the Table. Like a regular

assertion, it also removes p from the Projected Table (thus proposing that the issue be resolved). The analysis is shown schematically in (6).

Current	Projected
CG {}	CG* $\{\{, p\},, \{, p\}\}$
CS {}	CS* {}
$DC_A \{\ldots\}$	$DC_{A}^{*} \{ \{ \dots, p \}, \dots, \{ \dots, p \} \}$
$DC_{B} \{\ldots\}$	$DC_{B}^{*} \{ \{ \dots \}, \dots, \{ \dots \} \}$
Table $\langle p, \ldots \rangle$	Table* $\{\langle \ldots \rangle, \langle \ldots \rangle, \ldots, \langle \ldots \rangle\}$

(11) A utters *p* with an RP-tag:

This would mean that if B answers *Yes*, then both A and B are publicly committed to p. Since p is added to the CG anyway, this would yield the same results as the F&B system in a simple case, but allows us to cover conversations with more than two participants as well (6).

The modified system also captures the distinct behavior of RP-tags in our core examples (2)-(3). In "Blushing/Innuendo" (2), the speaker is uninformed, so she cannot commit to a judgment of taste, even tentatively, without relying on the hearer's testimony for this commitment. (That is, the commitment is "dependent" in the sense of Gunlogson, 2008, as discussed in §2.) However, the hearer did not directly say anything regarding the neighbor's attractiveness. A projected, rather than present, commitment can be justified if the speaker simultaneously signals that this is an imperfect inference based on prior context, e.g., on the hearer's utterance and blushing. However, none of the effects of the RP-tagged utterance (adding p to the projected speaker commitments, to the Table, and to the projected Common Ground) are suitable for such a "commitment-weakening" signal. Thus, the move whereby the speaker projects a commitment to the associated proposition is infelicitous. Anticipating our analysis of NI-rises, note that the rise is felicitous here. Our explanation for this contrast between the two markers concerns exactly the presence of an imperfect-inference signal among the effects of the NI-rise, which licenses a projected commitment. In essence, then, the use of an NI-rise.

Next, consider the contrast between two cases involving judgments of taste, one where the speaker is seeking agreement and the marker is appropriate, "Seeking agreement" (2), and another where the speaker is uncertain about the whole speech act, and the marker is inappropriate, "Unsure of move" (2). Since the relevant taste-related proposition is added to the speaker's projected commitments, in both cases the speaker succeeds in expressing her opinion. By placing this proposition on the Table and into the Projected CG, she also invites the hearer to express her opinion in "Seeking agreement" (2). However, in a situation where the hearer's opinion is not at stake and cannot be solicited, as in "Unsure of move" (2), the marker is infelicitous.

Finally, consider the effect RP-tagged vague predicates have on the standards. The utterence in "Borderline paint" (3) puts the proposition 'it's red' on the Table, in the projected CGs, and revises the standard of redness in the projected CSs, but instead of committing to all of this, 'it's red' (and the corresponding standard) is added to the projected commitments. An obvious reason for this failure to commit to one's own proposal is if the speaker does not want to commit to a standard unless that standard is acceptable to the hearer as well. This is similar to what would happen as a result of an RP-tagged "factual" utterance — failure to fully commit in this case would cause the hearer to infer that the speaker is uncertain about the content of the projected commitment. With

the vague predicates, there is a salient source of this uncertainty — the standard. Thus, the hearer infers that the speaker is uncertain about the standard.

As we will argue in §9, our analysis of RP-tags has broader empirical coverage than the SDRT-based approach of Reese and Asher (2007), which makes wrong predictions for cases such as "Unsure of move" (2). In addition, our analysis favorably compares to that of Beyssade and Marandin (2006) — while they can account for the behavior of RP-tags, their representation of the conversational context is too simple to capture the full range of commitments conveyed by plain declaratives, polar questions, and the three constructions considered here.

## 7 SP-tags

We propose that A asserting p with an SP-tag makes no change to A's commitments or any CGs, but adds p to **B's** projected commitments, as shown in (7). This signals a guess by A as to B's beliefs. If B accepts this move, p is added to B's commitments.

Current	Projected
$CG \{\ldots\}$	$CG^* \{ \{ \},, \{ \} \}$
CS {}	CS* {}
$DC_{A} \{\}$	$DC_{A}* \{ \{ \},, \{ \} \}$
$DC_{B} \{\ldots\}$	$DC_{B}^{*} \{\{,p\},,\{,p\}\}$
Table $\langle \ldots \rangle$	Table* $\{\langle \ldots \rangle, \langle \ldots \rangle, \ldots, \langle \ldots \rangle\}$

(12) A utters *p* with an SP-tag:

Since an SP-tag projects a commitment of the addressee, rather than the speaker, this predicts that SP-tags are acceptable when only the hearer's judgment is at issue, as in "Blushing/Innuendo" (2), but not when the speaker is expressing her own judgment and/or seeking agreement, as in "Seeking agreement" (2), "Unsure of move" (2), and "Borderline paint" (3).

Our analysis of SP-tags makes this construction "attributive" in the sense of Poschmann (2008) — the expressed commitment is attributed by the speaker to someone else. However, unlike the attributive echo-questions discussed in Poschmann (2008), an SP-tagged utterance is not an echo of the hearer's explicit assertion, but rather an inferred commitment of the hearer. Its update is a projected, rather than present, commitment of the hearer. Thus, it can be used in a situation like "Blushing/Innuendo" (2), where the speaker is essentially putting words in the hearer's mouth, but cannot be used to double-check an explicit commitment of the hearer.

The contrast between the RP-tag and the SP-tag in "Seeking agreement" (2)–(2) is especially revealing. The context calls for A to commit to a judgment of personal taste, which B may agree or disagree with. In our modified F&B system, the dependence of the taste predicates on the judge parameter (Stephenson, 2007) will in effect set that parameter to be the "owner" of the corresponding part of the scoreboard (X for  $DC_X$ , and the group of participants collectively for the CG). This predicts that an RP-tag (2) serves both to assert A's opinion and at the same time to solicit B's by adding 'Bill is attractive' to the Projected CG. In contrast, the SP tag cannot serve to express A's own opinion, and thus is infelicitous.

Similarly, A's judgment of taste is called for in "Unsure of move" (2), and A's judgment on a standard-dependent borderline case is required in "Borderline paint" (3). In both of these cases, A's commitments fail to be changed, and the SP-tag is infelicitous. In fact, we'll see in §9 that SP-tags

pose a serious challenge for previous compositional approaches to tags. This is because the only differences between SP-tags and RP-tags are in the polarity — SP-tags must be positive and be attached to positive clauses. Any approach that builds up the meaning of tagged declaratives from the contributions of the declarative, the tag, and the intonation (cf. Reese and Asher, 2007) will need to locate the striking differences between SP-tags and RP-tags in the tag itself.

## 8 NI-rises

We propose that if A utters p with an NI-rise, a metalinguistic issue concerning the utterance of p (indicated for convenience by "*MLI*<sup>p</sup>") is added to the Table,<sup>6</sup> p is added to A's **projected** commitment set and to the **projected** Table. If B accepts the move and resolves the metalinguistic issue on the Table, p is added to A's present commitment set and to the Table. This is almost the effect that would have arisen from asserting p — the difference is only that a plain assertion adds pto the projected CGs; here, A suggests no potential resolutions for the issue on the projected Table, but gives a clue that she'd be willing to go along with adding p to the CG, since she adds p to her projected commitments. This is shown schematically in (8).

Current	Projected
CG {}	CG* {{,p},,{,p}}
CS {}	CS* {}
$DC_{A} \{\ldots\}$	$DC_{A}^{*} \{ \{ \dots, p \}, \dots, \{ \dots, p \} \}$
$DC_{B} \{\ldots\}$	$DC_{B}^{*} \{ \{ \dots \}, \dots, \{ \dots \} \}$
Table $\langle MLI^p, \ldots \rangle$	Table* { $\langle p, \ldots \rangle, \langle p, \ldots \rangle, \ldots, \langle p, \ldots \rangle$ }

(13) A utters *p* with an NI-rise:

By putting p on the projected Table, the speaker is, roughly speaking, seeking approval to make the move that would have been made if the rising intonation were absent, thereby deferring the effects of this move. Thus NI-rises are possible whenever the speaker isn't sure if a plain assertion is appropriate. The uncertainty licenses the speaker in putting a metalinguistic issue about such an assertion on the Table. These are all issues that can be raised as Clarification Requests by the hearer of an utterance (Ginzburg, forthcoming). For example, in "Blushing/Innuendo" (2), A infers that the neighbor is attractive only indirectly; the issue there is whether the speaker's inference regarding hearer's blushing is correct (note that this is exactly the source for the contrast between the NI-rise and the RP-tag in (2)). In "Unsure of move" (2), A is unsure whether her opinion is called for; thus the metalinguistic issue is whether p addresses the issue on the Table. In "Borderline paint" (3), A is not confident about her judgment, and thus the metalinguistic issue is whether the standard of redness implicit in p is acceptable. In contrast, in "Seeking agreement" (2), a plain assertion (2) is clearly warranted, since it is established that **any** opinion of A is called for

<sup>&</sup>lt;sup>6</sup>Poschmann (2008) cites examples like (i) below, arguing that 'confirmative' NI-rises cannot raise metalinguistic issues. We disagree — the infelicity of this example is due to other factors. Metalinguistic matters can very well be at issue in such utterances, as illustrated in (ii), as long as B does not follow the NI-rise with a commitment to an alternative pronunciation, resolving the metalinguistic issue she just raised.

i. A dials a telephone number. B: \*You're calling the POlice? I'd rather call the poLICE.

ii. A: What are the capitals of New England states? B: The capital of Vermont is /montpilir/?

(cf. 2), and A has privileged access to her own taste (Lasersohn, 2005). No plausible metalinguistic issue is licensed in this case, and no reason exists for the speaker to defer making a plain assertion. Thus, the NI-rise is infelicitous, in contrast to the RP-tag.<sup>7</sup>

Notice that the appropriateness of an NI-rise in the application of a vague predicate to a borderline case (3) supports a modification of the basic F&B system. The effect of an NI-rise on the scoreboard for F&B does not involve any change to the Projected CG, and thus, we assume, to the projected standards. Yet, the utterance in (3) is interpreted as a tentative (pending hearer approval) suggestion to revise the standard of redness to include the borderline paint.

Using projected commitments in our enriched system, we can model this effect by manipulating the standards in a more indirect way than the projected CS. When a speaker says *John is tall?*, this expresses her projected commitment to a standard that makes John, in this context, count as tall. If the hearer confirms, both are now publicly committed to such a standard. As a result of these public commitments, the standard in the CS is revised.

Šafářová (2007) discusses three different interpretations for NI-rises: first, those that do not result in a commitment from either the speaker or the addressee, such as "Blushing innuendo" (2). In our framework, by expressing a projected, rather than present commitment of the speaker, the utterance conveys a tentative bias towards p, but fails to commit anyone.

Second, Šafářová cites NI-rises that result in a speaker commitment, as in "Unsure of move" (2). On our analysis, failure to fully commit to information on which the speaker is obviously an authority tells the hearer that there is another reason for the speaker's tentativeness (compare this to Poschmann (2008), who proposes that tentativeness is the effect of rising intonation). The hearer infers that the speaker is unsure about the speech act itself, rather than about its content. As a result, the speaker succeeds in conveying new information (e.g., that the new neighbor is attractive).

Finally, as Gunlogson (2003) points out, some NI-rises occur in contexts where there is a previous commitment from the addressee, such as when double-checking a presupposition, "Presupposition" (8) (see also Gunlogson, 2008, Poschmann, 2008 for more on these cases).

#### (14) "Presupposition"

**Speaker B:** John's picking up his sister at the airport. **Speaker A:** John has a sister?

In "Presupposition" (8) A's NI-rise double-checks B's presupposition — something that never made it to the Table prior to A's utterance. If followed by acceptance, this information is added to the CG, resolving the issue. The NI-rise delays the addition of this information to the CG, demanding the hearer's attention during that time. However, such an NI-rise can also hint to B that

<sup>&</sup>lt;sup>7</sup>Some uses of NI-rises have more specific preconditions, as in "Court" (i). (Thank you to an anonymous SemDial referee for bringing up this example.) The utterance in (i) communicates the assumption that the defendant has already confessed her guilt; if prior context does not support this inference, the utterance is infelicitous.

i. "Court" Context: In court, the prosecuting attorney A begins cross-examining the defendant B.

A: You committed the crime?

In contrast, the NI-rises in (2, 3) are fine without any prior reason to infer *p*. We won't account for this contrast here, but one possibility is to link it to the licensing of a metalinguistic issue concerning the utterance of *p*. In the weakerprecondition cases (2, 3), the issue could relate to any property of the utterance ("Is this the correct pronunciation?," "Is this kind of move appropriate at this point in the conversation?," etc.). In contexts where all issues of moveappropriateness, pronunciation, etc. are mutually known, the only option is for the NI-rise to raise the issue of whether the speaker can infer the content of the NI-rise itself from prior context. In this case, e.g., "Court" (i), the NI-rise must be reacting to the prior state of the scoreboard.

A has information that makes her doubt that John has a sister. In this case the NI-rise may serve to prevent this information from ever reaching the Common Ground.

Šafářová (2007:p. 6) observes that NI-rises "usually elicit a response from the addressee or give the impression of the response being welcome." We explain this effect by the presence of p on the projected Table, which indicates that the speaker would like to make this an open issue. In addition, the metalinguistic issue on the Table directly calls for a hearer response, in a way fully parallel to a Clarification Request (Ginzburg, forthcoming) or an echo question (Poschmann, 2008). In sum, our account captures an essential element that is common to all NI-rises, namely that they add a projected commitment of the speaker.

## 9 Concluding discussion

We now turn to a brief comparison of our view with some previous work specifically addressing rising intonation and tag questions.

### 9.1 Comparison with Gunlogson (2008)

Gunlogson (2008) considers a very specific subset of NI-rises — rising declaratives used as discourse-initiating questions (IQ-rises henceforth). These utterances occur discourse-initially, and the main goal behind them is to elicit a response from the addressee. Gunlogson's analysis of IQ-rises involves several pragmatic concepts. First, she uses the notion of speaker and hearer commitment — identical to the notion of public discourse commitments that we adopt. In addition, she defines two crucial new concepts. The first is that of a **source** for commitments. To be a source for a commitment to p, essentially, is to have reasons to believe p other than someone in the conversation saying that p. When the participant has a commitment without being a source for it, this is called a "dependent" commitment. The second new notion is that of a contingent discourse move, and contingent commitment as a subtype of that. A discourse move is **contingent** if the speaker presents it as linked to a subsequent move — the update effected by the contingent move is retained only if it still obtains after that subsequent move.

IQ-rises are analyzed as follows. First, the effect of the declarative syntax is to commit the speaker as a source to the associated proposition<sup>8</sup>. Second, the rising intonation marks this discourse move as contingent. This means that the hearer must be a better source for the associated proposition than the speaker, and this inequality must be clear in the context of the IQ-rise.

The broader empirical coverage of our account (we consider all declarative NI-rises, rather than just IQ-rises) means that none of our core examples fit the description of initiating declarative questions.<sup>9</sup> The rise in "Blushing/Innuendo" (2) is not discourse-initial, but it does solicit a response. The speaker is not in a position to give her judgment, while the hearer is, creating the required evidence differential that Gunlogson demands for "use as questions."

<sup>&</sup>lt;sup>8</sup>Note that the proposal in Gunlogson (2008) departs significantly from her earlier work. A key claim in Gunlogson (2003) was that rising intonation shifts the commitment from the speaker to the hearer. A number of authors have argued against this view, including, e.g., Šafářová (2007) and Poschmann (2008), in addition to Gunlogson herself (2008), so we won't discuss it further here.

<sup>&</sup>lt;sup>9</sup>It is not clear that Gunlogson's framework can account for the infelicity of the IQ-rise in the cross-examination in "Court" (fn. 7). The conditions are met: the hearer's confession makes her a source, and it seems likely that the hearer has better information on whether she committed the crime than the prosecutor. Yet the example is infelicitous.

While our examples (2)–(3) neither fit the description of declarative questions, nor fully conform to Gunlogson's proposal, it seems plausible that Gunlogson's account could be extended to cover them.

Gunlogson (2008) achieves greater empirical adequacy than her previous work, and can perhaps be extended to successfully account for the NI-rise examples here. Still, it lacks sufficient dimensions to model all three markers we address. For instance, both NI-rises and RP-tags involve (tentative) speaker commitments, which we model as projected public commitments, and which can be perhaps approximated as contingent commitments. Additionally, since RP-tags involve an interrogative, we can model them in Gunlogson's framework as granting authority to the hearer the hearer is a better source for p or  $\neg p$  than the speaker. However, this analysis fails to distinguish between RP-tags and NI-rises used as questions, as in "Blushing/Innuendo" (2), where the RP-tag is infelicitous, while the NI-rise is fine. Moreover, SP-tags, which we model by using projected hearer commitments, cannot be modeled at all.

### 9.2 Comparison with Beyssade and Marandin (2006)

Building on the work of Ginzburg (1996, forthcoming), Beyssade and Marandin (2006) (henceforth **B&M**) propose an analysis for a range of speech acts, including French confirmation requests, which they translate using RP-tags. Each participant has her own scoreboard, termed the Discourse Game Board (DMG). The relevant parts of the DMG, as used by B&M, are the Shared Ground set (SG) for factual commitments, and the Question Under Discussion set (QUD), tracking commitments to issues to be resolved. B&M add a new part representing the demands that a move places on the hearer: the Call on Addressee (CoA)<sup>10</sup>. In B&M's framework, an assertion that *p* updates the speaker's SG, indicating a public commitment to *p*, and calls on the hearer to do the same. Similarly, a question *q* updates both participants' QUD, indicating speaker commitment to the issue.

A confirmation request involving a proposition p adds p to the speaker's SG while calling on the hearer to add the issue whether p to her QUD. Adopting this as an analysis of RP-tags successfully accounts for their behavior. This framework is too simple to capture the fine-grained distinctions between the speech acts we consider. For instance, B&M note the similarity of the NI-rise to questions and to French confirmation requests. It seems fair to represent this question-like effect as a CoA to add the issue whether p to the hearer's QUD. For the rest of the DGB, we have four options for analyzing NI-rises in B&M's system.

(1) An NI-rise could leave the speaker's SG and QUD unchanged. This would not capture the fact that NI-rises involve a tentative commitment of the speaker, as in "Seeking agreement" (2).

(2) An NI-rise could update the speaker's QUD with p. This would make NI-rises identical to neutral polar questions. Yet, as B&M note, the two constructions differ — for instance, NI-rises are infelicitous in contexts requiring neutrality.

(3) An NI-rise could update the speaker's SG with p. This would make NI-rises identical to RP-tags, contrary to the facts observed in our examples (2)–(3).

(4) An NI-rise could update both SG and QUD of the speaker with p, using the speaker's QUD to weaken the commitments in her SG, indicating that the issue whether p is still unresolved for the speaker. This makes incorrect predictions about cases like "Unsure of move" (2), where the

<sup>&</sup>lt;sup>10</sup>Ginzburg's framework involves several other parts besides ones used in B&M, such as a record of conversational moves to-date, which enables the raising of metalinguistic issues, e.g., as clarification requests.

speaker is uncertain about the speech act itself; in such cases, the speaker is, in fact, **not** committed to resolving the issue whether p (e.g., whether the neighbor is attractive), and thus cannot add this issue to her QUD.

What enables us to model these differences is our notion of projected speaker commitments. This allows for a distinction between the full commitments involved in plain assertions from the tentative commitments involved in NI-rises.

### 9.3 Comparison with SDRT

Reese and Asher (2007) offer an analysis of RP-tags with falling and rising final tune, couched in the framework of SDRT. In SDRT, speech acts are inferred using defeasible logic. For Reese and Asher (2007), the intonational rise entails that the speaker believes that the core content of the associated proposition is possible.

In an RP-tag, the declarative p is an assertion, which defeasibly means that A wants B to believe p. The rising negative tag defeasibly means that A wants B to believe that  $\Diamond \neg p$ . One of these contradictory intentions must cancel the other. If the assertion is canceled, the tag is interpreted as a confirmation question: A believes p is possible, and asks B to confirm. If, however, the effect of the rise is canceled, the assertion persists, and B infers that the rise is there for some other reason.

This account makes wrong predictions: in contexts where the effect of the rise is canceled, RP-tags should pattern with plain declaratives. This is falsified by "Unsure of move" (2) - A cannot be asking for confirmation, since she is informed on the matter, and B isn't. Yet, the RP-tag is infelicitous, while the declarative is acceptable.

#### 9.4 Summary

We have offered an analysis of RP-tags, SP-tags, and NI-rises in a dynamic framework. The representation of context in this framework contains present and projected versions of participants' commitments, the Table, and the Common Ground. We argue that all these "moving parts" are necessary to model the distinctions between the various constructions.

In an important sense, our system is non-reductionist compared to the original F&B framework which we took as our starting point. Recall that for F&B, the CG was simply the intersection of the sets of propositions in the public commitment sets of all participants; while the Projected CG contained the present CG updated with alternative expected resolutions of the issues on the Table. Thus, the only truly independent parts in the original framework are the commitment sets and the Table. In our modified system, the projected commitment sets and the projected Table represent truly new parts of the conversational scoreboard. As we have seen from comparisons with other approaches, this greater number of independent components in the framework seem to be empirically necessary, and are also not without precedent.

In sum, we have presented a felicity pattern which brings out a commitment scale among declarative forms, from plain declaratives (most committed), to RP-tags (committed enough to project a CG), to NI-rises (projected speaker commitment), to SP-tags (no speaker commitment; projected hearer commitment instead). The pattern motivates a model of conversation which makes fine-grained distinctions among speech acts.

# References

Barker, Chris. 2002. The dynamics of vagueness. Linguistics and Philosophy 25:1-36.

- Beyssade, Claire, and Jean-Marie Marandin. 2006. From complex to simple speech acts: a bidimensional analysis of illocutionary forces. In *Proceedings of the* 10<sup>th</sup> *Workshop on the Semantics and Pragmatics of Dialogue*, ed. D. Schlangen and R. Fernández. Potsdam, Germany.
- Farkas, Donka, and Kim Bruce. 2010. On reacting to assertion and polar questions. *Journal of Semantics* 27:81–118.
- Farkas, Donka, and Floris Roelofsen. 2011. Polarity particles in an inquisitive discourse model. Unpublished manuscript.
- Ginzburg, Jonathan. 1996. Dynamics and the semantics of dialogue. In *Language, logic and computation*, ed. J. Seligman and D. Westerståhl, 221–237. Stanford: CSLI.
- Ginzburg, Jonathan. forthcoming. *The Interactive Stance: Meaning for Conversation*. Oxford: Clarendon Press.
- 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.
- Hamblin, C. L. 1971. Mathematical models of dialogue. *Theoria* 37:130–155.
- Ladd, D. Robert. 1981. A first look at the semantics and pragmatics of negative questions and tag questions. In *Proceedings of the Chicago Linguistic Society*, ed. R. Hendrick, C. Masek, and M. F. Miller, Vol. 17, 164–171.
- Lasersohn, Peter. 2005. Context dependence, disagreement, and predicates of personal taste. *Linguistics and Philosophy* 28:648–686.
- Lewis, David. 1979. Scorekeeping in a language game [reprinted 2002]. In *Formal semantics: The essential readings*, ed. P. Portner and B. H. Partee, 162–177. Oxford: Blackwell.
- Pearson, Hazel. To appear. A judge-free semantics for predicates of personal taste. *Journal of Semantics*.
- Poschmann, Claudia. 2008. All declarative questions are attributive? *Belgian Journal of Linguistics* 22:247–269.
- Reese, Brian, and Nicholas Asher. 2007. Prosody and the interpretation of tag questions. In *Proceedings of Sinn und Bedeutung 11*, ed. E. Puig-Waldmüller, 448–462.
- Stephenson, Tamina. 2007. Judge dependence, epistemic modals, and predicates of personal taste. *Linguistics and Philosophy* 30:487–525.
- Šafářová, Marie. 2007. Nuclear rises in update semantics. In *Questions in dynamic semantics*, ed. M. Aloni, A. Buter, and P. Dekker, chapter 13. Oxford/Amsterdam: Elsevier.