

The Discourse Effects of Rising Declaratives*

Junseon Hong

1. Introduction

The formal marking of sentence types is referred to as mood and it is associated with a particular meaning across languages. A significant correlation between the selection of grammatical mood and the intended type of discourse move is as follows (Roberts, 2018): Declaratives canonically provide information, interrogatives canonically request information, and imperatives give commands. Within these three moods, the former two are associated with speech acts that are related to changing context. That is, assertions and questions are basic direct speech acts that are used to exchange information. In English, they align with distinct syntactic forms: assertions correspond to falling declaratives and questions correspond to polar interrogatives, as illustrated in (1).

(1) a. Kim has a brother.

FALLING DECLARATIVE

b. Does Kim have a brother?

RISE POLAR INTERROGATIVE

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(1a) is a canonical act of making an assertion and (1b) is a canonical act of asking a yes/no question. Regarding intonation, an assertion accompanies falling intonation while a question accompanies rising intonation. However, non-canonical discourse structures such as (2) are often found in natural discourse.¹⁾

(2) *Kim has a brother?*

RISEING DECLARATIVE

The basic assumption that (1) follows is overridden by (2): (2) has a syntactic form of (1a) with an intonation of (1b). It is an example of so-called Rising Declaratives (henceforth, RDs) which highlights the complex pattern between semantics-pragmatics interface, having diverse discourse effects differ from canonical counterparts.

Due to their complexity, whether English rising declaratives are compromised in distinct phenomena has been challenged by a series of literature (e.g., Malamud & Stephenson, 2015; Farkas & Roelofsen, 2017; Jeong, 2018a, 2018b; among others). This paper aims to address the issue of further classifying RDs and proposes a formal representation couched within the Table model (e.g., Farkas & Bruce, 2010; Malamud & Stephenson, 2015), extended from Lewisian model of discourse (Lewis, 1979). I argue that the single discourse effect of each main type does not properly elaborate the whole phenomena and that the discourse effects of RDs must be further divided, apart from prior accounts.

The remainder of the article is as follows: In §2, I introduce the

1) For the rest of the paper, I will simply use the question mark (“?”) in the end of the sentence to indicate rising intonation. In case of more precise representation is required, ToBI representation of intonation (Beckman & Ayers, 1997) will be adopted.

phenomena of RDs, especially focusing on their inquisitive uses. Then, §3 proposes distinctive discourse effects of RDs and §4 compares the proposed account with related previous approaches. Lastly, §5 contains a concluding discussion.

2. Phenomena

2.1. Basic Types

Jeong (2018a, 2018b) proposes two main types of RDs based on the experimental data: ASSERTIVE RDs and INQUISITIVE RDs. As their names indicate, they respectively overlap with assertions and questions. To illustrate, consider (3).

(3) a. **ASSERTIVE RD: OVERLAP WITH ASSERTIONS**

[Context: **A** asks **B** where Sally is. **B** is not sure of Sally's whereabouts:]

A: Where's Sally?

B: (Um...) *She's home?*

b. **INQUISITIVE RD: OVERLAP WITH QUESTIONS**

[Context: Sally has been skipping school without any specific reason. **B** has just come back from work and **A** wants **B** to speak with Sally immediately about her issues.]

A: You should speak to Sally right away.

B: *She's home?*

Although the two types of RDs share identical overt forms, they differ in their speech acts. For instance, (3a) functions as an assertion, in which Speaker B responds to the addressee's question by providing information where Sally is, but they are not perfectly sure whether they are uttering the truth. In contrast, (3b) functions more like a

question asking whether Sally is home at the moment, and at the same time, the speaker seems more likely to believe that she might be home. Following the ToBI convention (Silverman et al., 1992), it is often assumed that a lower rise with a high nuclear pitch accent (H*H- H%) indicates Assertive RDs, while a steeper rise with a low nuclear pitch accent (L*H-H%) is related to Inquisitive RDs (Jeong, 2018a, 2018b; c.f., Goodhue, 2021).

The *Oh* vs. *Yes* diagnostic (Gunlogson, 2008) is a useful tool to track different discourse effects between Assertive RDs and Inquisitive RDs (Jeong, 2018a, 2018b). The licensed follow-up response, whether it is *Oh* or *Yes*, demonstrates the speaker's dependency on the commitment. *Oh* (with falling intonation) signals the speaker's dependent commitment on the addressee's commitment, while *Yes* signals the opposite. In other words, the commitment source of *Yes* is the speaker themselves (Gunlogson, 2008), whereas *Oh* relies on the addressee's prior commitment and implicates the receipt of new information (Heritage, 1984). As Assertive RDs have a function of assertion, the speaker is independently committed to their commitment. Thus, they allow *Oh* as a felicitous response. In contrast, since Inquisitive RDs do not commit the speaker to the expressed proposition, the other discourse participant cannot be contingent on Inquisitive RDs but has to have their own source of commitment, which is implied by *Yes*.

(4) a. **ASSERTIVE RISING DECLARATIVE**

A: Tell me about John's family.

B: (Um...) *John has a sister?*

A: **Oh**, I didn't know that. / ?**Yes**.

b. **INQUISITIVE RISING DECLARATIVE**

A: John is picking up his sister.

B: *John has a sister?*

A: **Yes**, didn't you know? / **#Oh**.

(Jeong, 2018a, p. 311)

In (4a), speaker B's commitment to 'John has a sister' is somehow definitive. If not, speaker A would not be able to be dependent on it with a falling *Oh*. Meanwhile, reversed phenomenon is shown for the follow-up response of Inquisitive RDs. If speaker B in (4b) has a definitive commitment as in (4a), speaker A can have a dependent commitment. However, *Oh* is unlicensed in (4b), which shows that the commitment of Inquisitive RDs is not definitive, analogous to questions.

I follow Jeong's (2018a, 2018b) account on two fundamental types on RDs, associated with two separated tunes. In this paper, I will address only on Inquisitive RDs and leave Assertive RDs out of consideration. For the remainder of the paper, when I employ the term 'rising declaratives (RDs)' without qualification, I intend to refer to Inquisitive RDs.

2.1. Biases

RDs are further divided in terms of their bias toward the expressed proposition, whether positive or negative, depending on the context.²⁾

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- 2) I suppose Assertive RDs also consist of two subtypes, whether the speaker is tentative on the truth value of the expressed proposition or not. To illustrate, consider (i) and (ii).

(i) [Context: A teacher **A** is quizzing a student **B** on state capitals. The student isn't sure of the answer but thinks it might be Albany.]

A: (teacher) Where's the capital of New York?

B: (student) *It's Albany?*

(Malamud & Stephenson, 2015, p. 282)

(ii) [Context: In a Chicago radio station, the radio station DJ **A** is on the phone with a caller **B**.]

(5) CONFIRMATIVE RD: POSITIVE BIAS

A: John has to leave early.

B: *He'll miss the party then?*

(Gunlogson, 2003, p. 60)

(6) CONTRADICTORY RD: NEGATIVE BIAS

[Context: A mother **A** asks her child to set the table and he does a particularly bad job of it but appears to consider the chore finished.]

A: *This table is set?* Where are the wine glasses? Where are the napkins?

(Farkas & Roelofsen, 2017, p. 276)

In (5), speaker B is making the best guess on the addressee's commitment. That is, they think that it is highly probable that 'John will miss the party'. Meanwhile, RDs can also implicate negative bias as illustrated in (6). In (6), the speaker does not believe the proposition 'the table is set', but rather conveys suspicion about it. Following Jeong (2018a, 2018b), I name these two types of RDs **CONFIRMATIVE** and **CONTRADICTORY**, respectively.

A: (radio station DJ) Good morning Susan. Where are you calling from?

B: (caller) *I'm calling from Skokie?*

(Hirschberg & Ward, 1995, p. 408)

(i) is tentative about the truth of the proposition that the capital of New York is Albany, while (ii) does not implicate a tentativeness on the truth of the fact that the caller is calling from the place named Skokie. I assume that (i) and (ii) have different discourse effects as well, but leave it for the topic of future research.

2.1.1. *The Dissent Test*

Due to their syntactic form, RDs are typically expected to convey a positive bias towards the expressed proposition. It would be relatively unanticipated if the bias is negative, considering the affirmative syntactic form. However, as exemplified previously in (6), Contradictory RDs are negatively biased and their bias is emphasized with the overt dissent such as *No, that's not true* or *No way*.

(7) CONTRADICTIONARY RD

[Context: Same as (6).]

A: *This table is set?* **No, that's not true.** Where are the wine glasses?
Where are the napkins?

Followed by immediate dissent such as *No, that's not true*, the speaker's intention to disagree with the addressee's belief or utterance with a Contradictory RD becomes more apparent.

In contrast, Confirmative RDs cannot be followed by such expressions.

(8) CONFIRMATIVE RD

A: John has to leave early.
B: *He'll miss the party then?* **#No, that's not true.**

Speaker B in (8) is willing to confirm their prediction on p , which intuitively led to a positive bias. When the speaker has a positive bias, they cannot express $\neg p$ immediately because conveying p and $\neg p$ concurrently would be self-contradictory.

2.2.2. *Particle Responses*

Another evidence for the difference in the semantics between Confirmative RDs and Contradictory RDs is shown with consequent

particle responses. Their pattern is analogous to the particle response (*yes* or *no*) of positive polar questions (henceforth, PPQs) and negative polar questions (henceforth, NPQs) (Roelofsen & Farkas, 2015; AnderBois, 2019).

In Roelofsen & Farkas' (2015) system, responses bear two features, [+ , -] and [AGREE, REVERSE]. Precisely, the former is absolute features whereas the latter is relative features. Absolute features are responses to being positive or negative about the truth value of the prejacent proposition, while relative features are responses for agreeing or reversing. Bare particle response *yes* signals [AGREE] and [+], while *no* signals [REVERSE] and [-]. As polarity particles are anaphoric, their distribution and interpretation reflect the expressions they respond to (Roelofsen & Farkas, 2015). Bare particle responses to PPQs are unambiguous while those to NPQs are ambiguous (or 'interchangeable' by Goodhue & Wagner (2018)). See (9) for unambiguous polar responses to PPQs.

(9) POSITIVE POLAR QUESTION

A: Did Amy leave?

B: a. Yes/#No, she did. [AGREE, +]

b. #Yes/No, she didn't. [REVERSE, -]

In (9), *yes* is acceptable in accordance with both [AGREE] and [+] while *no* is acceptable for [REVERSE] and [-]. In contrast, bare particle responses to NPQs are predicted to be ambiguous as in (10).

(10) NEGATIVE POLAR QUESTION

A: Did Amy not leave?

B: a. Yes / No, she didn't. [AGREE, -]

b. Yes / No, she DID. [REVERSE, +]

Since *no* is multi-dimensional, it is ambiguous between [REVERSE] and [-].³⁾ For NPQs, *no* can be interpreted as [AGREE, -], confirming $\neg p$, and it can be interpreted as [REVERSE, +] at the same time, rejecting $\neg p$. The same is true for *yes* as well.

The different pattern in (9) and (10) are also observed in Confirmative RDs and Contradictory RDs. That is, bare particle responses in Contradictory RDs are ambiguous in a parallel way to NPQs, but those in Confirmative RDs are not. The responses to the two types of RDs are illustrated below:

(11) **CONFIRMATIVE RD**

A: John has to leave early.

B: *He'll miss the party then?*

A: a. Yes / #No, he will. [AGREE, +]

b. #Yes / No, he won't. [REVERSE, -]

(12) **CONTRADICTIONARY RD**

A: Please apologize him.

B: *I was wrong and I should apologize?* No way!

3) It is worth noting that a gradual difference exists in the acceptability of responses. Specifically, in cases where the respondent provides a negative but agreeing response, the use of *no* is generally more acceptable than *yes* in [AGREE, -] (Brasoveanu et al., 2013; Goodhue et al., 2015; Goodhue & Wagner, 2018), because [-] is a marked feature while [AGREE] is not (Roelofsen & Farkas, 2015). Additionally, Kramer & Rawlins (2009) and Roelofsen & Farkas (2015) show that bare particles are typically preferred in negative responses over positive ones. It is important to note, however, that this result is limited to the speakers of American English, as different patterns have been observed in other languages, such as German (Claus et al., 2017). For a more comprehensive analysis based on a Linear Optimality Theoretic account (Keller, 2000), see Farkas & Roelofsen (2019).

- A: a. Yes / No, you shouldn't. [AGREE, -]
 b. Yes / No, you SHOULD. [REVERSE, +]

In (11), *yes* is an acceptable response according to the features [AGREE] and [+], while *no* is acceptable with [REVERSE] and [-], identical to PPQs. In contrast, Contradictory RDs can have both (12a) and (12b) as felicitous responses like NPQs. (12a) confirms $\neg p$, but (12b) rejects $\neg p$.⁴⁾ Accordingly, with the analogous pattern of RDs with polar question counterparts, the semantic update convention of Confirmative and Contradictory RDs should be distinct.

3. Proposal

3.1. Preliminaries

Since Lewis (1979) put forward the scoreboard model of conversation, its extended and enriched models of discourse have been developed in the literature (e.g., Gunlogson, 2003, 2008; Malamud & Stephenson, 2015; Farkas & Roelofsen, 2017; Jeong, 2018a, 2018b; Rudin, 2018, 2022; Goodhue, 2021; among others). In this paper, I adopt the discourse components proposed by Farkas & Bruce (2010) and Malamud & Stephenson (2015) in the representation of the semantic contribution of RDs.

The Common Ground (henceforth, *CG*), a set of commitments shared by discourse participants, is assumed to play a significant role in tracking participants' commitments throughout the discourse (Stalnaker, 1978). Generally, the role of the discourse is often considered as expanding the *CG* and reducing the context set (henceforth, *cs*).

4) Contextual conditions for NPQs and Contradictory RDs also overlap. NPQs can be used with enough contextual support for the negative answer (Trinh, 2014; Roelofsen & Farkas, 2015), and so do Contradictory RDs.

However, subsequent works have identified a limitation of Stalnakerian *CG* in its incapability to represent the individual commitment of each participant with a single set. For example, Gunlogson (2003) proposes the necessity of separate tracking of each participant's commitments. Following her idea, Farkas & Bruce (2010) set each participant's discourse commitment (henceforth, DC_X) apart from the *CG*, while the *CG* is reserved as a set of propositions that all interlocutors have agreed upon. Each interlocutor has individual DC_X which is a belief of one's own, having a possibility to be added to the *CG*. Thus, the total commitment of speaker *X* throughout the discourse is $DC_X \cup CG$. Note that this commitment is doxastic by default and does not need to be true in the world where the conversation takes place.⁵⁾

In the process of discourse, the *Table* records the Question Under Discussion (henceforth, *QUD*; Ginzburg, 1996; Roberts, 1996, 2012; Büring, 2003). In other words, the *Table* is a stack that records 'at-issue' items. When the item is added to the *Table*, the speaker projects possible future *CG*s which is called the projected Common Ground (henceforth, CG^*).⁶⁾ For example, an assertion projects expressed proposition *p* to the *CG* ($CG^* = \{CG \cup \{p\}\}$) and a polar question projects each of two possibilities, *p* or $\neg p$ ($CG^* = \{CG \cup \{p\}, CG \cup \{\neg p\}\}$). The projected commitments of discourse participants (henceforth, DC_X^*) are defined as analogous to the CG^* . Malamud & Stephenson (2015) posit the DC_X^* to allow the moves for tentative commitments of the speaker (speaker's projected commitment; henceforth, DC_{sp}^*) or the speaker's best guess

5) There are different assumptions for other types of speech acts. For example, the speaker of an imperative is assumed to have preferential commitments (Condoravdi & Lauer, 2012).

6) The same component is referred to as the projected set (*ps*) by Farkas & Bruce (2010), but I follow Malamud & Stephenson's (2015) term, the projected CG^* , to remain consistent with other projected components (e.g., DC_{sp}^* , DC_{ad}^*).

on commitments of the addressee (addressee's projected commitment; henceforth, DC_{ad}^*).⁷⁾

A cooperative discourse participant would remain consistent with their doxastic commitments in a single discourse move (Krifka, 2015). I also suppose that the DC_X^* should be consistent throughout the discourse, along with the present ones (i.e., $\cap DC_X \neq \emptyset$, $\cap DC_X^* \neq \emptyset$, and $\{\cap DC_X\} \cap \{\cap DC_X^*\} \neq \emptyset$). If the commitment, whether present or projected, is restricted to worlds where p is true, the worlds where p does not hold are eliminated. As a result, the intersection with worlds where p does not hold is bound to be empty, which is an unexpected outcome considering that the discourse aims to expand the CG .

The discussion up to this point is summarized in (13).

(13) **DISCOURSE COMPONENTS**

- a. **Common Ground** (CG): the set of propositions that all speakers are publicly committed to (Stalnaker, 1978)
- b. **Discourse Commitment** (DC_X): the set of propositions that the speaker has publicly committed to during the conversation up to the relevant time, and which are not shared by all the other participants (Farkas & Bruce, 2010)
- c. **Table** (T): the stack that records the at-issue content in the conversation (Farkas & Bruce, 2010)
- d. **Projected Common Ground** (CG^*): the set of potential CG s that gives possible resolutions for the top issue on the *Table* in the next expected stage of the conversation (Farkas & Bruce, 2010; Malamud & Stephenson, 2015)
- e. **Projected Discourse Commitment** (DC_X^*): the set of propositions that the speaker is expected to become committed to or the best

7) When the DC_X and the DC_X^* are contrasted, I refer to the former as the *present* commitment.

guess of commitments made by other interlocutors (Malamud & Stephenson, 2015)

3.2. *Discourse Effects*

Based on the discussion above, I propose that two RDs update different discourse components. Particularly, Confirmative RDs update p to the DC_{sp}^* , whereas Contradictory RDs update the DC_{ad}^* . To illustrate, see (14) for Confirmative RDs.

(14) **CONFIRMATIVE RD**

[Context: Suppose **A** is writing a rent check for his college student child **B**. This is only the second time **A** has had to pay for **B**'s rent, and he is looking for confirmation that it's \$999. **A**, pen in hand, hovering over his checkbook, vaguely remembers that **B**'s rent is \$999, but wants to double check.]

A: It's nine ninety-nine?

(Goodhue, 2021, p. 956)

In a double check situation with a Confirmative RD in (14), the speaker has already inferred or informed that the rent is \$999, but yet to update it to their present commitment. The speaker's intention to be reluctant or tentative about the proposition is represented by updating p to the DC_{sp}^* , the tentative commitment of the speaker. Thus, I propose the discourse effect of Confirmative RDs as presented below:⁸⁾

(15) **Discourse Effect of CONFIRMATIVE RDs** (updating c_i with $\{p, \neg p\}$)

8) Because the convention of updating the CG^* can be automatically derived from its definition, I do not explicitly mention it in my model of discourse effects. Since the issue at the top of the stack (i.e., the *Table*) is projected, $\{p, \neg p\}$ would be projected ($CG_o^* = CG_i^* \sqcup \{p, \neg p\}$).

$$(i) Table_o = Table_i \cup \{p, \neg p\}$$

$$(ii) DC_{sp,o}^* = DC_{sp,i}^* \cup p$$

With (15), the infelicity of immediate dissent of Confirmative RDs can be predicted as follows:

(16) **CONFIRMATIVE RD**

[Context: A's typically overgrown coworker B has just entered the office with a buzzcut. A says to B:]

A: *You got a haircut?* (t_1') **#No, you're not.** (t_1'')

t_1

	A utters p ? in t_1'	#A utters No in t_1''
Table	$\langle \{p, \neg p\} \rangle$	$\langle \{\neg p\} \rangle$
DC_A		#$\{\neg p\}$
DC_A[*]	$\{\{p\}\}$	$\{\{p\}\}$
DC_B		
DC_B[*]		
CG	s_1	s_1
CG[*]	$\{s_1 \cup \{p\}, s_1 \cup \{\neg p\}\}$	$\{s_1 \cup \{\neg p\}\}$

(adapted from Rudin, 2018, p. 36)

Without any further discourse move to rectify the commitment, it is impossible to update $\neg p$ in DC_A when p is already in DC_A^* . In other words, a Confirmative RD at t_1' blocks the speaker from updating $\neg p$ to DC_A at t_1'' , provided that speaker A is a rational discourse participant.

Meanwhile, Contradictory RDs update p to the DC_{ad}^* . The intuition that the only commitment Contradictory RDs update is the DC_{ad}^* is confirmed by the 'Really' test.

(17) **CONTRADICTIONARY RD**

A: Please apologize him.

B: *I was wrong and I should apologize?* **Really?**

Speaker B in (17) does not think that they did something wrong and should apologize. Instead, they are making the best guess on the addressee's commitment. This is emphasized by the continuation of *Really?* as they both serve as reconfirmation. (18) is the proposed discourse effect of Contradictory RDs.

- (18) **Discourse Effect of CONTRADICTIONARY RDs** (updating c_i with $\{p, \neg p\}$)
- (i) $Table_o = Table_i \cup \{p, \neg p\}$
 - (ii) $DC_{ad,o}^* = DC_{ad,i}^* \cup p$

The proposed model can provide empirically correct prediction regarding the dissent with *No*, *that's not true*, which confirms that Contradictory RDs have a negative bias. To illustrate, see (19).

(19) **CONTRADICTIONARY RD**

A: John has a sister. We should invite her too. t_1

B: *John has a sister?* (t_2') **No way.** (t_2'') You must be thinking of his
young brother. t_2

	A utters p in t_1	B utters p ? in t_2'	B utters <i>No way</i> in t_2''
Table	$\langle \{p\} \rangle$	$\langle \{p, \neg p\} \rangle$	$\langle \{\neg p\} \rangle$
DC_A	$\{p\}$	$\{p\}$	$\{p\}$
DC_A[*]		$\{\{p\}\}$	$\{\{p\}\}$
DC_B			$\{\neg p\}$
DC_B[*]			
CG	s_1	s_1	s_1
CG[*]	$\{s_1 \cup \{p\}\}$	$\{s_1 \cup \{p\}, s_1 \cup \{\neg p\}\}$	$s_1 \cup \{\neg p\}$

In (19), speaker B does not believe that *John has a sister*, and thus it can be followed by *No way* to emphasize the negative belief. Without having any commitments (gray rows) at t_2' , speaker B can have a room to emphasize their negative bias with *No way* at t_2'' .

To recapitulate, the two discourse effects are summarized below:

(20) Summary of the Discourse Effects

	Confirmative RDs	Contradictory RDs
Table	$\langle \{p, \neg p\} \rangle$	$\langle \{p, \neg p\} \rangle$
DC_{sp}		
DC_{sp}^*	$\{\{p\}\}$	
DC_{ad}		
DC_{ad}^*		$\{\{p\}\}$
CG	s_1	s_1
CG*	$\{s_1 \cup \{p\}, s_1 \cup \{\neg p\}\}$	$\{s_1 \cup \{p\}, s_1 \cup \{\neg p\}\}$

4. Comparison with Some Related Approaches

Before closing the discussion, I briefly compare my proposed analysis with some previous accounts that are also built on the Table model.

4.1. Malamud & Stephenson (2015)

Malamud & Stephenson (2015) develop an analysis of the tentativeness expressed by RDs in terms of projected commitment sets and metalinguistic issue (henceforth, MLI^p). MLI^p is built on Ginzburg's (1996, 2012) idea on clarification requests (termed CRification) which is an inquisitive issue having a non-singleton set.⁹⁾ In case of non-

9) They assume two possible resolutions for MLI^p ($R1$ and $R2$) for the sake of simplicity, but it's worth noting that there can be more than just two potential

interrogative rising intonation (NI-rise; i.e., RDs), MLI^p signals the speaker's tentativeness toward the anchored proposition. Their model is summarized in (21).

(21) **A utters p with an NI-rise**

(Proposition q is already in the CG .)

	Previously	after A's move (uttering p with NI-rise)
Table	$\langle \rangle$	$\langle MLI^p, \{p\} \rangle$
DC_A	$\{\}$	$\{\}$
DC_A[*]	$\{\{\}\}$	$\{\{p\}\}$
DC_B	$\{\}$	$\{\}$
DC_B[*]	$\{\{\}\}$	$\{\{\}\}$
CG	$\{q\}$	$\{q\}$
CG[*]	$\{\{q\}\}$	$\{\{q, R1\}, \{q, R2\}\}$

(Malamud & Stephenson, 2015, p. 295)

The core effect of NI-rises consists of two stages: adding MLI^p and p to the *Table* and adding p to the DC_{sp}^* . Since MLI^p takes the priority to be added to the stack, its two possible resolutions, $R1$ and $R2$, must precede the resolution of p . In the same vein, resolutions for MLI^p take priority to be updated in the CG^* . The issue regarding $\{p\}$ can be taken into consideration after the resolution of MLI^p . In terms of the proposition p , it is added to the DC_{sp}^* in the first place, but if the addressee uptakes the move and resolves the metalinguistic issue on the *Table*, it would be moved to the DC_{sp} . The resulting effect is very similar to simply assert p in the first place.

Their approach is advantageous for predicting Assertive RDs. However, their account is insufficient to capture Inquisitive RDs, especially

resolutions.

Contradictory RDs like (22).

(22) **CONTRADICTION RD**

[Context: A mother **A** asks her child to set the table and he does a particularly bad job of it but appears to consider the chore finished.]

A: *This table is set?* Where are the wine glasses? Where are the napkins?

(repeated from (6))

In (22), the speaker is not committed to the proposition, but its negation ($\neg p$). One might attempt to apply the notion of *MLI^p* to negatively biased RDs, but to the best of my knowledge, it has nothing to do with reversing the interlocuter's epistemic bias.

4.2. Farkas & Roelofsen (2017)

Farkas & Roelofsen (2017) present the discourse effects of Inquisitive RDs, couched in the Inquisitive Semantics framework (Ciardelli et al., 2013, 2015, 2019). Their approach narrows the scope to Inquisitive RDs and assumes Assertive RDs are of a different nature. Inquisitive RDs share the inquisitive sentence radical with rising polar interrogatives, while the former is more marked than the latter. Based on this assumption, they propose the model in (23).

(23) **Conventional discourse effects of a rising declarative**

When a discourse participant x utters a rising declarative φ , expressing the proposition $\llbracket \phi \rrbracket = \{\alpha, \bar{\alpha}\}^1$, the discourse context is affected as follows:

1. Basic effect

- The proposition expressed by φ , $\llbracket \phi \rrbracket$ is added to the **table**.

- The informative content of φ , $\cup \llbracket \varphi \rrbracket$, is added to **commitments**(x).

2. Special effect

- $\langle \alpha, [\text{zero}, \text{low}] \rangle$ is added to **evidence**(x).

(Farkas & Roelofsen, 2017, pp. 268-269)

As their special effect, RDs signal the credence level of the speaker. Their model has an advantage in negative bias with zero evidence of Contradictory RDs. That is, the speaker's negative bias is implied by having low credence at best. In other words, there is a preference for $\neg p$ over p .

However, their proposed analysis seems difficult to capture the case with a positive bias because the credence level of RDs scales only from zero to low. To illustrate, consider (24).

(24) CONFIRMATIVE RD

[Context: **B** is buying a ticket for a flight to Seoul at the airport.]

A: (flight agent) There's one flight to Seoul.

B: (customer) *The flight leaves at 10am?*

In (24), speaker B assumes that p is more probable than $\neg p$: the credence level seems to be higher than the average.

4.3. Jeong (2018a, 2018b)

Jeong (2018a, 2018b) makes a clear distinction between two types of RDs: Assertive RDs are *tentative* assertions while Inquisitive RDs are *biased* questions. Rising intonations, RISE-A (assertive rises) and RISE-I (inquisitive rises), call for a marked interpretation of morphosyntactically declarative utterances. Assertive RDs are marked because they are essentially assertive but are paired with rising intonation, while Inquisitive RDs are marked because they are essentially inquisitive but

are paired with declarative syntax. Other elements like CG , CG^* , DC_X , and *Table* are defined identically from prior works (e.g., Farkas & Bruce, 2010; Malamud & Stephenson, 2015). With these basic notions, the formal interpretation of Assertive RDs is presented as follows:

(25) **Assertive Rising Declarative** (content: $\{p\}$)

- a. Add p to a speaker's current commitment set, DC_{sp} .
- b. Add p to the *Table*.
- c. Add MLI^p to the *Table*. (c.f. falling declarative)

(Jeong, 2018a, p. 336)

In (25), MLI^p added to the *Table* is what makes Assertive RDs differ from canonical falling declaratives. As MLI^p is at the top of the *Table*, it must be resolved prior to p , identical to the account of Malamud & Stephenson (2015).

Inquisitive RDs are argued to have a different context update convention as follows:

(26) **Inquisitive Rising Declarative** (content: $\{p, \neg p\}$)

- a. Add $\{p, \neg p\}$ to the current *Table*.
- b. Add p to the addressee's projected commitments set, DC_{ad}^* (c.f. rising interrogative)

(Jeong, 2018a, p. 343)

Inquisitive RDs have the same sentence radical as polar interrogatives which are contributed from RISE-I. Unlike canonical questions, Inquisitive RDs update the positive answer p to the DC_{ad}^* . She assumes (26) can predict both positive and negative bias and the latter results from redundancy. To illustrate, see (27).

(27) CONTRADICTORY RD

A: You should apologize to Sam. t_1

B: *I was wrong and I should apologize?* t_2

A: Yes, that's the right thing to do. t_3

B: No way. You don't know the whole story. t_4

	A utters p in t_1	B utters p ? in t_2	A utters <i>Yes</i> in t_3	B utters <i>No way</i> in t_4
Table	$\langle \{p\} \rangle$	$\langle \{p, \neg p\} \rangle$	$\langle \{p\} \rangle$	$\langle \{\neg p\} \rangle$
DC_A	$\{p\}$	$\{p\}$	$\{p\}$	$\{p\}$
DC_A^*		$\{\{p\}\}$		
DC_B				$\{\neg p\}$
DC_B^*				
CG	s_1	s_1	s_1	s_1
CG*	$\{s_1 \cup \{p\}\}$	$\{s_1 \cup \{p\},$ $s_1 \cup \{\neg p\}\}$	$\{s_1 \cup \{p\}\}$	$\{s_1 \cup \{\neg p\}\}$

(Jeong, 2018a, pp. 344-345)

According to her account, the negative bias of speaker B is expressed with redundancy between two gray rows, DC_A and DC_A^* , in t_2 . Following (26), an RD update p to the DC_{ad}^* (i.e., DC_A^*) even though p has been already updated to the DC_{ad} (i.e., DC_A). This process results in redundancy, which triggers the pragmatic reasoning that the speaker has a reason to elicit further explanation or justification from the addressee. However, this account is not clear how it can be expanded to (28).

- (28) [Context: **A** has set up a game for **B**. **A** has placed various objects in a room, and asks **B** to follow her instructions. There are three vases in the room, of different sizes. Two vases are in front of **B**; the third, which is by far the largest, is behind him. **A** asks

B to bring her the largest vase in the room. **B** moves toward the largest of the two vases in front of him, unaware that the largest vase is behind him. **A** says:]

A: That's the largest vase?

(Rudin, 2022, p. 348)

In (28), the addressee's present and projected commitment sets are not redundant, yet the speaker still conveys a negative bias.

5. Conclusion

In this paper, I contrasted two conventions of English RDs. Confirmative RDs have a positive bias toward the expressed proposition, whereas Contradictory RDs have a negative bias despite their overt syntactic form. Regarding discourse effects, Confirmative RDs and Contradictory RDs serve to update p to the DC_{sp}^* and the DC_{ad}^* respectively. The speaker of a Confirmative RD exhibits a preference for p to be true, aligning with the definition of the DC_{sp}^* , the speaker's tentative commitment. In contrast, my proposed model predicts a negative bias of Contradictory RDs by assuming that the speaker lacks their own commitments, but updates the DC_{ad}^* .

The proposed account makes some typological predictions for RDs. Still, it is not clear which contextual factors call for confirmative and contradictory interpretations. I hope, however, that the way I framed the issue is a useful step in the right direction.

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ABSTRACT

The Discourse Effects of Rising Declaratives

Junseon Hong

This paper examines the discourse effects rising declaratives, which are non-canonical structures characterized by declarative sentences accompanied by rising intonation. Rising declaratives serve as biased questions, exhibiting positive or negative bias depending on the context. Confirmative Rising Declaratives imply the speaker's positive bias toward the expressed proposition, whereas Contradictory Rising Declaratives imply a negative bias. In this study, I present novel update conventions for the two main types of rising declaratives. Confirmative Rising Declaratives update the speaker's projected commitment set, while Contradictory Rising Declaratives update the addressee's projected commitment set. This analysis can account the functioning and pragmatic implications of rising declaratives in various discourse contexts.

Key Words semantics, rising declaratives, biased questions, intonation, clause types, discourse effects