

Sluicing for clarification

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Abstract

This paper investigates the form-function mismatch in clarification requests (CRs) realized as sluicing constructions. While both canonical and CR sluicing share a similar syntactic form, their interpretations differ significantly. Canonical sluicing seeks general information, while CR sluicing aims to resolve ambiguity or clarify a previous utterance. We explore the challenges that CR sluicing poses for traditional analyses and propose a new approach that combines syntactic and discourse factors to better understand these constructions.

1 Introduction

Clarification requests (CRs) are prevalently used in daily life with various usages: to repair addressor's misunderstanding, to solve ambiguity in the given discourse, or even to learn a new lexical item (among many others, Ginzburg and Sag 2000; Purver et al. 2003b; Griffiths et al. 2023). Syntactically, CRs can be realized in the form of *sluicing*, an ellipsis construction in which only a *wh*-phrase stands alone in a clause. Considering the canonical, information-seeking usage of sluicing (1a), CR sluicing behaves quite differently (1b):¹

- (1) a. A: Lois was talking to someone.
B: Really? (*To*) *who(m)*? (Merchant 2001: 88, adapted) [canonical sluicing]
- b. A: Leon, Leon, sorry she's taken.
B: *Who*?
A: Cath Long, she's spoken for. (Purver et al. 2003a: 5, adopted) [clarification sluicing]

In their form, the two sluicing examples are the same; without any other clausal components, the *wh*-phrases stand alone in a matrix environment. However, the two *wh*-phrases receive different sentential interpretation:

- (2) a. (1a) = '*Who* was Lois talking to?'
- b. (1b) = '*Who* do you mean, *she*'?

In (1a), sluicing is used to query general information regarding who *someone* is, so most of the sentential interpretation resembles its preceding sentence, receiving the sentential interpretation such as in (2a). On the other hand, in (1b), CR sluicing is not to inquire general information regarding *she*; it is used to solve ambiguity triggered by the nature of pronouns as anaphora. Thus, CR sluicing receives the sentential interpretation akin to (2b).

As for their form, there are two available options:

- (3) a. A What a useless fairy he was.
B: *Who*? (Ginzburg and Kolliakou 2018: 344-345)

¹ All the empirical data for this study has been gathered from the Coprus of Contemporary American English (COCA, Davies 2008-).

- b. A: Got you.
B: Yo, who that?
A: It's me?
B: *Me who*?
A: It's Ali, open up! (COCA 2018 MOV)

As shown, CR sluicing can be realized as a standing-alone *wh*-phrase, as in (3a). However, it can also follow an expression, an NP, in most cases, whose information the speaker is asking about, as in (3b). In this study, the former will be called '*wh*-CR sluicing,' and the latter '*NP*-CR sluicing,' considering their morphosyntactic forms.

Sluicing, as other ellipsis constructions do, shows the form-function mismatch; a sluiced *wh*-phrase is a mere phrasal expression in its form, but functions akin to a sentential expression (among many others, Chung et al. 1995; Ginzburg and Sag 2000; Merchant 2001). It is the reason why CR sluicings can receive different interpretation from canonical sluicing. This distinction can be more obvious if we consider the definition of CR sluicing (Ginzburg and Sag 2000; Fernández et al. 2007):²³

- (4) CR sluicing
To ask information regarding some aspect of the previous utterance that **the original speaker preassumed** but the utterer cannot understand

Likewise, CR sluicing occurs with the failure of the original speaker's preassumption on their interlocutors. Now, going back to the data in (1), repeated below in (5),

- (5) a. A: Lois was talking to someone.
B: Really? (*To*) *who(m)*?
b. A: Leon, Leon, sorry she's taken.
B: *Who*?
A: Cath Long, she's spoken for.

The original speaker A in (5a) does not posit a preassumption in which the interlocutor B would know who *someone* is referring to. On the other hand, in (5b), A assumes that B would know who *she* is referring to, but the preassumption undergoes failure, resulting B to request clarification regarding the exact referent of the pronoun. In short, the factor that differs the meanings of CRs is the original speaker's preassumption.

There has been a series of trials to investigate and explain the form-function mismatch in sluicing. One of them, so-called the derivation-based approach, is the mainstream analysis of sluicing. They assume that sluicing has a sentential source whose structure parallels to its antecedent clause (Merchant 2001). For instance:

- (6) John can play [*something*]_F, but I don't know [_{CP} *what* ⟨John can play⟩] (Merchant 2018: 23)

² In Ginzburg and Kolliakou (2018)'s term, canonical sluicing is dubbed as *direct sluicing* and CR sluicing as *reprise sluicing*.

³ Repetition request or echo sluicing, triggered by interlocutor's mishearing with a raising intonation, is not to be covered by the scope of this study (for further description on repetition requesting sluicing, see Merchant 2001; Ginzburg and Kolliakou 2018).

- (i) a. A: Only wanted a couple weeks.
B: *What?* (= 'What did you say?')
A: Only wanted a couple weeks. (Ginzburg and Kolliakou 2018: 345)
b. A: Superman tricked *Mr. Mxlpckx*.
B: *Who?* / *Mr. who?* (Merchant 2001: 86)

Additionally, this study will not cover the sluicing cases referring back to another *wh*-phrase as its correlate (*wh*-anaphora, in Ginzburg and Kolliakou 2018):

- (ii) A: You might find something in there actually.
B: *Where?* (Ginzburg and Kolliakou 2018: 344-345)

The embedded canonical sluicing *what* takes the underlying sentence as its antecedent. Briefly speaking, the analysis assumes that sluicing ‘recycles’ the syntactic structure of its antecedent to retrieve its sentential meaning. Sluiced clauses takes a copy of the structure of its antecedent whose structure is modified by the substitution of focused expression with the sluiced *wh*-phrase (precise illustration will be given later in this article). In (6), for instance, the antecedent clause except for the focused expression *something* is generated in the underlying structure for sluicing, and the structure is licensed in the sluiced clause. Then, the bracketed source structure is elided by silencing the structure in the PF-level.

When it comes to CR sluicing, however, the derivation-analysis would face an empirical challenge. First, the previous analysis cannot capture the CR reading that is deeply embedded in the given discourse:

- (7) A: Some of them live there.
B: *Some of who?*
A: The Native Americans. (COCA 2002 FIC)
- a. Reconstruction: *Some of who* ⟨live there⟩?
b. Intended meaning: ‘*Who* do you mean, *some of them?*’

The underlying structure of *wh*-CR sluicing *some of who* can be reconstructed as in (7a) by referring back to its antecedent. This strategy, however, is hard to get the intended meaning in (7b). Furthermore, we cannot even construct a grammatical underlying source for NP-CR sluicing cases:

- (8) “I ’m saying if *y’all* don’t like my prices, *y’all* can shop somewhere else.”
“*Y’all who?* Ain’t nobody up here but me. [...]” (COCA 2011 FIC)

- a. Reconstruction: **Y’all who* ⟨can stop somewhere else⟩?
b. Intended meaning: ‘*Who* do you mean, *y’all?*’

The underlying source in (8a) is ruled out as English *wh*-questions do not allow such NP + *wh*-phrase to sit on the Spec, CP position, canonically. Further, even if possible, the source structure cannot properly capture the idiosyncratic usage of CR sluicing.

The empirical challenges then raise the research questions for this study: i) what linguistic characteristics does CR sluicing takes that are different from canonical sluicing, ii) how can CR sluicing retrieve their sentential interpretation in a given discourse, and iii) how can we formalize such tricky characteristics of CR sluicing? In addition, the structure of NP-CR sluicing still remains unclear. Then, how can we find theoretical evidence for the structure of NP-CR sluicing?

The article is structured as follows. it begins with briefly enumerating key properties of CR sluicing, comparing that of canonical sluicing. In doing so, it points out few different characteristics of CR sluicing and categorize the usages of the constructions based on their semantic/pragmatic characteristics. Then, it summarizes previous analyses on canonical and CR sluicing in a critical viewpoint. In doing so, it provides more detailed explanation about the syntactic and semantic analysis of sluicing. At the same time, it introduces an alternative, non-derivational analysis of CR sluicing, proposing a pragmatic accommodation, and points out the empirical limit of the alternative. Based on the key properties, the article proposes a two-folded analysis of CR sluicing. On the one hand, CR sluicing is analyzed in the viewpoint of Sign-Based Construction Grammar (SBCG) where the form and function mapping relation can be analyzed. On the other side, the two usage of CR sluicing is captured using the Table model, focusing on the Common Ground repair and interlocutor’s background knowledge.

2 Key properties

2.1 Morphosyntactic properties

Sluicing basically consists of three factors: an antecedent clause, a correlate, and a sluiced *wh*-phrase:

- (9) Lois was talking (**to someone**), but I don't know *who*.
└───┬───┐ CORRELATE wh-REMNANT
ANTECEDENT

110 Canonically, sluicing takes a linguistic antecedent that contains a correlate of a sluicing is called an antecedent clause, and it cannot be licensed by a contextual antecedent (among many others, Hankamer and Sag 1976; Chung et al. 1995; Merchant 2001).⁴ However, it is not the case that all sluicing requires a linguistically overt correlate (Chung et al. 1995; Merchant 2013). Consider the following canonical sluicing examples (Chung et al. 1995: 8-9, adapted):

115 (10) **Canonical sluicing**

- a. A: John said Joan saw someone from her graduating class. [merger type (overt correlate)]
 B: *Who?*
- b. A: Joan ate dinner. [sprouting type (covert correlate)]
 B: *With who?*

120 In (10a), the sluicing *who* takes the overtly realized NP *someone* as its correlate, but in (10b), there is no linguistic correlate for the sluiced phrase *with who*. Following Chung et al. (1995), the former is called merger type, and the latter sprouting type in this paper. On the other hand, it is necessary for CR sluicing to be merger type sluicing, unsurprisingly. This is because they are licensed due to the preassumption failure between interlocutors on an overt linguistic expression (cf., Ginzburg and Cooper 2001):

125 (11) **CR sluicing**

- A: John said Joan saw Mary from her graduating class.
 B: *Who?/Mary who?* (modified from (11a))

In the given dialogue, B fails to identify the actual referent of *Mary*, that the speaker is talking about. Besides, there is another morphological property of correlates which distinguish CR sluicing from canonical sluicing:

(12) **Canonical sluicing**

- A: Lois was talking to someone. [indefinite noun correlate]
 B: Really? *Who to?* (Merchant 2001: 88)

(13) **CR sluicing**

- 135 a. "How's the guy doing?" I asked. [definite noun correlate]
 "Who?" Georgie said. (COCA FIC 2018)
- b. A: Ruby, he's gone. He got out. [pronoun correlate]
 B: What... *who?*
 A: Jason. (COCA FIC 2003)

⁴ In that sense, sluicing is known as a surface anaphor, requiring an overt linguistic antecedent clause (Hankamer and Sag 1976):

- (iii) a. A: Someone's just been shot.
 B: Yeah, I wonder *who*. / *Who?*
- b. [A produces a gun, points it offstage and fires, whereupon a scream is heard.]
 B: #Jesus, I wonder *who*. / #*Who?* (Hankamer and Sag 1976: 408, adapted)
- c. [A produces an apple.]
 B: Did you bring *one* for me? (*one*-anaphor; Hankamer and Sag 1976: 407)

As given, the contextual antecedent in (iiib) fails to license a sluiced clause, whether it is embedded or not. Meanwhile, English *one*-anaphor is known as a deep anaphor that can be licensed by a contextual antecedent (iiic).

- 140 c. A: This is after I started dating Bob. And so he felt... [proper noun correlate]
B: *Bob who?*
A: Kid Rock! (COCA SPOK 2002)

Canonical sluicing is known to take an indefinite correlate as in (12), if overt (Merchant 2001). On the other hand, CR sluicing requires a definite correlate, due to the original speaker's preassumption as in (13).

- 145 Meanwhile, sluicing is known to be island insensitive. It means that sluicing can take an overt correlate which is inside a syntactic island (Merchant 2001, 2018). For instance:

(14) **Canonical sluicing**

They want to hire [_{NP} someone [_{rel-cl} who speaks [_{NP} a Balkan language]]], but I don't remember *which*. (Merchant 2018: 32)

- 150 The sluicing *which* takes its correlate *a Balkan*, which is inside of the left-branch island, embedded in a complex NP island. CR sluicing is island insensitive, as well:

(15) **CR sluicing**

a. ***wh*-island**

- 155 A: Yeah, you remember [_{wh-island} when Rosie was on the show those two times]?
B: *Rosie who?* Oh, Rosie. (COCA 2016 SPOK)

b. **Left-branch**

"She was [_{NP} Apollo's sister]."
"Apollo? *Apollo who?* Oh, wait. Apollo. You mean Apollo Apollo. [...]" (COCA FIC 2004)

c. **Complex NP**

- 160 A: Is this [_{NP} the first time [_{rel-cl} that you had contact with him]]?
B: *With who?* (COCA 2018 MOV)

In (15), each CRs, whether *wh*-CR or NP-CR, they take a correlate inside syntactic island, as shown above. The island insensitivity of sluicing has been considered to be a counter-evidence for the derivation-based approach. The detailed illustration will be given in Section 3.

- 165 Sluicing are subject to syntactic identity conditions, which has to do with the structural parallelism between sluicing and its antecedents. First, there is voice matching effect between the sentential interpretation of sluicing and its correlate (Merchant 2001, 2013).

- (16) a. A: Someone murdered Joe.
B: **By who?*

170 ∴ *By who* = 'Joe was murdered *by who*.' [active ante. - passive interpret.]

- b. A: Joe was murdered.
B: **Who?*

∴ *Who* = '*Who* murdered Joe.' [passive ante. - active interpret.]

In (16a), the sentences are ruled out because the sluiced clauses are interpreted showing voice mismatch to their antecedent (i.e., active antecedent followed by passive sluicing interpretation, and vice versa). However, in CR sluicing, the voice feature of antecedent seems not affect the licensing:

- 175 (17) a. A: John murdered the president.
B: *Who?* (= 'Who do you mean, John?')

- 180 b. A: John was murdered.
B: *Who?* (= 'Who do you mean, John?')

This shows that, unlike canonical sluicing, CR sluicing focuses on the further information regarding the correlate itself (i.e., *John*), not the situation (see Section 4.1 for further discussion). This also indicates that CR sluicing is construed in an idiosyncratic way.

Second, sluicing displays the case matching effect between a sluiced *wh*-phrase and its correlate (Merchant 2018: 29):

- (18) a. Er will jemanden loben, aber sie wissen nicht *wen/*wer/*wem*.
he wants **someone**.ACC praise but they know not **who**.ACC/*who.NOM/*who.DAT
'He wants to flatter *someone*, but they don't know *who*. (German, Merchant 2001: 122)'
- b. A: He's with me. Near me. [...] Sitting right here beside me.
B: #*Him who?* [ante: NOM; #*wh*-remnant: ACC]
A: Does it matter? (COCA 2003 FIC)

In German canonical sluicing cases as in (18a), a remnant *wh*-phrase should match its case to its correlate, if the relevant case assigners are syntactically present. Thus, the sentence is ruled out if the *wh*-phrase is not in its accusative case, as its correlate is an accusative. This factor has not been widely discussed in English sluicing, since previous studies usually consider an indefinite correlate for sluicing, which cannot not overtly realized. Nonetheless in English NP-CR sluicing as well, a CR sluicing is significantly degraded if the *wh*-remnant does not match its case. Thus, the pronoun *him* should be realized in its nominative case, following its correlate.

Third, in languages allowing P(reposition)-stranding, sluicing shows P-stranding effect:

- (19) a. A: I went to talk with someone.
B: *Who?* / *With who?* / **In who?* (Nykiel and Kim 2021: 2)
- b. A: You're with them!
B: *With who?* / *Who?* / **Of who?*
A: The Vultures. (COCA 2018 MOV, adapted)

In (19a), sluicing takes a PP *with someone* as its correlate. In such cases, the preposition *with* can either be stranded, as in *With who?*, or be pied-piped, as in *Who?*. If stranded, the overtly realized preposition in the *wh*-remnant should match that of its correlate. This rules out the *wh*-phrase *In who?*. The P-stranding effect can also be observed in CR sluicing, as well, as in (19b). The effect rules out the *wh*-phrase *Of who?* as the correlate is a PP[*with*]. Speaking of the P-stranding effect, canonical sluicing with a stranded preposition is known to have an interesting subform, in which the its preposition and its *wh*-remnant change their ordering. This construction is often called *swiping* (among many others, Merchant 2001)

- (20) a. A: Lois was talking (to someone).
B: *Who to?* / *To who?* (Merchant 2001: 88) [canonical sluicing; ✓ swiping]
- b. A: Lois was talking to Mary.
B: ?*Who to?* / *To who?* [CR sluicing; ✗ swiping]

As in (20a), the stranded preposition *to* can either be licensed in front of the *wh*-phrase, or can follow it. However, this is not allowed in CR sluicing, as given in (20b). This indicates that, unlike canonical sluicing, CR sluicing requires strict phonological identity, as well.

The Table 1 below summarizes the comparison between canonical and CR sluicing. We can observe that they are different in many aspects, and in most cases, the licensing conditions for CR sluicing are more strict than those of canonical sluicing.

Table 1: Comparison between canonical and CR sluicing in terms of their morphosyntactic properties

Sluicing type	Canonical	Clarification request
Purpose	additional info-seeking	preassumption failure
Anaphor type	surface (mostly)	surface
Correlate	overt/covert	overt
Syntactic identity	must be indefinite	definite (contextually)
Phonological identity	required	partially required (voice mismatch)
	not strict (swiping)	required

2.2 Semantic and pragmatic properties

Along with syntactic identity conditions, previous studies claim that sluicing is subject to semantic identity condition, as well (among many others, Chung et al. 1995; Merchant 2001, 2013). The sentential meaning of canonical sluicing exhibits semantic parallelism to that of its antecedent (among many others, Ginzburg and Sag 2000; Merchant 2001):

- (21) a. He resembled someone, but I don't know *who*.
b. ... but IDK *who* he resembled.

As shown, the reconstructed sentential meaning of the *wh*-remnant parallels the semantics of its antecedent. One difference between the two propositions is that the focused material in the antecedent, *someone* in (21a), for instance, is substituted with the *wh*-remnant (Merchant 2001). However, this may not be the case in CR sluicing:

- (22) a. “Was she beautiful?” “*Who*? Oh, the woman. I guess she was [...] ” (COCA 2018 FIC)
(= ‘*Who* do you mean, *she*’ / ‘#*Who* was beautiful?’)
b. A: Thanos is coming. *He*’s coming.
B: *Who*? (= ‘*Who* do you mean, *Thanos*?’ / ‘#*Who* is coming?’)
A: Slow down. I’ll spell it out for you. (COCA 2018 MOV)
c. “[...] And if they was here to introduce us, where is they?”
“*They who*? You mean the *Virtue*? (COCA 2015 FIC)
(= ‘*Who* do you mean, *they*?’ / ‘**Where* *they who* is?’)

As shown, the meaning of CR sluicing gets infelicitous if the sentential interpretation is reconstructed based on the semantic parallelism. Especially, for NP-CR sluicing cases in (22c). Then, the question that follows would be how we can capture the idiosyncratic reading of CR sluicing. Previous studies such as (Ginzburg and Sag 2000) claim that CR sluicing requires a series of pragmatic accommodation, that avails such an idiosyncratic reading for CR sluicing (see Section 3 for further detail).

Speaking of the sentential meaning for CR sluicing, this study claims that there can be two major readings for them. Remember that a correlate for CR sluicing can be a pronoun or an R-expression (Ginzburg and Sag 2000; Ginzburg and Cooper 2001; Ginzburg and Kolliakou 2018). This study believes that CR sluicing can be subcategorized based on the semantic and pragmatic nature of those two NPs overlapping morphosyntax.

As a deictic expression, a pronoun correlate can create anaphor misunderstanding where the original speaker’s preassumption on their interlocutor to acknowledge whom to refer to. Then, CR sluicing with a pronoun correlate is triggered by the nature of anaphor; the speaker cannot get a proper reference for the correlate:

- (23) A: Oh, I don’t wanna upset her.
B: *Who*?
A: Whoever’s shoes those are. (COCA 2018 MOV)

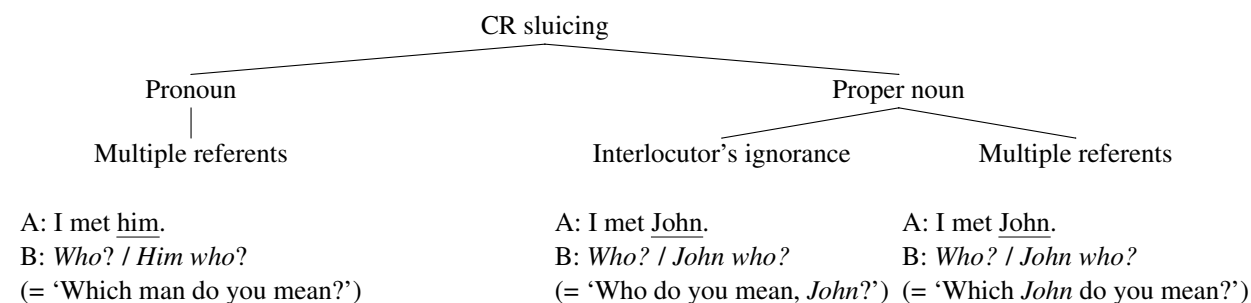
Here, the pronoun *her* can refer to any referent whose gender value is female. Although A assumes that the referent is clearly given in the context, B cannot figure out who *her* refers to. Thus, in this case, CR sluicing is triggered by anaphor failure, where there are too many possible referents for a pronoun in the given context.

Meanwhile, for those with a proper noun correlate, CR sluicing can be licensed because of at least two reasons:

- (24) a. “[...] . My name is Gary.”
I said, *Gary who?* Because I keep records of everybody I talk to for her career. I have names, numbers, addresses, times when spoken to, what was said. (COCA 2011 SPOK)
- b. A: Who are you?
B: Susie.
A: *Susie who?*
B: From the Gaslight. (COCA 2018 TV)

On the one hand, although a proper noun is to refer to the exact referent with such name, there can be multiple individual with the same name. In such cases, an R-expression behaves somewhat similar to pronouns in (24), triggering anaphor failure by multiple referents. In (24a), there are multiple referents for *Gary* in the given context, so the R-expression creates anaphor failure. On the other hand, CR sluicing can be triggered by speaker’s ignorance; although A preassumes that the referent of an R-expression is commonly shared between A and B, that is not the case, thus CR sluicing is licensed to ask further information on who that is. In (24b), B preassumes who *Susie* (i.e., B herself) is, and the NP-CR sluicing *Susie who* is triggered by speaker’s ignorance.

Figure 1: Subcategorization of CR sluicing



Thus, the semantic and pragmatic distinction then can be schematized as in Figure 1.⁵ Note that the types of preassumption failure affects the sentential meaning of CR sluicing. Furthermore, the idiosyncratic usage seems to trigger different prosodic properties. CR sluicing takes different prosodic contour from canonical sluicing on *wh*-remnants:⁶

- (25) a. You figure someone must be lying, but *who?* (COCA 1998 SPOK)
H*LL%

⁵ Besides, some common nouns can license CR sluicing:

- (ii) a. A: Company’s coming.
B: We got company? *Who?*
A: You forgot? Your mother’s coming to dinner. (COCA 2018 MOV)
- b. And this woman ’s asking for Captain. Captain, she says.
Captain who? I says, wondering who we’ve got else on the line. (COCA 2009 FIC)

⁶ Some native speakers of English find that CR sluicing can also take the falling intonation. However, even those speakers report that canonical sluicing can take a rising intonation. It indicates that CR sluicing takes different prosodic properties notwithstanding. For now, this study assumes that CR sluicing takes the falling intonation as default.

- b. You say he was being blackmailed. *By who?* You don't know. (COCA 2001 SPOK)
L+H*LL%

285 Canonical sluicing with a NP *wh*-phrase like (25a) takes the high falling (H*LL%) prosody, where the onset of the *wh*-phrase receives phonological accent, with falling intonation. On the other hand, the PP canonical sluicing in (25b) takes the rise-fall intonation (L+H*LL%), in which the prosody begins lower on the preposition then gets the rise-falling intonation on the *wh*-phrase. Now, compare:

- (26) a. "Are you close with her?"
290 "Who?"
L*+H%
"Your mom." (COCA 2018 FIC)
- b. The kids come in. They go, 'Mark's here!'
I go, 'Mark *who*?'
295 H+HH%
And they said, 'Mark that Wangler guy.' (COCA 2011 FIC)

300 In (26a), *wh*-CR sluicing receives the low-rising (L*H%) intonation, where the prosodic contour begins at lower pitch, and ends with higher pitch. For NP-CR sluicing in (26b), the prosodic contour receives the high-rising (H+HH%) prosody with the higher pitch on the first lexical item (i.e., NP), then the *wh*-phrase receives even higher beginning pitch. This observation shows that CR sluicing is different from canonical sluicing whether it is relatively shorter (i.e., NP *wh*-remnants *who*) or longer (i.e., multiple items like *by who* and *Mark who*). However, one common thing that we can observe is that, in canonical info-seeking sluicing cases, the prosody receives the falling intonation, whereas in the CR sluicing cases, it ends with raising contour.

305 CR sluicing targets a correlate that is not *at-issue*. *At-issueness* has to do with the "main point" or the topicality of a given discourse (Potts 2005; AnderBois et al. 2015; Koev 2018). For instance,

- (27) A: [My friend Sophie], a classical violinist, performed a piece by Mozart.
B: No, she didn't.
C: #No, she's not. (Koev 2018: 6)

310 In (27), A's utterance addresses an *at-issue* that is a proposition like *Sophie performed a piece by Mozart*. The *at-issueness* of a given discourse limits possible response in the given discourse. Thus, an interlocutor can deny the whole proposition *at-issue*, but they cannot negate the proposition *Sophie is a classical violinist* created by the (underlined) apposition clause. Now, let us consider CR sluicing:

- (28) a. A: Maybe I should talk to Dr. Johns about it.
315 B: *Who*?
A: Dr. Harold Johns. He developed a procedure in Saskatchewan. (COCA 2018 MOV)
- b. A: Maybe I should talk to Dr. Johns, a developer of a procedure in Saskatchewan, about this.
B: No, you shouldn't.
C: #No, he isn't.

320 In (28a), the first utterance of A gives an *at-issue* proposition of *I should talk to Dr. Johns about it*. It can be proven by the Q-A pair in (28b), allowing the response of B but not C. Going back to (28a), then, we can notice that CR sluicing requests a *non-at-issue* information in the given discourse.

3 Previous analyses

325 The main issue of sluicing has been the form-function mismatch, one of the natures of ellipsis constructions. In order to solve the problem, previous studies propose two major analyses, distinctive in their theoretical premises. On the one hand, the derivation analysis assumes that elliptical constructions sprout from a

sentential source followed by a series of derivation processes. On the other hand, the non-derivational analysis claims the WYSWYG (what you see is what you get) approach, excluding both a sentential source and derivation processes. In this section, the paper briefly summarizes the two analyses, and points out their limitation.

3.1 Derivation-based approaches: Deletion in PF

The mainstream approach for ellipsis analyses, the PF-deletion analysis, takes the prerequisite as the following: i) a sentence has a deep structure (DS) spelled out into its surface structure (SS) with phonological and logical forms (PF and LF), and ii) sluicing is derived from its DS after a series of derivational process. Based on them, the PF-deletion analysis argues that the *wh*-remnant is first base-generated in the IP domain of a sentential source that syntactically and semantically paralleling its antecedent (29a). Then the *wh*-phrase moves to the Spec CP position, based on its [QUE +] feature (29b). The C head, the ellipsis licenser with [E] feature, then elides everything except for the *wh*-phrase from the CP (29c) (cf., Merchant 2001, 2013):

(29) John can play [something]_F, but I don't know [CP *what*] (Merchant 2018: 23)

a. **Sentential source**

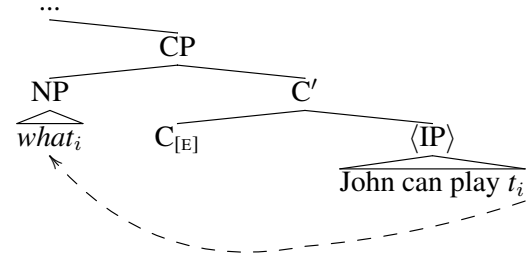
... [CP [IP John can play *what*]]

b. ***wh*-fronting**

... [CP *what*_i [IP John can play *t*_i]]

c. **PF-deletion**

... [CP *what*_i [IP ~~John can play *t*_i~~]]



In (29), the *wh*-remnant *what* first generated in the IP structure, which is paralleling its antecedent *John can play something*. Note that the focused material *something* is substituted with the *wh*-remnant. Then, the *wh*-phrase moves to the Spec, CP position, for the [*wh*+] feature checking. Then, the IP in the binding domain of the ellipsis licenser C_[E] deletes the IP. As the deletion happens in the PF-level but not in the LF-level, the sluiced clause retains its semantics of sentential reading.

As for the licenser C head with the [E] feature, they assume that the [E] feature can trigger the PF-deletion *iff* the lower IP shows the semantic identity to its antecedent. The identity condition for sluicing is called *e*-GIVENness. The notion of *e*-GIVENness is based on a substitution of a focus of a given proposition, with an existential expression, called the F-closure operation (among many others, Merchant 2001):

(30) a. **F-closure** (F-clo(α)):

The F-closure of α is the result of **replacing** F-marked parts of α with \exists -bound variables.

b. A: John ate [A SANDWICH]_F.

F-clo(A): $\exists x$ [John ate *x*].

In (30b), the sentence has a focused item *a sandwich*. We can get the F-clo(A), by substituting the item with a variable *x* bound by the existential quantifier. Going back to the concept of *e*-GIVENness, the derivation-based analysis assumes that sluicing can only be licensed *iff* the semantic interpretation of a sluiced clause is *e*-GIVEN, and there is a mutual entailment relation between a sluiced clause and its antecedent:

(31) ***e*-GIVENness** (Merchant 2001: 41):

An expression *E* counts as *e*-GIVEN *iff* *E* has a salient antecedent *A* and modulo \exists -type shifting,

a. *A* entails F-clo(*E*) and

b. *E* entails F-clo(*A*).

For instance, consider the following canonical sluicing case:

- (32) A: [_A John played something].
B: [_E *What* ⟨John played *t*⟩]? (modified from (32))

- a. $F\text{-clo}(A) = \exists x[\text{John played } x]$
b. $F\text{-clo}(E) = \exists x[\text{John played } x]$

375 c. Then, *A* entails $F\text{-clo}(E)$ and *E* entails $F\text{-clo}(A)$. Thus, *E* can be sluiced.

Here, we can get the $F\text{-clo}(A)$ and the $F\text{-clo}(E)$ by substituting the focused materials (i.e., *something* and *what*) with a variable bound by the existential quantifier. Then, we can see that the antecedent clause entails the $F\text{-clo}(E)$, and the ellipsis clause entails the $F\text{-clo}(A)$, satisfying the mutual entailment relation. In such case, the [_E] feature can silent the IP in the PF-level (Merchant 2001).

380 The derivation-based analysis then gets challenged by some empirical points. The first point is that sluicing is island-insensitive, and a sluicing can take a correlate inside a syntactic island. For instance:

- (33) a. A: [_{coord.} Me and John] will visit Dallas this weekend.
B: *Who*?
b. $*[_{CP} \text{who } C_{[E]} [\text{IP you and } t \text{ will visit Dallas this weekend?}]]$

385 In (33a), we can observe that the CR sluicing *Who*? takes one of the conjunct *John* as its correlate. If we reconstruct a sentential source for the CR sluicing and assume the derivation processes, we face a problem; as given in (29), the *wh*-remnant in a sentential source undergoes the *wh*-movement. However, since Ross 1967, it is widely known that no syntactic materials can escape a syntactic island. It triggers the ungrammaticality of (33b) in the underlying structure.

390 The other empirical issue is the *e*-GIVENness and the idiosyncratic meaning of CR sluicing. I argue that, if we assume the *e*-GIVENness, there would be a mismatch in the PF and the LF-level of a sluiced clause. Consider the following example:

- (34) A: John met Mary.
E: *Who*_i ⟨John met *t*_i⟩?
395 a. $F\text{-clo}(A): \exists x[\text{meet}(\text{John}, x)]$
 $F\text{-clo}(E): \exists x[\text{meet}(\text{John}, x)]$
b. LF of *E*: *Who* did John meet?
Intended meaning of *E*: *Who* do you mean, *Mary*?

400 In (34), the CR sluicing *who*? will take the underlying source of *John met who*, if we assume the derivation-based analysis. Then, it satisfies the *e*-GIVENness required by the $C_{[E]}$ head, the ellipsis licenser. The problem is, as the PF and LF for the CR sluicing will be based on a structure like *Who did John meet?*, which is different from *Who do you mean, Mary?*, the idiosyncratic intended meaning of CR sluicing. Then, we can conclude that the derivation-based approach based on the structural/semantic parallelism cannot properly cope with CR sluicing.

405 3.2 Non-derivational approach

What if we do not assume the structural/semantic parallelism? Apart from the derivation-based approaches, there is another way to analyze elliptical phenomena. One of them is the non-derivational approach, such as Head-Driven Phrase-Structure Grammar (HPSG, Pollard and Sag 1994), Construction Grammar (CxG, Goldberg 2006), Sign-Based Construction Grammar (SBCG, Sag 2012) and Simpler Syntax (Culicover and Jackendoff 2005).

410 They reject any underlying structure for ellipsis. Instead, they assume there is nothing in the sluiced clause but the *wh*-phrase pursuing so-called the WYSIWYG (What You See Is What You Get) approach. In SBCG, one of the non-derivational analysis, every linguistic expressions is a construct, actual realization

of constructions. Constructions are flexible linguistic formats inducing their meaning. The range of constructions is from a word-level lexical unit, a fixed expression such as *kick the bucket* meaning ‘to die’ or *the X-er, the Y-er* (i.e., comparative correlate), to a canonical sentence like *John met Mary* (namely, *subject-predicate construction*). Every construction is considered to take its own form-function meaning pair (for further theoretical description, see, Ginzburg and Sag 2000; Goldberg 2006, 2019; Sag 2012; Hilpert 2019).

Under this framework, sluicing is a construct of *hd-frag-cl* (*head-fragment-construction*), where a standing-alone phrasal constituent directly projects to the sentential-level expression, based on the pragmatic constrains.

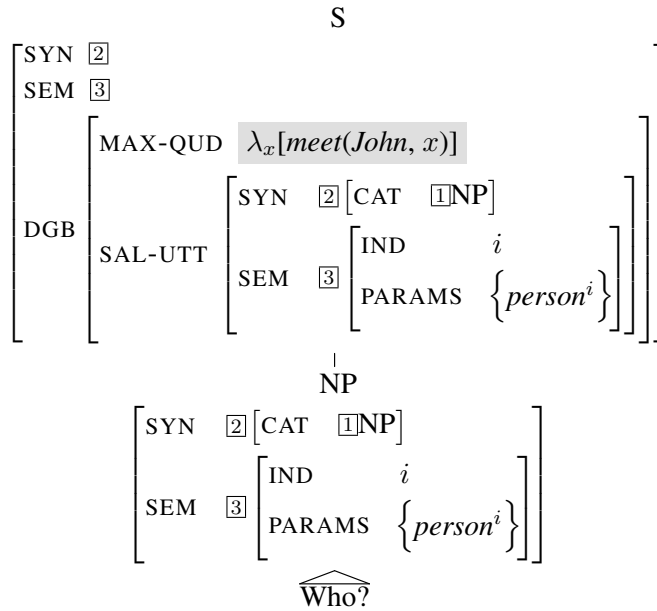
The pragmatic factor that allows the licensing of sluicing is the information of the focused expression (the *wh*-phrase, for here) that matches its linguistic features match its correlate. The pragmatic factors are registered as the features inside the dialogue-game-board (DGB) attribute. The DBG is consistently updated as the dialogue precedes. The DGB is to capture the pragmatics of a given context, and the maximal-question-under-discussion (MAX-QUD) of the given dialogue (i.e., $\exists x[\text{play}(\text{John}, x)]$) and the salient-utterance (SAL-UTT), the focused material in the given discourse, are used for the semantic reconstruction. Thus, it records information such as who asked what to whom, who answered to what, and so forth (see Section 5.1.1 for detailed illustration for the notions from CxG, cf., Ginzburg and Sag 2000; Ginzburg and Miller 2018).

For instance, consider the following Q-A pair:

(35) **Canonical sluicing**

- a. A: John met *someone*. (MAX-QUD = $\exists x[\text{meet}(\text{John}, x)]$; SAL-UTT = *someone* [NP])
B: [S [NP *Who*]]?

b.



In (35), the pragmatic factors of the antecedent is as the following: the MAX-QUD is the most salient QUD of the antecedent, namely, $\exists x[\text{meet}(\text{John}, x)]$ (which is similar to the F-closure of the derivation-based approach). The SAL-UTT, the focused material, of the antecedent would be the NP *someone*.

As for the sluicing licensed as a response for the antecedent, the canonical sluicing *who?* matches its syntactic category feature (i.e., NP), additionally registering its semantic features, such as *person* with the index *i*. Then, based on the Gricean Maxim of relevance, the *hd-frag-cxt* percolates the syntactic and semantic information to its projection node of S inside the SAL-UTT attribute. It also takes the MAX-QUD value of the preceding dialogue. Lastly, by embedding the syntactic and semantic information into the open proposition of the MAX-QUD, the canonical sluicing finally gets its interpretation of *Who did John meet?* (Ginzburg and Sag 2000; Kim 2015; Nykiel 2020; Nykiel and Kim 2021).

This construction-based approach properly deals with canonical sluicing cases which may be insensitive to island constraints, as they assume neither any movement nor any underlying structure. Nonetheless, such analysis may not be enough for accounting for the idiosyncratic usage of CR sluicing:

- 450 (36) a. A: I met someone. (MAX-QUD: $\exists x[meet(I, x)]$)
B: Who? ($\Rightarrow \lambda_x[meet(you, x)]$)
- b. A: I met John. (MAX-QUD: $[meet(I, John)]$)
B: Who? ($\Rightarrow \lambda_x[meet(you, x)] = \text{'Who did you meet?'} \neq \text{'Who do you mean, John?'}$)

455 In the canonical sluicing case in (36a), the *wh*-remnant can properly retrieve its sentential meaning by referring back to its antecedent. However, in the CR sluicing case in (36b), we face the same issue that we have seen in the derivation-based approach: we cannot capture the idiosyncratic meaning of CR sluicing.

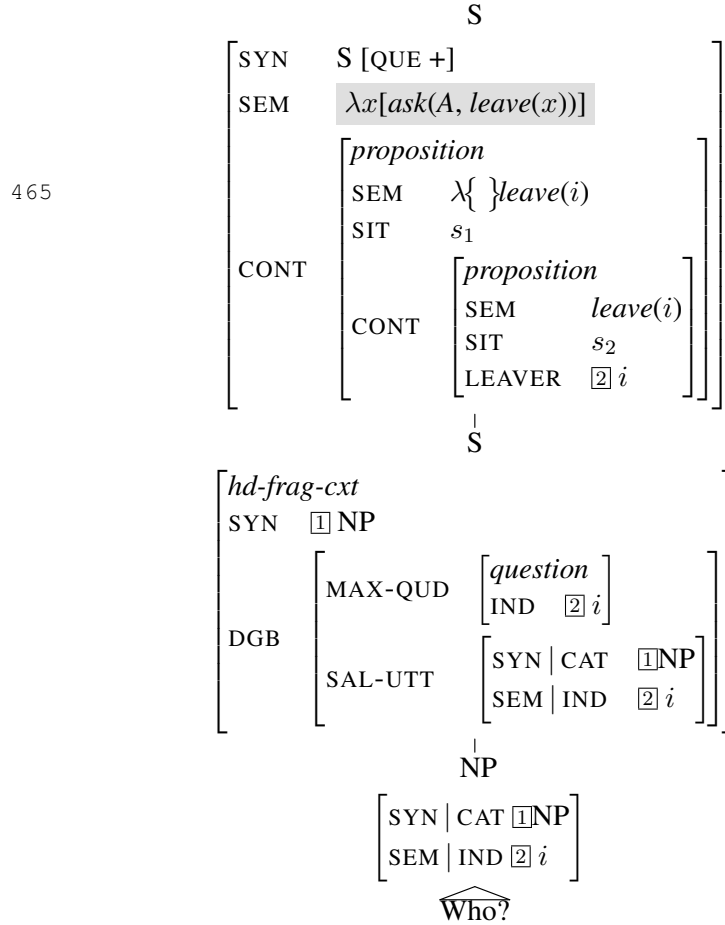
460 In order to solve this problem, the non-derivational approach assumes that there is a pragmatic accommodation, called ‘parameter-identification’ (Ginzburg and Sag 2000; Ginzburg and Cooper 2001); instead of getting the MAX-QUD directly from the antecedent, CR sluicing creates its MAX-QUD regarding the current discourse topic by referring to the semantic proposition of the antecedent:

(37) **Clarification Request sluicing**

A: Did John leave?

	<i>question</i>	
FORM	$\langle \text{Did John leave?} \rangle$	
SYN	S [QUE +]	
SEM	$\lambda\{ \}[leave(John_i)]$	
CONT	$\left[\begin{array}{ccc} \text{question} & & \\ \text{SIT} & \text{IND} & s_1 \\ \text{CONT} & \text{LEAVER} & i \end{array} \right]$	
DGB	$\left[\text{MAX-QUD} \quad \lambda\{ \}[leave(John_i)] \right]$	

B: *Who?* (= ‘*Who_i* are you asking if *i* left?’)



The AVM (attribute-value matrix) in (37) for CR sluicing *who?* is different from that in (35) for canonical sluicing. In (37), the NP gets projected to a sentential level expression, and then it undergoes the projection once more. Unlike canonical sluicing, CR sluicing refers not to the MAX-QUD of the given discourse; instead, it refers to the proposition (s_2) inside the polar question (s_1). In other words, it extracts the proposition ‘*leave(x)*’ from the polar question ‘*whether[leave(x)](John)*,’ and ask ‘*who x* is’ (Ginzburg and Sag 2000). Finally, the formalization drags a sentential meaning of ‘*Who_i* are you asking if *i* left?’ from CR sluicing.

Still, there are a few problems at large. On the one side, the sentential meaning for CR sluicing, that the previous non-derivational analysis claims, sounds degraded compared to a simple questions like ‘*Who do you mean, John?*’.⁷ On the other side, such reiterative meaning, such as ‘*Who_i* are you asking if *i* left?’ cannot distinguish the type of preassumption failure suggested in Section 2.2:

(38) a. **Speaker ignorance**

A: So, you mad about the Jason thing?
B: *Who?* (= ‘*Who* do you mean, *Jason?*’)
A: Oh, come on. (COCA 2018 MOV)

b. **Multiple referents**

A: Did you know the kid?
B: *Who?* Which kid? (= ‘*Which kid* do you mean?’)
A: Stop playing games, the Beech kid. (COCA 2018 MOV)

⁷ Ginzburg and Cooper (2004) defines the sentential meaning reiterating a part of its preceding predicate as ‘clausal reading,’ and the corresponding meaning such as *Who is John?* as ‘constituent reading.’

According to the previous non-derivational analysis, the two CR sluicing in (38) would respectively be ‘*Who_i* are you asking if you are mad about *i*’s thing?’ and ‘*Who_i* are you asking if I know *i*?’ However, the two CR sluicing receive different meanings, as annotated in (38), triggered by their type of preassumption failure. Furthermore, it still remains unclear whether we can adopt the analysis to NP-CR sluicing cases – what would be the function of the NP in the ‘NP + *wh*-phrase’ string?

Overall, what the current study wants to make clear is that CR sluicing cannot be analyzed by merely relying on syntax and the form of *wh*-remnants. As we have seen, there are so many factors that can change the meaning of the ellipsis construction. Then, how we can analyze the nature of CR sluicing? This paper argues that we have to give more stress on semantics and pragmatics. In what follows, it provides previous analysis on the properties of *wh*-question and their clarification usage.

4 Discussion

4.1 Prosodic difference and information status of CR sluicing

As observed, there are prosodic difference between canonical and CR sluicing. Canonical sluicing receives final falling intonation (39), whereas *wh*-CR sluicing receives final rising intonation (40):

(39) Canonical sluicing

- a. A: He doesn’t. It’s a gift for someone.
B: *Who*?
H*LL%
A: Should I call Crawford and ask him? (COCA 2018 TV)
- b. A: Is that right? Cause that’s not what I heard.
B: *From who*? Tyrone? Does it matter really?
L+H*LL%

(40) CR sluicing

- a. A: Whoo! Man, that boy got skills.
B: *Who*?
L*+H%
A: New kid who just won that game. (COCA 2018 MOV)
- b. A: This is after I started dating Bob. And so he felt...
B: *Bob who*?
H+HH%
A: Kid Rock!
C: Real name, Bob! (COCA 2002 SPOK)

This pattern can also be observed in non-elliptical *wh*-question with different functions (Bolinger 1989; Hedberg et al. 2010; Beck and Reis 2018; Dehé and Braun 2019):

(41) a. Info-seeking

Who wears **linen**?
H* !H*LL% (Dehé and Braun 2019: 620)

b. Clarification (echo)

Tom invited **who**?
L*+H% (Beck and Reis 2018: 369)

Previous studies assume that info-seeking *wh*-questions accompany a high-falling intonation. In (41a), we can see that the info-seeking *wh*-question ends with the falling intonation on the final word *linen*. Such H*LL% intonation are reported to be linked to existential commitment of *wh*-interrogatives (?Rudin 2022). The falling intonation commits a ‘suspended’ proposition with a semantic variable (e.g., *Someone wears linen* for (41a)), just like the F-closure operator from the derivation-based approach, to the given discourse.

On the other hand, the sentence final, *in-situ wh*-phrase *what* in the echo question (41b) gets rising intonation. The L*HH% intonation are known to commit a proposition *p*, as the falling intonation questions do. However, it is mainly used to ‘echo’ a part of, or the whole previous discourse contents.⁸ Thus, the L*HH% *wh*-questions cannot be answered by a new information to the given discourse or an information whose implication contradicts that of the question (Jeong 2018; Rudin 2018, 2022).

(42) [At a potluck party thrown by C, people see Paul walks in. A asks B who invited Paul. B answers with someone’s name, but A couldn’t hear it properly. And A says:]

A: Who invited Paul? (implies: *someone* invited Paul.)

L*HH%

B₁: #I don’t know if he was invited at all! (implies: B doesn’t think *someone* invited Paul.)

B₂: #Nobody! He just showed up! (implies: *No one* invited Paul.) (Rudin 2022: 377, adapted)

In (42), the suspended existential proposition by the rising *wh*-question cannot be answered by B’s utterances, of which implication contradicts A’s implication. If we adopt this to the CR sluicing cases in (40), we can assume that both *wh*-CR and NP-CR sluicing with raising intonation takes a suspended existential proposition akin to canonical sluicing with falling contour, but the answer should be made somewhat differently; it should be answered by an answer ‘echoing’ a portion of the previous discourse context.

The target answer of CR sluicing needs to be a material that is *not-at-issue*. *At-issueness* has to do with the “main point” or the topicality of a given discourse (Potts 2005; AnderBois et al. 2015; Koev 2018). For instance, consider the following Q-A pair with a apposition clause:

(43) A: My friend Sophie, *a classical violinist*, performed a piece by Mozart.

B: No, she didn’t.

C: #No, she’s not. (Koev 2018: 6)

In (43), the proposition *at-issue* by A’s utterance is a proposition like ‘Sophie performed a piece by Mozart.’ The apposition clause adds information that is *not-at-issue*, which is not the main point of the given discourse. The negative answers in (43B-C) can be used to sensor the proposition *at-issue*; if a proposition is *at-issue*, it can be negated (43B), and if not, it gets degraded (43C). Now, consider the following Q-A pair with CR sluicing:

(44) a. A: My friend Sophie performed a piece by Mozart,

B: *Who*?

A: The violinist you met yesterday.

b. A: Sophie loves Mozart. (cf. *At-issue*: Sophie loves Mozart.)

B: *Sophie who*?

A: The violinist.

In (44), CR sluicing *who?* and *Sophie who?* are not directly linked to the propositions *at-issue* in the given discourse. Instead, the answers to the questions are *not-at-issue* information, that do not change the truth-condition of the *at-issue* propositions. Likewise, CR sluicing queries *non-at-issue* information regarding the previous utterance, to specify which referent its correlate takes.

⁸The notion of ‘echo’ here refers to questions for the utterer ‘to clarify’ what the previous speaker uttered (Huddleston and Pullum 2002; Beck and Reis 2018; Rudin 2022). As the purpose of CR sluicing is ‘to clarify’ the exact referent of a deictic expression or a proper noun, it can also be one of the echo questions (cf., Ginzburg and Sag 2000).

4.2 Structure of CR sluicing

4.2.1 Underlying source

The observation in Section 2.1 and the review in Section 3 indicate that CR sluicing is less likely to take an underlying source targeted by a series of derivation processes. Furthermore, the non-derivational analysis also has weakness. Here are three reasons, reiterated from what we have observed so far: First, CR sluicing is island insensitive. If the derivation process includes the fronting operation of *wh*-remnants inside the IP, it should not be able to refer to a correlate inside any syntactic islands. However, it is possible:

- (45) a. A: This is [_{NP} Dusty Dewitt's shirt].
 B: *Who?* Oh, the ginger? (COCA 2018 MOV)
 \rightsquigarrow * [_{CP} *Who_i* [_{IP} this is [_{NP} *t_i*' shirt]]]
- b. A: Yeah, you remember [_{wh} when Rosie was on the show those two times?]
 B: *Rosie who?* Oh, Rosie. (COCA 2016 SPOK)
 \rightsquigarrow * [_{CP} *Rosie who_i* [_{IP} I remember [_{wh} when *t_i* was on the show those two times]]]

Without assuming the island repair, it is hard to explain how we can get an acceptable CR sluicing from such ungrammatical structures.

Second, it is not the case that CR sluicing always satisfy the *e*-GIVENness requirements:

- (46) a. “[_A Melissa said they are exceptionally easy to burn.]” [...]”
 “[_E *Who?* *Who-* *Mellisa who?*]” (COCA 2012 FIC)
 (= ‘*Who do you mean, Mellisa?*’)
- b. F-clo(*A*): $\exists x[\text{say}[\text{Melissa}, \text{exceptionally}(\text{easy}(\text{burn}(x)))]]$
 F-clo(*E*): $\exists x[\text{mean}(\text{you}, x) \ \& \ x = \text{Melissa}]$
 $\therefore A$ does not entail F-clo(*E*) and *E* does not entail F-clo(*A*)

For a lower IP to be phonologically elided by the ellipsis licenser [*E*] feature, there must be a mutual entailment relationship between *A* and *E*. However, it is hard to expect its satisfaction in CR sluicing, as shown in (46).

Lastly, neither the ‘structure recycling’ strategy of the derivation-based analysis nor the ‘parameter-identification’ strategy by the non-derivational analysis can properly capture the subtle meaning difference triggered by the types of preassumption failure.

- (47) a. A: It belonged to her.
 B: *To who?* (= ‘*Who do you mean, her?*’)
 A: Laura. (COCA 2018 TV)
- b. A: Did you know the kid?
 B: *Who?* (= ‘*Which kid do you mean?*’)
 Which kid?
 A: Stop playing games, the Beech kid. (COCA 2018 MOV)
- c. A: Who are you?
 B: Jennifer.
 A: *Who?* (= ‘*Who do you mean, Jennifer?*’)
 B: Jenny. The girl over there arriving at your house. (COCA 2018 MOV)

The CR sluicing in (47a-b) are triggered by the ‘multiple referents’ preassumption failure, thus it is to request the exact information which referent for the anaphora. On the other hand, in (47c), A does not know who *Jennifer* is, so the question is to query further explanation who *Jennifer* is. If we assume the ‘structure recycling’ strategy, we cannot properly capture the clarification request reading for CR sluicing, let alone the meaning difference between (47a-c).

As we are focusing on the idiosyncratic meaning of CR sluicing, we do not follow the derivation-based analysis, that there is a construction directly projecting a phrasal level expression to a sentential node. Nonetheless, if we adopt the existing ‘parameter-identification’ strategy, we may be able to capture the CR reading, but we cannot capture the preassumption failure types licensing the questions. In order to distinguish the two different meanings of CR sluicing due to the preassumption failure types (47), this study will adopt the Table model, a formal semantic framework regarding speaker’s knowledge and their commitments in a given discourse. The detailed analysis will be given later in this article.

4.2.2 Structure of NP-CR sluicing

An additional question is the structure of NP-CR sluicing:

- (48) a. A: A Sudanese refugee from the camp just called Meg.
B: *Meg who?* (= ‘Who do you mean, *Meg*?’)
A: Reade’s girlfriend. (COCA 2018 TV)
- b. And this woman’s asking for Captain. Captain, she says.
Captain who? I says, wondering who we’ve got else on the line. (COCA 2009 FIC)
(= ‘Which *Captain* do you mean?’)

What is the relationship between the two NPs *Meg* and *who*? I believe that the *wh*-remnant is an apposition clause. Consider the following examples:

- (49) a. [The poet Burns] was born in 1759.
- b. [Sterne, *the author of Tristram Shandy*,] returned to London. (Burton-Roberts 1975: 391)

The two bracketed items in (49) are called close and loose apposition clauses, respectively. The major property distinguishing one from the other is the phonological pause; there is no comma thus no pause between the two NPs (i.e., *the poet* and *Burns*) in clause appositions, but a pause is required in loose appositions between the two NPs (Burton-Roberts 1975; van Eynde and Kim 2016; van Eynde 2021). In (48), it is hard to say that there is a pause between the NPs *Meg* and *who*. This may imply that the NP-CR sluicing can be a construct of the close apposition.

Keizer (2005) tries to capture various uses of close apposition clauses. Among those, *identifying* close apposition shows similar properties to NP-CR sluicing. In most cases of identifying close appositions, the second NP provides additional information regarding ‘who/what the first NP is’ (Keizer 2005: 454-456).⁹

- (50) a. This is a really big home win for Jaguar and indeed for Silverstone because *the Jaguar boss Tom Walkenshaw* is of course the uh managing director of Silverstone Circuits the BRDC. [occupation holder]
- b. Well that’s like *your friend Ruth* who lives with someone. [background information]

⁹ Close apposition constructions also allow the first NP to be indefinite (Keizer 2005: 455):

- (iv) *A friend of mine Andy* may be able to help you. [background information]

In such cases, the second NP gives additional information to link the first NP to the actual entity in the interlocutor’s background. Meanwhile, the [NP + *wh*-remnant] string can be used not only in CR reading, but also in info-seeking reading, with an indefinite correlate:

- (v) A: *Somebody* saw Michael Tobin get out of an RMP up in Harlem just before he was killed.
B: *Somebody who?*
A: That’s confidential. (COCA 2000 SPOK)

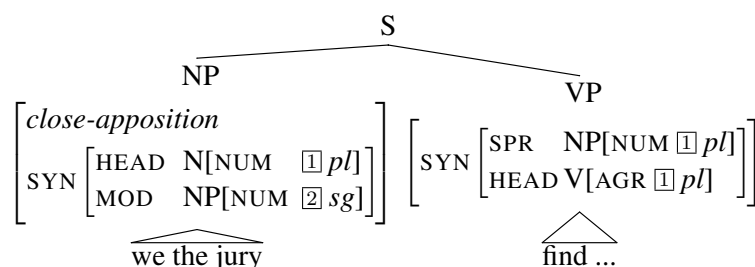
However, in such cases, it is not clear whether the indefinite first NP is already inside the background information of the utterer. Considering this, it may be the case that info-seeking NP+*wh*sluicing is a construct of a close apposition, but with different function from ‘description.’

The close apposition in (50a) first provides the occupation/position then it gives additional information regarding who is in that position. According to Keizer (2005), the apposition lubricates the communication between interlocutors; by providing additional information regarding who *the Jaguar boss*, it fills the pragmatic gap triggered by a lack of assumption that *the Jaguar boss* is *Tom Walkenshaw*. On the other hand, in (50b), the apposition links the first referential definite NP to the actual entity that the interlocutor knows. By providing additional information, the apposition gives a hint for the hearer to link ‘which actual referent in their background’ the first NP should be linked.

I believe that the NP-CR sluicing by the ‘interlocutor’s ignorance’ preassumption failure belongs to the close apposition in (50a), and ‘multiple referents’ to that in (50b). In addition, considering the function of the second NP providing ‘additional’ information, and the first NP functions as an anchor for the syntactic agreement between the subject appositive NP and the verb, as in (51), I argue that the first NP is the head of the NP and the second NP behaves as a modifier.

(51) a. Verdict, **we the jury** find George Zimmerman not guilty. (COCA 2013 SPOK)

b.



Still, I admit that it is obvious that there is a room for improvement for the structure of close apposition. Further analysis on close apposition constructions with profound understanding on it is required to revise the analysis in order to capture its linguistic properties.

5 Toward a non-derivational discourse-based analysis

So far, we have seen the syntactic, semantic and pragmatic properties of CR sluicing and its relevant constructions. In what follows, I propose brief outline for the non-derivational, discourse-based analysis of CR sluicing. In order to do so, I claim that we have to consider two aspects of the construction. On the one hand, we have to think about pragmatic, discourse context for CR sluicing that affects its clarification reading. On the other hand, we need to provide a non-derivational analysis for syntax, decided by given context.

In other words, I believe that CR sluicing is licensed by a syntax-semantics interface interacting with pragmatics in which information status of a correlate decides which type of construction CR sluicing is licensed as. I will begin with describing the syntax part using concepts from Construction Grammar. Then, I will briefly illustrate how we can capture the preassertion failure in context in an informal manner, using basic notions from Table model.

5.1 Syntax and semantics: Construction-based approach

5.1.1 Key notions

In the non-derivational frameworks such as SBCG, HPSG, and CxG, all the linguistic materials are *constructions*. Given below is the definition of constructions (Goldberg 2006: 5):

(52) **Definition of grammatical ‘constructions’**

Any linguistic pattern is recognized as a construction as long as some aspect of its form or function is not strictly predictable from its component parts or from other constructions recognized to exist. In addition, patterns are stored as constructions even if they are fully predictable as long as they occur with sufficient frequency.

In these views, constructions are the form-function mapping relation, where form refers to linguistic *sign* and function to their *meaning*. A word or an idiom is a construction in that their meaning cannot be predicted from their form; a sentence with a subject and an object is a realization of a construction since they are used with sufficient frequency.

685 Meanwhile, these non-derivational frameworks do not assume any syntactic structure in an ellipsis site. Instead, they find the origin of ellipsis from context or given discourse. In order to record the discourse, they introduce the concept of Dialogue Game Board (DGB):

(53) **Dialogue Game Board**

$$\left[\begin{array}{c} \text{DGB} \\ \left[\begin{array}{cc} \text{MAX-QUD} & \dots \\ \text{SAL-UTT} & \dots \end{array} \right] \end{array} \right]$$

690 A DGB takes MAX-QUE (max-question-under-discussion), the meaning of the question, and SAL-UTT (salient-utterance), the meaning of the answer, as its main attributes. The values of each attributes are updated constantly as the given discourse continues (Ginzburg and Sag 2000; Ginzburg and Miller 2018). For instance, the Q-A pair can be analyzed in terms of the two attributes (Kim 2015: 435):

(54) Q: Who does Kim love?

695 A: Lee.

a. **Meaning of the question** (MAX-QUD): $\lambda_x[\text{love}(k, x)]$

b. **Meaning of the answer** (SAL-UTT): l (= ‘Lee’)

c. **Application**: $\lambda_x[\text{love}(k, x)](l) = \text{love}(k, l)$

700 The meaning of the question is registered as the value of MAX-QUD with a semantic variable x . The meaning of the fragment *Lee* serves as a SAL-UTT. Lastly, the SAL-UTT fills the semantic variable inside the MAX-QUD, finally yielding the sentential interpretation of the fragment, as in (54c).

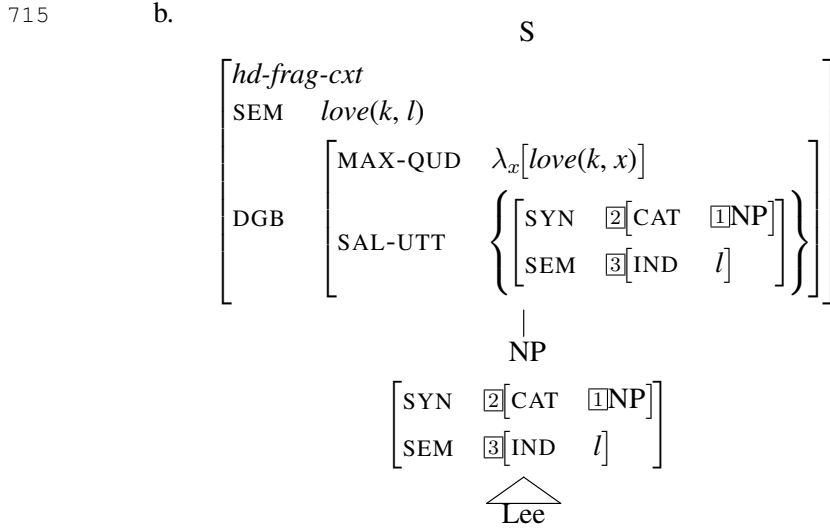
As for syntax, the non-derivational approach does not assume any syntactic structure in the ellipsis site. Instead, a *wh*-phrasephrasal expression XP is projected to a sentential level expression without any syntactic support (Ginzburg and Sag 2000; Goldberg 2006). Thus, we need a vehicle to project the phrasal expression to a sentential interpretation. In order to achieve this goal, the non-derivational approach postulates the Head-Fragment Construction (*hd-frag-cxt*):

(55) **Head-Fragment Construction** (?: 20)

$$\left[\begin{array}{c} \text{hd-frag-cxt} \\ \text{SYN} \quad \text{S} \\ \text{SEM} \quad \text{P}(x) \\ \text{DGB} \quad \left[\begin{array}{c} \text{SAL-UTT} \quad \left\{ \begin{array}{c} \boxed{3} \left[\begin{array}{cc} \text{SYN} & | \quad \text{CAT} & \boxed{1}\text{XP} \\ \text{SEM} & \boxed{2}[\text{IND} \quad x] \end{array} \right] \end{array} \right\} \end{array} \right] \end{array} \right] \rightarrow \boxed{3} \left[\begin{array}{cc} \text{SYN} & | \quad \text{CAT} \quad \boxed{1}\text{XP} \\ \text{SEM} & \boxed{2}[\text{IND} \quad x] \end{array} \right]$$

710 The *hd-frag-cxt* projects a syntactic phrase XP to a S node. In doing so, the fragment XP is registered as a SAL-UTT of the given discourse. This explains how a phrasal expression can serve as a sentence. Finally, the semantic parts of the question joins to the syntactic analysis under the attribute MAX-QUD. The tree structure below analyzes the fragment *Lee* in (54):

- (56) a. Q: Who does Kim love?
A: Lee.

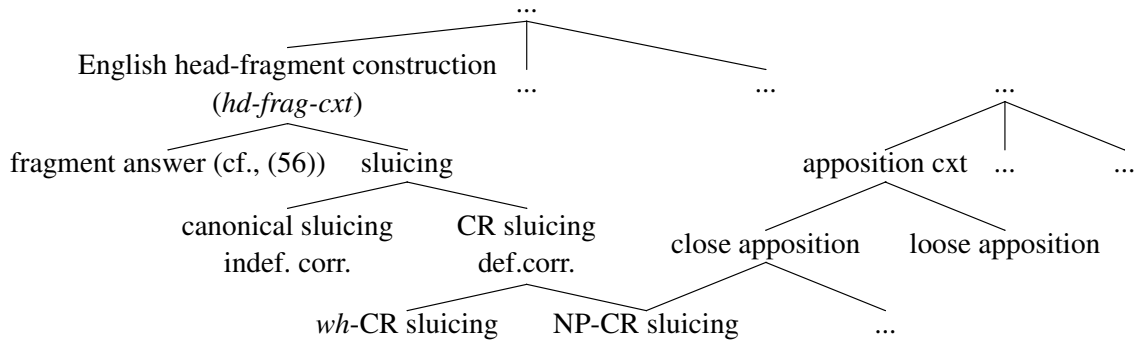


The NP *Lee* functioning as a SAL-UTT retrieves its semantic interpretation by filling the semantic variable in the MAX-QUD. The syntactic pumping-up process from an NP to a S relies on the *hd-frag-cxt* (Ginzburg and Sag 2000; Ginzburg and Miller 2018; Goldberg 2006; Kim 2024).

720 5.1.2 CR sluicing revisited

Syntactically, we have observed that i) CR sluicing is a surface anaphora with an overt correlate, ii) it shows strict phonological identity condition, and iii) CR sluicing is licensed to resolve two types of preassumption failure. Here, considering that what decides the function of CR sluicing is not the syntactic form but the preassumption failure types (i.e., *Who_i?* can both mean ‘*Who_i* do you mean, *i*?’ and ‘*Which i* do you mean?’), I assume that there is a construction network binding canonical sluicing and the two types of CR sluicing:

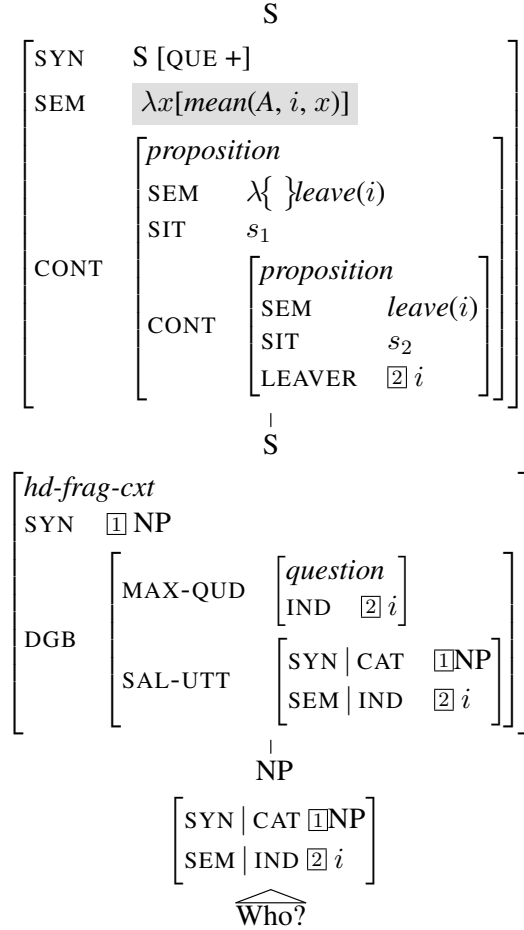
(57)



730 The construction network system suggested above indicates that sluicing is a form where a *wh*-phrase stands alone. It has two subbranches of canonical and CR sluicing, differing in the definiteness of their correlates. Their form follow their superbranch, the sluicing construction. CR sluicing construction again divides into two subconstructions, *wh*-CR sluicing and NP-CR sluicing, in terms of their form. As for NP-CR sluicing, the network shows that such form is a realization of both CR sluicing and close apposition, where the sluiced clause appears in the modifier position of an NP head.

Now, I propose a basic analysis of *wh*-CR sluicing first:

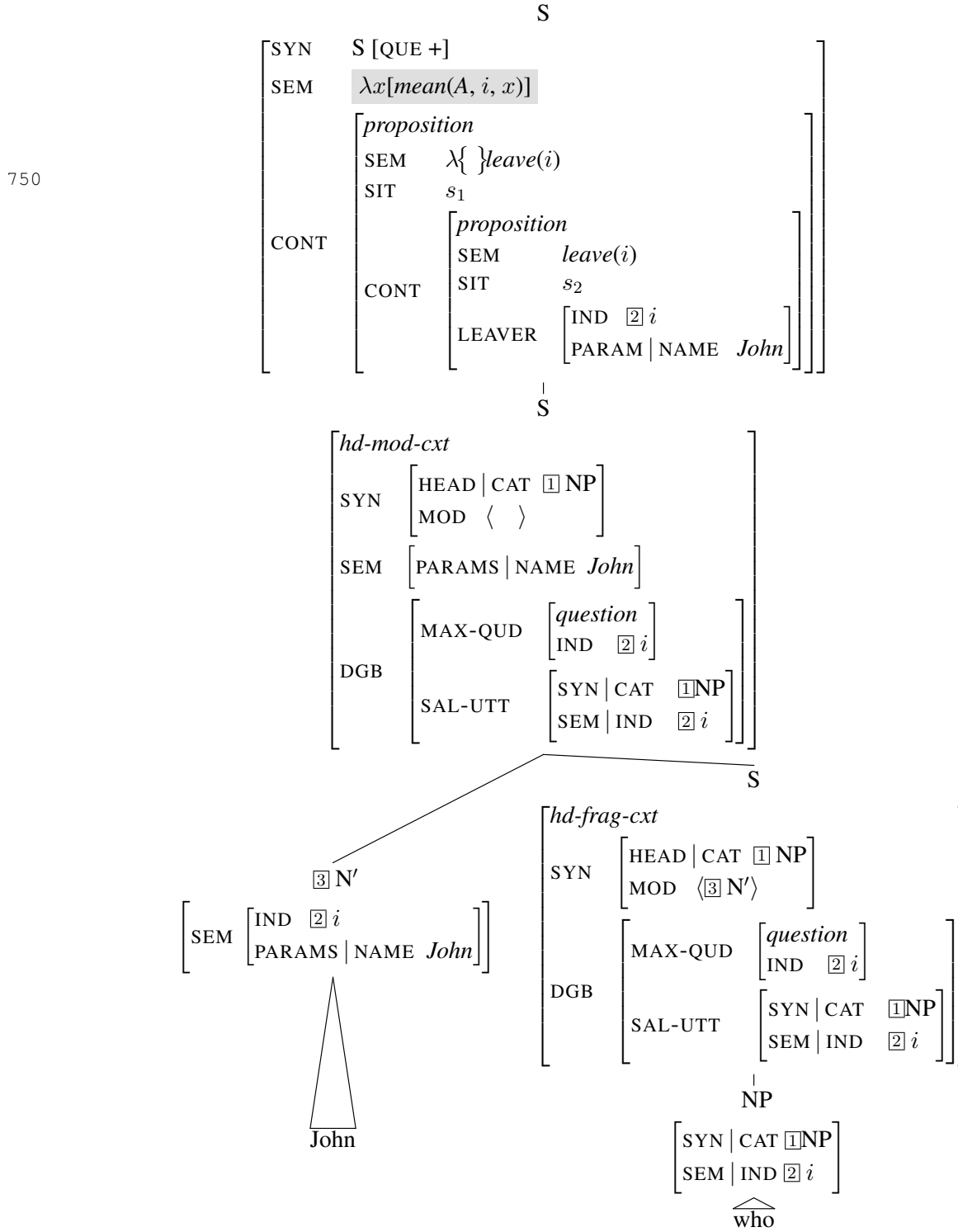
- 735 (58) A: Did John leave? (MAX-QUD: $\lambda\{ \} \text{leave}(\text{John}_i)$; SAL-UTT: John_i)
B: Who? (= ‘ Who_i do you mean, John_i ?’ / ‘Which John_i do you mean?’)



740 The analysis seems akin to that of Ginzburg and Sag (2000), shown in Section 3.2. However, what is different in the revised analysis is the meaning of the projected sluicing. In the previous study, they claim that CR sluicing takes the sentential clarification interpretation (e.g., ‘ Who_i did you ask if i leave?’), which is different from the constituent clarification interpretation (e.g., ‘ Who do you mean, i ?’). By taking the constituent clarification reading rather than the sentential one, I believe we can let the construction rely more on the context. The less-strict constraint on the semantics by syntax can cover the two meanings by the different preassumption failure, to be explained by the context.

745 As for the NP-CR sluicing, this study assumed that the NP is sitting on the head modified by a *wh*-phrase. Here, we define the *wh*-phrase as a sluicing, percolating its DGB to the NP phrase and pushing the information further up:

- (59) A: Did John leave? (MAX-QUD: $\lambda\{ \} \text{leave}(\text{John}_i)$; SAL-UTT: John_i)
B: *John who?* (= ‘ Who_i do you mean, John_i ?’ / ‘Which John_i do you mean?’)

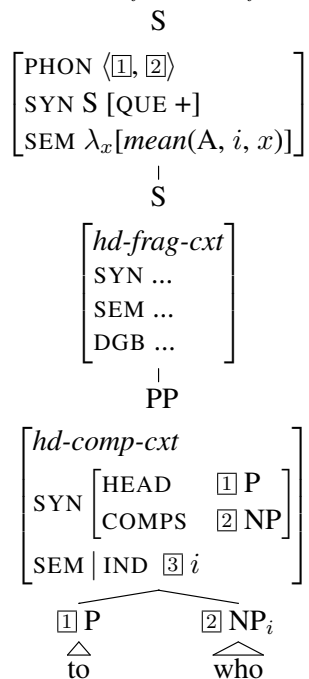


Here, the NP head *John* functions as a PARAMS (parameter) setter, which defines semantic sets of entities with certain properties (cf., Pollard and Sag 1994). In other words, it specifies the question to restrictively

be about *John* in the given discourse.¹⁰ Meanwhile, the clarification interpretation arises from the sluicing in the modifier position. By combining the head with its modifier with the Head-Modifier Construction (*hd-mod-cxt*), it percolates up the question reading and the PARAMS value to their mother node, finally projecting it to the pragmatic accommodation part. The rest, deciding which pragmatic reading to interpret from the open proposition of ' $\lambda_x[mean(A, i, x)]$ ' depends on the context.

Lastly, the phonological identity condition can be captured by fixing the agreement feature between PP CR sluicing and its correlate:

- (60) a. A: I gave a flower to Mary_i.
B: *To who_i? / #Who_i to?*



As a list, the PHON (phonology) attribute captures the phonological order of its arguments (Pollard and Sag 1994). By specifying the order in the list, we can block CR sluicing from realized in the form of the *swiping* constructions.

5.2 Pragmatics of CR sluicing

In what follows, I will briefly sketch the pragmatics of CR sluicing, assuming that the different meaning of CR sluicing is based on different background knowledge of interlocutors. I will begin with briefly describing how we can describe the pragmatics of questions in the Table model. Then, I will show how the two readings of CR sluicing can be explained in the Table model, focusing on the concept of the Common Ground and Projected Set, and speakers' background knowledge.

¹⁰This assumption is based on the comparison between NP+CR sluicing and CR fragment:

- (vi) a. A: John left.
B: *John?* (= 'Really? JOHN left?' [confirmation])
b. A: John left.
B: *John who?* (= 'Who do you mean, *John*?' / 'Which *John* do you mean?' [CR])

In (via), the fragment question *John?*, or *literal reprise*, is used 'to confirm whether the speaker of the reprised utterance intended to convey a particular content' (Ginzburg and Sag 2000). If so, the function of literal reprise can be distinguished that of the noun head inside NP-CR sluicing.

5.2.1 Context and its basic components

The Table model is a framework to describe a series of issue addressed into a discourse. The information committed to the dialogue constantly changes Table. Here are some major concepts from the Table mode (among many others. Farkas and Bruce 2009; Jeong 2018):

- (61) a. Common Ground (CG): set of propositions mutually and publicly agreed among interlocutors
- b. Context Set (CS): intersection of CG
- c. Table: stack of issues committed to the given discourse
- d. DC_X : set of propositions which the participant X has committed to the given discourse until the relevant time

Table can be considered as a stack of issues, or Question-Under-Discussion (QUD) in Ginzburg (1996)'s terminology, and the force that drives context forward is done by adding new issues and their resolution, resulting the increase of the CG (Farkas and Bruce 2009; Jeong 2018).

The Table begins with an initial context set with no proposition committed. As dialogue proceeds, committed propositions are listed in the Table model, increasing or decreasing CG and PS of the given discourse. As for the types of committed issues, there can be two sentential features [D] and [I], respectively describing declaratives and interrogative. Declaratives with a proposition p is listed in the Table with a set of proposition $\{p\}$, whereas polar interrogatives asking 'whether p ' question in the Table model is assumed to address a set of propositions $\{p, \neg p\}$. For the purpose of illustration, consider the following (Farkas and Bruce 2009: 91):

- (62) a. K_1 : Initial context set

A	Table	B
Common Ground: s_1		Projected Set: $ps_1 = \{s_1\}$

- b. K_2 : Relative to K_1 , A asserted 'Sam is home.'

A	Table	B
$DC_A = \{p\}$	$\langle \text{'Sam is home.'[D]}; \{p\} \rangle$	
Common Ground: $s_2 = s_1$		Projected Set: $ps_1 = \{s_1 \cup p\}$

In (62a), the dialogue begins with an initial Table with empty context set. Its CG, a set of propositions mutually shared among A and B, and the superset of the projected CG, which is same with the current CG, is listed in PS attribute. In (62b), A registers a proposition p , a DC_A , to the discourse. The sentence radical 'Sam is home.', a declarative [D] with a set of issue(s) p , is projected to the CG if there is a mutual agreement between interlocutors. Then, the projected CG will update PS as well, by adding the new DC_A to s_1 .

Now, consider the following description where A asks B whether Sam is home (Farkas and Bruce 2009: 95):

- (63) a. K_1 : Initial context set

A	Table	B
Common Ground: s_1		Projected Set: $ps_1 = \{s_1\}$

- b. K_2 : Relative to K_1 A asked 'Is Sam home?'

A	Table	B
	$\langle \text{'Is Sam home.'[I]}; \{p, \neg p\} \rangle$	
Common Ground: $s_2 = s_1$		Projected Set: $ps_2 = \{s_1 \cup \{p\}, s_1 \cup \{\neg p\}\}$

The description begins with the initial context set (63a). Then A's polar question with an issue p regarding 'Sam is home.' is licensed, marked with [I] introducing a set of propositions $\{p, \neg p\}$. This is based on an assumption that a (non-biased) question gives a set of assertions in which a proposition accompanies its alternative. The updated CG will then project a set of propositions where the initial situation unions with p and $\neg p$ into the PS, as in (63b). Note that, in (63b), although the dialogue goes forward, the issue of the polar question does not push any DS_A to the given discourse (for further illustration, see Section 4.1).

For the question (63b), a negative answer 'no' will update the Table as the following (Eckardt 2016: 6, adopted):

(64) K_3 : Relative to K_2 B answered 'No, he isn't.'

A	Table	B
	$\langle \text{'Sam is home.' [I]; } \{p, \neg p\} \rangle$ $\langle \text{'No, he isn't.' [D]; } \{\neg p\} \rangle$	$DC_B = \{\neg p\}$
Common Ground: $s_3 = s_2$		Projected Set: $ps_3 = \{s_1 \cup \{\neg p\}\}$

The negative answer with the [D] feature is committed to the discourse, denying the issue p . The DC of B will update the CG, and the new information of $\neg p$ updates the PS, by adding $\neg p$ to the previous CG.

Meanwhile, the assertion of *wh*-questions consists of a set of alternatives. For instance:

(65) a. Who wants coffee?

b. $\{\text{'Nobody but Al wants coffee. } (p_a)\text{'}, \text{'Nobody but Bertha wants coffee. } (p_b)\text{'}, \text{'Nobody but Chris wants coffee. } (p_c)\text{'}, \text{'Nobody but Al and Bertha want coffee.' } (p_{a,b}), \dots\}$ (Eckardt 2016: 15)

As given, compared to polar questions asserting only $\{p, \neg p\}$, *wh*-questions assert a set of possible answers that can truth-conditionally satisfy the proposition with a variable. The *wh*-question (65a) can be answered by one of the elements of the set of propositions in (65b). If Al (a) satisfies the proposition p , then it will release the QUD addressed by the question. If we embed this to the Table, it will look like the following (Eckardt 2016):

(66) a. K_1 : Initial context set

A	Table	B
Common Ground: s_1		Projected Set: $ps_1 = \{s_1\}$

b. K_2 : Relative to K_1 A asked 'Who wants coffee?'

A	Table	B
	$\langle \text{'Who wants coffee?' [I]; } \{p_a, p_b, p_c, \dots\} \rangle$	
Common Ground: $s_2 = s_1$		Projected Set: $ps_2 = \{s_1 \cup \{p_a\}, s_1 \cup \{p_b\}, \dots\}$

c. K_3 : Relative to K_2 B answers 'Chris wants coffee.'

A	Table	B
	$\langle \text{'Who wants coffee?' [I]; } \{p_a, p_b, p_c, \dots\} \rangle$ $\langle \text{'Chris wants coffee.' [D]; } \{p_c\} \rangle$	$DC_B = p_c$
Common Ground: $s_3 = s_2$		Projected Set: $ps_3 = \{s_1 \cup \{p_c\}\}$

In canonical *wh*-questions, the question itself does not push any DC to the Table, as a question with falling intonation does not commit an issue. Rather, it is the resolution of the issue that actually performs a commitment to the Table (cf., Jeong 2018; Rudin 2022)

5.2.2 CR sluicing and the Table model

So far, we have assumed that CR sluicing has two subtypes distinguished by the types of preassumption failure: multiple referent and interlocutor's ignorance. As for multiple referent, the nature of CR sluicing will be similar to the canonical *wh*-questions, in that the question itself is a set of propositions with multiplied referent:

- (67) a. A: What did John do yesterday?
B: John met her yesterday.
A: *Who?* (= ‘*Who* do you mean, *her?* / ‘*Which her* do you mean?’)

- 845 b. {John met $FEMALE_1$ yesterday (p_1), John met *female*₂ yesterday (p_2), John met *female*₃ yesterday (p_3), John met *female*₄ yesterday (p_4), ... , John met *female*_n yesterday (p_n)}

In the given dialogue, assumed that the two speakers have a mutual agreement on who *John* is, CR sluicing is to request for original speaker to ‘specify’ which *female* they refer to, as the anaphor *her* can refer to any entity with [GENDER: *female*] feature. In the same manner, if the correlate is a proper name *Jane*, the set of propositions that the sluiced clause asserts would be those with [NAME: *Jane*].

850 Then, the dialogue in (67a) can be described as the following:

- (68) a. K_1 : Initial context set

A	Table	B
Common Ground: s_1		Projected Set: $ps_1 = \{s_1\}$

- b. K_2 : Relative to K_2 , A asked ‘What did John do yesterday?’

855

A	Table	B
	⟨‘What did John do yesterday?’[I]; { p, q, r, \dots }⟩	
Common Ground: $s_2 = s_1$		Projected Set: $ps_2 = \{s_1 \cup \{p\}, s_1 \cup \{q\}, s_1 \cup \{r\}, \dots\}$

where, p = ‘John met him yesterday.’; q = ‘John watched a movie yesterday’, ...

- c. K_3 : Relative to K_2 , B answered ‘He met *her* yesterday.’

A	Table	B
	⟨‘What did John do yesterday?’[I]; { p, q, r, \dots }⟩ ⟨‘John met him yesterday.’[D]; { p }⟩	$DC_B = p$
Common Ground: $s_3 = s_2$		Projected Set: $ps_3 = \{s_1 \cup \{p\}\}$

- d. K_4 : Relative to K_3 , A asks ‘Who?’

860

A	Table	B
	⟨‘What did John do yesterday?’[I]; { p, q, r, \dots }⟩ ⟨‘He met her yesterday.’[D]; { p }⟩ ⟨‘Who?’[I]; { p_1, p_2, p_3, \dots }⟩	$DC_B = p$
Common Ground: $s_4 = s_3$		Projected Set: $ps_4 = \{s_1 \cup \{p_1\}, s_1 \cup \{p_2\}, s_1 \cup \{p_3\}, \dots\}$

As shown, the CR sluicing *Who?* in (68d) addresses a set of propositions whose argument (*female*₁, *female*₂, ...) is different. An answer then is to pick a proposition from the set for the purpose of anaphor clarification. Finally, the resolved anaphoric information will be committed to discourse, pushed to the CG, and update the PS, correspondingly. Note that in ‘multiple referent’ case, the dialogue proceeds, but the PS of CR sluicing still sticks to the initial CG s_1 .

865 Meanwhile, the ‘interlocutor’s ignorance’ type CR sluicing can be analyzed the same way as the ‘multiple referents’ case. Instead of asking a subquestion to the answer p , it addresses a new question with a set of propositions:

- (69) A: What did John do yesterday?
B: John met *Jane* yesterday.
A: *Who?* (= ‘*Who* do you mean, *Jane?*’)

- 870 a. [who]: {*Jane* is a violinist (t), *Jane* is a pianist (u), *Jane* is a cellist (v), ...}

- b. K_1 : Initial context set

A	Table	B
Common Ground: s_1		Projected Set: $ps_1 = \{s_1\}$

- 875 c. K_2 : Relative to K_2 , A asked ‘What did John do yesterday?’

A	Table	B
	$\langle \text{‘What did John do yesterday?’} [I]; \{p, q, r, \dots\} \rangle$	
Common Ground: $s_2 = s_1$	Projected Set: $ps_2 = \{s_1 \cup \{p\}, s_1 \cup \{q\}, s_1 \cup \{r\}, \dots\}$	

where, p = ‘John met Jane yesterday.’; q = ‘John watched a movie yesterday’, ...

- d. K_3 : Relative to K_2 , B answered ‘He met *Jane* yesterday.’

A	Table	B
	$\langle \text{‘What did John do yesterday?’} [I]; \{p, q, r, \dots\} \rangle$ $\langle \text{‘John met Jane yesterday.’} [D]; \{p\} \rangle$	$DC_B = p$
Common Ground: $s_3 = s_2$	Projected Set: $ps_3 = \{s_1 \cup \{p\}\}$	

- 880 e. K_4 : Relative to K_3 , A asks ‘Who?’

A	Table	B
	$\langle \text{‘What did John do yesterday?’} [I]; \{p, q, r, \dots\} \rangle$ $\langle \text{‘He met Jane yesterday.’} [D]; \{p\} \rangle$ $\langle \text{‘Who?’} [I]; \{t, u, \dots\} \rangle$	$DC_B = p$
Common Ground: $s_4 = s_3$	Projected Set: $ps_4 = \{s_3 \cup \{t\}, s_3 \cup \{u\}, \dots\}$	

In ‘interlocutor’s ignorance’ case, CR sluicing addresses additional information related to the current discourse situation. Thus the antecedent *John met Jane yesterday.* adds a proposition p , but CR sluicing is less related to it. It can be noted by PS of K_4 , where the proposition set is added to the latest CG s_3 .

885 5.2.3 Background knowledge in CR sluicing

The difference in CG between the two can be examined with the information in the initial context set K_1 of each discourse. As for the ‘multiple referents’ case, there is a lack of mutual agreement on specifying a referent for a deictic expression or a proper noun. If so, we can assume that CR sluicing is to repair CG of a given discourse. The initial condition for CG then would be like the following:

- 890 (70) A: He met *her* yesterday. (where *her* = *female*₂ (p_2))
B: *Who?* (*Which female* do you mean?)
- a. Background knowledge of speakers (BK_{sp}):
 $\{BK_A\} \ni \{p_2\}$; $\{BK_B\} \ni \{p_1, p_2, p_3, \dots\}$; $\{BK_A \cap BK_B\} \ni \{p_2\}$
- b. Initial CG condition for ‘multiple referent’ CR sluicing (K_1):
895 $CG_1: s_1 \cup \{p_2\} = \emptyset$; $ps_1 = \{s_1\}$
- c. CG repaired by an answer to ‘multiple referent’ CR sluicing (K_5):
 $CG_5: s_4 \oplus \{p_2\}$; $ps_5 = s_1 \cup \{p_2\}$

900 The description above shows that interlocutors have a set of background (BK) where A has a set of knowledge that the anaphor *her* indicates *female*₂ (p_2), whereas B has it with more than p_2 . If so, the intersection of BK_A and BK_B has the information about p_2 (70a). Nonetheless, there is not public agreement on p_2 , as described in (70b). The resolution of the CR sluicing will be made by an answer that addresses $\{p_2\}$. Then it will be added to the CG, updating the PS as well.

As for the ‘speaker’s ignorance’ case, the process is a bit different:

- 905 (71) A: He met *Jane* yesterday. (where *Jane* is a pianist (t))
B: *Who?* (= ‘*Who* do you mean, *Jane*?’)
- a. Background knowledge of speakers (BK_{sp}):
 $\{BK_A\} \ni \{t\}$; $\{BK_B \cap \{t\} = \emptyset\}$; $\{BK_A \cap BK_B\} \cap \{t\} = \emptyset$
- b. Initial CG condition for ‘multiple referent’ CR sluicing (K_1):
 $CG_1: s_1 \cup \{t\} = \emptyset$; $ps_1 = \{s_1\}$

- c. CG repaired by an answer to ‘multiple referent’ CR sluicing (K_5):
 $CG_5: s_4 \oplus \{t\}; ps_5 = s_3 \cup \{t\}$

Here, A has a BK of t , but not B. The antecedent *He met Jane yesterday* will update the CG as it is issued and pushed, and the following CR sluicing addresses a proposition t to the updated CG. This Table model approach with basic Set Theory can explain under what pragmatic condition CR sluicing gets which CR interpretation.

5.3 Advantage and limitation

This study tried to explain the mechanism for CR sluicing by intertwining syntax-semantics and pragmatics. By unitizing the form-function and speech act, the analysis is expected to be adopted to CR sluicing in other languages; as speech act of CR is prevalent across languages, we can capture the nature of CR in many languages by substituting English CR sluicing constructions with those of another languages.

Although it observed the prosodic difference of CR sluicing from canonical sluicing, it could not properly embed the observation on the analysis. Furthermore, the Table model may not be the most proper way to capture the nature of anaphor and the corresponding failure. Other approaches such as Dynamic Semantics can help resolving the issue in a more simple way.

6 Conclusion

This study began with introducing the difference between canonical and CR sluicing in English. investigated linguistic properties of the construction by looking into morphosyntactic, semantic, and pragmatic patterns. Then, it illustrated how previous analyses, whether it is a mainstream or not, fails to fully cover such properties. We have seen that the PF-deletion approach fails to explain how CR sluicing is insensitive to island constraints, and how it fails to capture the idiosyncratic meaning of CR sluicing. Furthermore, we have observed that the non-derivational approach based on SBCG can fail to capture the different usage of CR sluicing in terms of pragmatics. In order to capture the complex characteristics of CR sluicing, the paper adopted a viewpoint where the syntax-semantics interface interacting with pragmatics. On the one hand, the form-function mapping is captured with the *hd-frag-cxt* with pragmatic accommodation. On the other hand, the pragmatic factors were illustrated by adopting basic notions from the Table model, especially focusing on the Background Knowledge of interlocutors and Common Ground repair. Lastly, this study provided a simple analysis on NP-CR sluicing which is also one of the construct of the close apposition construction. This viewpoint can not only illustrate the properties of CR sluicing, but also leaves a room for expansion to other languages.

References

- AnderBois, Scott, Adrian Brasoveanu and Robert Henderson. 2015. At-issue proposals and appositive impositions in discourse. *Journal of Semantics* 32: 93–138.
- Beck, Sigrid and Marga Reis. 2018. On the form and interpretation of echo *wh*-questions. *Journal of Semantics* 35: 369–408.
- Bolinger, Dwight. 1989. *Intonation and its uses: Melody in grammar and discourse*. Stanford, CA: Stanford University Press.
- Burton-Roberts, Noel. 1975. Nominal apposition. *Foundations of Language* 13(3): 391–419.
- Chung, Sandra, William Ladusaw and James McCloskey. 1995. Sluicing and logical form. *Natural Language Semantics* 3(3): 239–282.
- Culicover, Peter and Ray Jackendoff. 2005. *Simpler syntax*. Oxford: Oxford University Press.

- Davies, Mark. 2008-. *The Corpus of Contemporary American English (COCA)*. Available online at <https://www.english-corpora.org/coca/>.
- Dehé, Nicole and Bettina Braun. 2019. The prosody of rhetorical questions in English. *English Language and Linguistics* 24(4): 607–635.
- Eckardt, Regine. 2016. Questions on the table. Available on at https://www.researchgate.net/publication/304304651_Questions_on_the_Table/.
- Farkas, Donka F. and Kim B. Bruce. 2009. On reacting to assertions and polar questions. *Journal of Semantics* 27: 81–118.
- Fernández, Raquel, Jonathan Ginzburg and Shalom Lappin. 2007. Classifying non-sentential utterances in dialogue: A machine learning approach. *Computational Linguistics* 33(3): 397–427.
- Ginzburg, Jonathan. 1996. Dynamics and the semantics of dialogue. In Jerry Seligman and Dag Westerståhl (eds.), *Language, logic and computation*, 221–237. Stanford, CA: CSLI Publications.
- Ginzburg, Jonathan and Robin Cooper. 2001. Resolving ellipsis in clarification. In Bonnie Lynn Webber (ed.), *ACL '01: Proceedings of the 39th Annual Meeting on Association for Computational Linguistics*, 236–243.
- Ginzburg, Jonathan and Robin Cooper. 2004. Clarification, ellipsis, and the nature of contextual updates in dialogue. *Linguistics and philosophy* 27(3): 297–365.
- Ginzburg, Jonathan and Dimitra Kolliakou. 2018. Divergently seeking clarification: The emergence of clarification interaction. *Topics in Cognitive Science* 10: 335–366.
- Ginzburg, Jonathan and Philip Miller. 2018. Ellipsis in Head-driven Phrase Structure Grammar. In Jeroen Van Craenenbroeck and Tanja Temmerman (eds.), *The Oxford handbook of ellipsis*, 75–121. Oxford: Oxford University Press.
- Ginzburg, Jonathan and Ivan Sag. 2000. *Interrogative investigations*. Stanford: CSLI publications.
- Goldberg, Adele E. 2006. *Constructions at work: The nature of generalization in language*. Oxford: Oxford University Press.
- Goldberg, Adele E. 2019. *Explain me this: Creativity, competition, and the partial productivity of constructions*. Princeton, NJ and Oxford: Princeton University Press.
- Griffiths, James, Güliz Güneş and Anikó Lipták. 2023. Reprise fragments in English and Hungarian: Further support for an in-situ Q-equivalence approach to clausal ellipsis. *Language* 99(1): 154–191.
- Hankamer, Jorge and Ivan A. Sag. 1976. Deep and surface anaphora. *Linguistic Inquiry* 7(3): 391–428.
- Hedberg, Nancy, Juan M. Sosa, Görgülü Emrah and Morgan Mameni. 2010. Prosody and pragmatics of *wh*-interrogatives. In *Proceedings of the 2010 Annual Conference of the Canadian Linguistic Association*, 1–13.
- Hilpert, Martin. 2019. *Construction grammar and its application to english*. Edinburgh: Edinburgh University Press.
- Huddleston, Rodney and Geoffrey Pullum. 2002. *The Cambridge grammar of the English language*. Cambridge: Cambridge University Press.
- Jeong, Sunwoo. 2018. Intonation and sentence type conventions: Two types of rising declaratives. *Journal of Semantics* 35: 305–356.
- Keizer, Evelien. 2005. The discourse function of close appositions. *Neophilologus* 89: 447–467.

- Kim, Jong-Bok. 2015. Syntactic and semantic identity in Korean sluicing: A direct interpretation approach. *Lingua* 166: 260–293.
- Kim, Jong-Bok. 2024. *English and Korean in contrast: A linguistic introduction*. Hoboken, NJ: Wiley-Blackwell.
- Koev, Todor. 2018. Notions of at-issueness. *Language and Linguistics Compass* 12(1-16).
- Merchant, Jason. 2001. *The syntax of silence: Sluicing, islands, and identity in ellipsis*. Oxford: Oxford University Press.
- Merchant, Jason. 2013. Voice and ellipsis. *Linguistic Inquiry* 44(1): 77–108.
- Merchant, Jason. 2018. Ellipsis: A survey of analytical approaches. In Jeroen Van Craenenbroeck and Tanja Temmerman (eds.), *The Oxford handbook of ellipsis*, 18–46. Oxford: Oxford University Press.
- Nykiel, Joanna. 2020. Whatever happened to English sluicing. In Robert A. Cloutier, Anne Marie Hamilton-Brehm and Jr. William A. Kretzschmar (eds.), *Studies in the history of the english language*, Berlin: De Greyter Mouton.
- Nykiel, Joanna and Jong-Bok Kim. 2021. On the grammaticality of morphosyntactically reduced remants in Polish sluicing. *Linguistics* 60(1): 177–213.
- Pollard, Carl and Ivan Sag. 1994. *Head-driven Phrase Structure Grammar*. Chicago, IL: The University of Chicago Press.
- Potts, Christopher. 2005. *The logic of conventional implicatures*. Oxford: Oxford University Press.
- Purver, Matthew, Jonathan Ginzburg and Patrick Healey. 2003a. On the means for clarification in dialogue. In Jan van Kuppevelt and Ronnie W. Smith (eds.), *Current and new directions in discourse and dialogue*, 235–255. Dordrecht: Springer.
- Purver, Matthew, Patrick G.T. Healey, James King, Jonathan Ginzburg and Greg J. Mills. 2003b. Answering clarification questions. In *Proceedings of the 4th SIGdial workshop on discourse and dialogue*, Sapporo, Japan.
- Ross, John Robert. 1967. *Constraints on variables in syntax*. Cambridge, MA: Massachusetts Institute of Technology, Ph.D. dissertation.
- Rudin, Deniz. 2018. Raising imperatives. In Sireemas Maspong, Brynhildur Stefánsdóttir, Katherine Blake and Forrest Davis (eds.), *Proceedings of salt 28*, 100–119. Cambridge, MA.
- Rudin, Deniz. 2022. Intonational commitments. *Journal of Semantics* 39: 339–383.
- Sag, Ivan A. 2012. *Sign-Based Construction Grammar*. Stanford, CA: CSLI Publications.
- van Eynde, Frank. 2021. Nominal structure. In Stefan Müller, Anna Abeillé, Robert D. Borsley and Jean-Pierre Koenig (eds.), *Head-Driven Phrase Structure Grammar: The handbook*, 275–314. Berlin: Language Science Press.
- van Eynde, Frank and Jong-Bok Kim. 2016. Loose apposition: A construction-based approach. *Functions of Language* 23(1): 17–39.