

# Constraints on Contrast Sluicing

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While much previous work has investigated sluicing with indefinite antecedents, as in (1), relatively little attention has been paid to the syntax and semantics of *contrast sluicing*, exemplified in (2).

- (1) I know John read some book, but I don't know *which (book)*.
- (2) I know which BOOK John read, but I don't know *which MAGAZINE*.

In example (1), the *wh*-phrase *which (book)* corresponds to *some book* in the antecedent clause, and seems to stand in for the full embedded question 'which (book) John read.' We refer to *which (book)* as the remnant, *some book* as the correlate, and *John read some book* as the antecedent clause. In contrast sluicing, the antecedent is itself a question, with the correlate and remnant being *wh*-phrases with differing domains: *book* vs *magazine* in (2).

In this paper we investigate contrast sluicing in Japanese and English. The evidence presented here sheds light on the LF syntax of multiple *wh*-questions and the derivation of sluicing in Japanese, as well as the syntax/semantics of contrast. This paper is organized into two parts. Section 1 discusses the syntax of sluicing in Japanese with novel data on contrast sluicing with multiple *wh*-questions. Section 2 investigates a semantic constraint on contrast reflected in both sluicing and unreduced contrasting questions.

## 1 The Syntax of Contrast Sluicing and Multiple *Wh*-Questions

In this section we discuss the syntactic derivation of sluicing in Japanese. New data from contrast sluicing with multiple *wh*-question antecedents will provide evidence for (a particular version of) the movement-and-deletion analysis for Japanese contrast sluicing (e.g. Takahashi 1994). We begin with a brief background on the syntax of sluicing before introducing our new data and proposal.

### 1.1 Japanese Sluicing through Movement and Deletion

Ross (1969) and Merchant (2001) propose that sluicing reflects an underlying, full question embedding. Regular *wh*-movement followed by PF deletion of TP results in the correct interpretation and surface form in (1):

(3) **Sluicing through movement-and-deletion:**

...but I don't know [<sub>CP</sub> [which (book)] [<sub>TP</sub> John read *t*]]

Japanese also has a construction which appears on the surface to be sluicing. Example (4) is the Japanese equivalent of the basic English sluicing example in (1). The phrase *dono-hon(-o)* with the question complementizer *ka* is together interpreted as the embedded question 'which book John read.'

(4) **Sluicing with an indefinite correlate in Japanese:**

Watashi-wa [Jon-ga hon-o yon-da no]-wa  
 I-TOP John-NOM book-ACC read-PAST C -TOP  
 shi-tteiru-ga, [*dono-hon(-o)* ka]-wa shira-nai.  
 know-PROG-but which-book(-ACC) Q-TOP know-NET

'I know that John read a book but [I] don't know which book.' (=1)

Takahashi (1994) proposes that Japanese sluicing as in (4) is similarly derived through movement-and-deletion. (5) reflects the structure hypothesized for (4) under this approach.<sup>1</sup>

(5) **A move-and-delete parse for (4):**

... [<sub>CP</sub> dono-hon(-o) [<sub>TP</sub> Jon-ga — *t* yon-da] ka]-wa shira-nai.  
 which-book(-ACC) John-NOM read Q-TOP know-NEG

An immediate complication is of course that Japanese is *wh*-in-situ. The *wh*-movement in (5) could be thought of as the invocation of a generally-available strategy of optional *wh*-movement (Takahashi 1993), or as the reflection of ubiquitous *wh*-movement in the language which is normally covert (see e.g. Nishigauchi 1990).<sup>2</sup>

<sup>1</sup> "Deletion" is thought of as PF deletion here. See also Fukaya and Hoji (1999) and Fukaya (2003) for an LF-copy version of the move-and-delete proposal.

## 1.2 Contrast Sluicing with Multiple *Wh*-Questions

In this section we introduce new data from contrast sluicing in Japanese using multiple *wh*-questions. Recall that in contrast sluicing, the remnant is a *wh*-phrase which differs from its correlate *wh*-phrase in nominal domain. Now imagine an antecedent clause which is an embedded multiple *wh*-question. (Here we limit our attention to questions with two *wh*-phrases.) Contrast sluicing could conceivably target the higher or lower *wh*-phrase in the antecedent question.

Note that multiple *wh*-questions with two *wh*-phrases could be interpreted as a request for a single-pair answer or a pair-list answer. See e.g. Dayal (1996, 2002) on these two types of questions. Here we will concentrate on the availability of pair-list readings in both the antecedent question and the interpretation of the remnant. The function of the two *wh*-phrases in pair-list questions will be discussed in section 1.3.

Here for convenience,  $wh_1$  will refer to the surface-higher *wh*-phrase and  $wh_2$  is the surface-lower *wh*-phrase. The notation  $wh'_i$  refers to a *wh*-phrase contrasting against  $wh_i$  with a differing nominal domain.

We begin with example (6). In (6), the remnant ‘which South Building classroom’ contrasts with the correlate ‘which North Building classroom,’ which is the lower *wh*-phrase in the antecedent clause. (Both the remnant and correlate are italicized.) The intended contrast sluicing is grammatical, with both the antecedent clause (A) and remnant (B) interpreted as pair-list questions. The context here ensures that the presuppositions of the pair-list questions are satisfied (see Dayal 2002).

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<sup>2</sup> An alternative approach known as *pseudosluicing* posits a cleft or copular clause akin to “it is which (book)” as the source of apparent sluicing in Japanese (see e.g. Shimoyama 1995; Kizu 2000; Merchant 1998; Hiraiwa and Ishihara 2002). The independent availability of pro drop and copula drop in Japanese results in the appearance of only the *wh*-phrase remaining:

- (i) A pseudosluicing parse for (4):  
 ... [<sub>CP</sub> (sore-ga) dono-hon (da) ka]-wa shira-nai.  
 (that-NOM) which-book (COP) Q-TOP know-NEG

Relevant evidence comes from island-(in)sensitivity. As in many other languages, non-contrastive sluicing in Japanese can violate island constraints — that is, the indefinite correlate in the antecedent can be embedded inside a syntactic island. This island-insensitivity is naturally accounted for under pseudosluicing approaches: the pseudosluice simply refers directly to the referent introduced by the indefinite in the antecedent.

Importantly, however, Fukaya (2003, 2007) shows that contrast sluicing in Japanese *is* sensitive to syntactic islands, unlike sluicing with indefinite correlates (see also Merchant 2008; Griffiths and Lipták 2014). For reasons of space, we do not reproduce Fukaya’s evidence, but we take this to be a strong indication that movement of the *wh* remnant and/or the correlate is involved in Japanese contrast sluicing.

(6) [A ... *wh*<sub>1</sub> ... *wh*<sub>2</sub> ... ] ... [B *wh*'<sub>2</sub> ]:

Context: Each student was told to clean one particular room in the North Building and one particular room in the South Building. The teacher has the list indicating which student cleaned which room in the North Building, but s/he lost the list indicating which student cleaned which room in the South Building.

- ok Sensei-wa [A dono-seito-ga *KITATOO-no*  
 teacher-TOP which-student-NOM North Building-GEN  
*dono-kyooshitsu-o sooji-shi-ta ka]-wa shi-tteiru-ga,*  
 which-classroom-ACC clean-do-PAST Q-TOP know-PROG-but  
 [B *MINAMITOO-no dono-kyooshitsu-o ka]-wa shir-anai.*  
 South Building-GEN which-classroom-ACC Q-TOP know-NEG

'The teacher knows [A which student cleaned *which North Building classroom*], but doesn't know [B which student cleaned *which South Building classroom*].'

Next, we consider contrast sluicing against the higher *wh*-phrase in the antecedent question. This is attempted in (7). In contrast to example (6) above, (7) is ungrammatical with the intended interpretation with pair-list interpretations for the antecedent and remnant.<sup>3</sup>

(7) [A ... *wh*<sub>1</sub> ... *wh*<sub>2</sub> ... ] ... [B *wh*'<sub>1</sub> ]:

Context: Every student in Class A and Class B was assigned one classroom each to clean. The teacher has the list indicating which student in Class A cleaned which room, but s/he lost the list indicating which student in Class B cleaned which room.

- \* Sensei-wa [A *A-GUMI-no dono-seito-ga*  
 teacher-TOP Class-A-GEN which-student-NOM  
*dono-kyooshitsu-o sooji-shi-ta ka]-wa shi-tteiru-ga,*  
 which-classroom-ACC clean-do-PAST Q-TOP know-PROG-but  
 [B *B-GUMI-no dono-seito-ga ka]-wa shir-anai.*  
 Class-B-GEN which-student-NOM Q-TOP know-NEG

Intended: 'The teacher knows [A *which student in Class A* cleaned which classroom], but doesn't know [B *which student in Class B* cleaned which classroom].'

<sup>3</sup> Example (7) is however grammatical under another reading: the antecedent clause 'Which student in Class A cleaned which classroom' is interpreted as a single-pair question, with the

However, this intended interpretation in (7) — with a remnant *wh*-phrase ‘which student in Class A’ contrasting with the antecedent’s lower *wh*-phrase ‘which student in Class B’ — becomes available if a copy of the lower *wh*-phrase (‘which classroom’) is also included in the remnant, as in (8):

(8) [A ... *wh*<sub>1</sub> ... *wh*<sub>2</sub> ... ] ... [B *wh*'<sub>1</sub> *wh*<sub>2</sub> ]:

<sup>ok</sup> Sensei-wa [A *A-GUMI-no dono-seito-ga* dono-kyooshitsu-o  
teacher-TOP Class-A-GEN which-student-NOM which-classroom-ACC  
sooji-shi-ta ka]-wa shi-tteiru-ga, [B *B-GUMI-no dono-seito-ga*  
clean-do-PAST Q-TOP know-PROG-but Class-B-GEN which-student-NOM  
dono-kyooshitsu-o ka]-wa shir-anai.  
which-classroom-ACC Q-TOP know-NEG

‘The teacher knows [A *which student in Class A cleaned which classroom*],  
but doesn’t know [B *which student in Class B cleaned which classroom*].’

The patterns observed here are summarized in (9):

(9) **Summary:**

- a. <sup>ok</sup> [A ... *wh*<sub>1</sub> ... *wh*<sub>2</sub> ... ] ... [B *wh*'<sub>2</sub> ] (6)
- b. \* [A ... *wh*<sub>1</sub> ... *wh*<sub>2</sub> ... ] ... [B *wh*'<sub>1</sub> ] (7)
- c. <sup>ok</sup> [A ... *wh*<sub>1</sub> ... *wh*<sub>2</sub> ... ] ... [B *wh*'<sub>1</sub> *wh*<sub>2</sub> ] (8)

Note that in the examples here, *wh*<sub>1</sub> is the subject and *wh*<sub>2</sub> is the object. If we scramble the object *wh*-phrase above the higher one in the antecedent question (not shown here), the pattern in (9) continues to hold based on the *surface* positions of the two *wh*-phrases, rather than base-generated positions.

What do these contrasts teach us? In the grammatical cases where the B remnant is interpreted as a pair-list question as intended, the lower *wh*-phrase must be pronounced in B. The effect of this constraint is clearest in the contrast between (9b) and (9c): both remnants include the material that contrasts between the antecedent clause and the interpreted question in B, but only (9c) — which additionally pronounces the lower *wh*-phrase — is grammatical. The case in (9a) is grammatical with the pronunciation of only one *wh*-phrase because it is the lower *wh*-phrase and is also the locus of contrast.

What explains this behavior? We take a movement-and-deletion approach, motivated by the island-sensitivity data noted in footnote 2, and begin with the following, widely-adopted assumptions: (a) ellipsis requires LF identity (Sag 1976 among others), (b) pair-list readings are derived from scope relations at LF which are reflected in surface word order (Pesetsky 2000; Kotek 2014;

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sluicing remnant interpreted as the single *wh*-question ‘Which student in Class B cleaned *that classroom* (that a student in Class A also cleaned).’ Again, here we concentrate on the availability of pair-list interpretations.

among others; see also Kuno 1982 on Japanese), (c) contrasting material cannot be elided (Tancredi 1992; Merchant 2001; among others). Together, these assumptions predict the availability of (7) and (8) — the former contrary to fact. (We return to the derivation of (6) below.) Note that (10a,b) are two possible derivations for (7), with or without movement of the lower *wh*-phrase.

(10) **Move-and-delete derivations for (7) and (8):**

- a. [A ...  $wh_1$  ...  $wh_2$  ... ] ... [B  $wh'_1$  [TP ...  $t$  ...  $wh_2$  ... ] ] \* (7)  
 b. [A ...  $wh_1$  ...  $wh_2$  ... ] ... [B  $wh'_1$  [  $wh_2$  [TP ...  $t_1$  ...  $t_2$  ... ] ] ] \* (7)  
 c. [A ...  $wh_1$  ...  $wh_2$  ... ] ... [B  $wh'_1$   $wh_2$  [TP ...  $t_1$  ...  $t_2$  ... ] ] (8)

In the derivations of the B clauses in (10), assumption (b) ensures that  $wh'_1$  is higher than  $wh_2$ . This is reinforced through the pair-list reading of the A clause (b) together with LF identity (a). Assumption (c) ensures that the contrasting *wh*-phrase ( $wh'_1$ ) is not deleted. Nothing in this theory requires the non-contrastive, lower  $wh_2$  to be included in the remnant, falsely predicting (7) to be grammatical.

### 1.3 The Syntax/Semantics of Pair-list Questions: Hints from Hungarian

The key to understanding the contrasts in multiple contrast sluicing, above, is the different statuses of the two *wh*-phrases in question. In a pair-list question, Kuno (1982) describes the higher *wh*-phrase as the *sorting key*. The pair-list question in (11) is as if we are enumerating over all different students and asking, for each student, which book that student read (Dayal 1996, 2002).

- (11) *Which student read which book?*  
 ≈ ‘For each student<sub>*i*</sub>, *which book* did they<sub>*i*</sub> read?’  
Presupposition: For each student<sub>*i*</sub>, they<sub>*i*</sub> read a unique book.

One way to think about this structure of pair-list questions is that the higher *wh*-phrase functions as a universal quantifier: For each value of ‘student’ in (11), a unique ‘book’ answer must be given. This is also reflected in the presuppositions of the question (Dayal 1996, 2002). See also Chierchia (1993) on the role of universal quantifiers in pair-list questions.

The different statuses of the *wh*-phrases are reflected *overtly* in the syntax of Hungarian. First, we note that Hungarian clauses have exactly one preverbal position associated with exhaustive focus:

- (12) **Hungarian left periphery:** (É Kiss 1987; Brody 1995; Szabolcsi 1997)  
 (TOPIC+) [DistP (DIST+)] [FocP (FOCUS)] [VP V ...]
- DIST+ = one or more distributive quantifiers
  - FOCUS = a unique, immediately preverbal position for *wh* or focus

In single *wh*-questions, the *wh*-phrase obligatorily moves to this FOCUS position in the left periphery. The FOCUS position in (12) is unique because, if there are multiple *only*-phrases or a *wh*-phrase and an *only*-phrase, only one can move to the preverbal focus position. The position of the verbal marker (VM) can be used to diagnose whether something is in the focus position or not. See É Kiss (2002) and references there for evidence and discussion.

(13) **Single *wh*-question: *wh* in FOCUS**

János [<sub>FocP</sub> *kit* [<sub>VP</sub> mutatott be Marinak?  
John who introduce VM Mary-DAT

‘Who did John introduce to Mary?’ (É Kiss 2002: 90)

Notably, in pair-list multiple *wh*-questions, all *wh*-phrases are moved to preverbal positions. É Kiss (2002) argues that the lower *wh*-phrase in immediately preverbal position then occupies the canonical FOCUS position, with the higher *wh*-phrase occupying the position for distributive quantifiers. This accords with the semantics of the higher *wh*-phrase in a pair-list question functioning as a universal quantifier rather than as a canonical interrogative.

(14) **Pair-list multiple *wh*-questions: one *wh* in DIST, one in FOCUS**

a. [<sub>DistP</sub> *Ki* [<sub>FocP</sub> *melyik ajándékot* [<sub>VP</sub> választotta?  
who which present chose

‘Who chose which present?’

≈ ‘For each person, *which present* did they choose?’

b. [<sub>DistP</sub> *Melyik ajándékot* [<sub>FocP</sub> *ki* [<sub>VP</sub> választotta?  
which present who chose

‘Which present did which person choose?’

≈ ‘For each present, *who* chose it?’ (É Kiss 2002: 101)

#### 1.4 Japanese Sluicing as Deletion of Comp,FocP

We propose that the different functions of the two *wh*-phrases are also reflected syntactically at LF in Japanese multiple *wh*-questions, just as they are in Hungarian. The Focus head in Japanese takes TP as its complement. A *wh*-phrase in a single *wh*-question moves to Spec,FocP by LF. In a multiple *wh*-question, the surface-lower *wh*-phrase moves to Spec,FocP and the surface-higher *wh*-phrase moves to a higher position by LF.<sup>4</sup> We furthermore propose that deletion in Japanese (contrast) sluicing specifically targets *the complement of Focus*. The idea that deletion in sluicing specifically targets the complement of a Focus head has also been proposed for Hungarian; see e.g. van Craenenbroeck and Lipták (2006) and Griffiths and Lipták (2014).

<sup>4</sup>We can think of this isomorphism between the *wh*-phrases’ surface positions and their relative scope at LF as related to the (relative) scope rigidity of Japanese.

The resulting derivations for (contrast) sluicing from single and multiple *wh*-questions are illustrated in (15).

(15) **Deriving (contrast) sluicing in Japanese:**

a. Single *wh*-question:

$$B = [{}_{\text{FocP}} \textit{wh} [{}_{\text{TP}} \dots t \dots ] ]$$

b. Multiple *wh*-question:

$$B = [ \textit{wh}_1 [{}_{\text{FocP}} \textit{wh}_2 [{}_{\text{TP}} \dots t_1 \dots t_2 \dots ] ] ]$$

Although this *wh*-movement to the clause edge is generally covert in Japanese, in the derivation of sluicing as in (15), any and all *wh*-phrases must move to Spec,FocP or higher in order to satisfy the identity of the deleted TP in the B clause with the corresponding TP in the antecedent clause at LF.

Our derivations for contrast sluicing presented in (15) necessitate movement of the *wh*-phrases to the edge of the clause, outside of the ellipsis site. As Fukaya (2003, 2007) has observed, contrast sluicing in Japanese is island-sensitive, lending support for the movement-and-deletion account. We note however that non-contrastive sluicing is generally not island-sensitive in Japanese; see footnote 2. The derivation in (15) may therefore reflect just one possible derivational source for non-contrastive sluicing in Japanese, with additional pseudosluicing derivations also possible.

We will now demonstrate how this proposal accounts for the observed contrasts in Japanese contrast sluicing. We begin with contrast sluicing where the lower *wh*-phrases' domains contrast:

(16) **Contrast sluicing against the lower *wh*, as in (6):**

a. Antecedent clause at LF:

$$A = [\textit{dono seito-ga}_1 [{}_{\text{FocP}} \textit{KITATOO-no dono kyooshitsu-o}_2 [{}_{\text{TP}} t_1 t_2 \textit{sooji-shi-ta}]]]$$

b. Remnant derivation:

$$B = [\textit{dono seito-ga}_1 [{}_{\text{FocP}} \textit{MINAMITOO-no dono kyooshitsu-o}_2 [{}_{\text{TP}} t_1 t_2 \textit{sooji-shi-ta}]]]$$

c. Remnant derivation with argument ellipsis of the higher *wh*:

$$B = [\textit{dono seito-ga}_1 [{}_{\text{FocP}} \textit{MINAMITOO-no dono kyooshitsu-o}_2 [{}_{\text{TP}} t_1 t_2 \textit{sooji-shi-ta}]]]$$

Our proposal (15b) applied to the question 'Which student cleaned which SOUTH BUILDING classroom' in (16b) yields a multiple *wh* remnant in (16) — this variant is indeed grammatical, as predicted. For the derivation of (6) with just one *wh*-phrase in the remnant, we apply *argument ellipsis* to the higher *wh*-phrase as in (16c). Japanese independently has an operation of argument ellipsis which targets individual DP arguments, while preserving a quantificational interpretation (Oku 1998; Saito 2007; Takahashi 2008;



among others). Recall that the higher *wh*-phrase in a multiple *wh*-question is not a regular interrogative phrase but instead functions as a universal quantifier. Because Japanese argument ellipsis can apply to regular universal quantifiers, we apply this same operation in (16c) to yield the grammatical example (6).

Next, we turn to the case where the domains of the higher *wh*-phrases contrast. Here the grammatical remnant derivation with deletion of the complement of Focus in (17b) yields the grammatical example (8).

(17) **Contrast sluicing against the higher *wh* in (7) and (8):**

a. Antecedent clause at LF:

A = [A-GUMI-no dono seito-ga<sub>1</sub>  
[<sub>FocP</sub> dono kyooshitsu-o<sub>2</sub> [<sub>TP</sub> t<sub>1</sub> t<sub>2</sub> sooji-shi-ta]]]

b. Remnant derivation for grammatical (8):

B = [B-GUMI-no dono seito-ga<sub>1</sub>  
[<sub>FocP</sub> dono kyooshitsu-o<sub>2</sub> [<sub>TP</sub> t<sub>1</sub> t<sub>2</sub> sooji-shi-ta]]]

c. Derivation with illicit FocP deletion, for ungrammatical (7):

B = [B-GUMI-no dono seito-ga<sub>1</sub>  
[<sub>FocP</sub> ~~dono kyooshitsu-o<sub>2</sub>~~ [<sub>TP</sub> t<sub>1</sub> t<sub>2</sub> sooji-shi-ta]]]

Contrast sluicing with just the contrasting, higher *wh*-phrase in the remnant would require deletion of a different category, such as the entire FocP (17c), which is not allowed under our proposal: sluicing is specifically deletion of the complement of Focus. This explains the ungrammaticality of (7).

A result of this proposal is that with contrasting higher *wh*-phrases, there is no grammatical contrast sluicing with pair-list interpretation with just one *wh*-phrase in the remnant. Note that it is independently impossible to apply argument ellipsis to the higher *wh*-phrase, as we did in (16c), because contrastive phrases cannot be elided (Tancredi 1992; Merchant 2001; among others) and also because the the deleted material would in this case be unrecoverable (see Fiengo and Lasnik 1972).

## 1.5 Conclusion

The novel data we presented in section 1.2 led to a puzzle: with contrast sluicing between multiple *wh*-questions, the lower *wh*-phrase must always be retained in the contrast sluicing remnant, even if it does not contrast from the lower *wh*-phrase in the antecedent clause. Taking a hint from Hungarian, this is explained by our account based on the differing semantic function and syntactic positions of *wh*-phrases in multiple *wh*-questions. Sluicing in Japanese is deletion of the complement of the Focus head, as has been independently proposed for Hungarian (van Craenenbroeck and Lipták 2006; Griffiths and Lipták 2014).

## 2 A Disjointness Requirement on Contrasting Questions

We now turn to the nature of contrast in contrast sluicing. In contrast sluicing, a remnant *wh*-phrase contrasts in its nominal domain with its correlate *wh*-phrase in the antecedent. In many cases, the contrasting nominal domains are required to be *disjoint*:

- (18) I don't remember [<sub>A</sub> which SEMANTICISTS we invited], and I also can't recall...
- a. <sup>ok</sup> [<sub>B</sub> which SYNTACTICIANS (we invited)].
  - b. \* [<sub>B</sub> which LINGUISTS (we invited)].

Example (18b) is judged as ungrammatical or infelicitous unless semanticists are understood to not be linguists, contrary to fact. Note that this requirement holds of contrasting questions as well as of contrast sluicing in (18). (The equivalent of (18b) in Japanese is also similarly degraded.)

### 2.1 Background: Contrastive Topics and Discourse Strategies

Positions of contrast between assertions are encoded using *focus* (F-marking). Matching assertions such as A and B in (19) are then evaluated for congruence of focus alternatives; see e.g. Rooth (1985, 1992) for details.

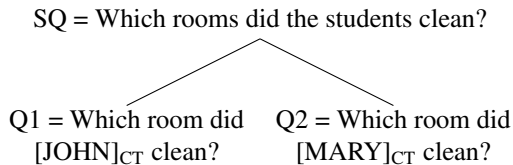
- (19) It's false to say that [<sub>A</sub> Dave [BOUGHT]<sub>F</sub> a new bicycle]; [<sub>B</sub> he [STOLE]<sub>F</sub> a new bicycle]!

Similarly, sets of questions can contrast using *contrastive topics* (CT) (Büring 2003, Constant 2014), with these CTs also encoded in their corresponding answers. Consider the conversation in (20):

- (20) Q1: [Which room]<sub>F</sub> did [JOHN]<sub>CT</sub> clean?  
 A1: [JOHN]<sub>CT</sub> cleaned [room number 3]<sub>F</sub>.  
 Q2: Okay. Then, [which room]<sub>F</sub> did [MARY]<sub>CT</sub> clean?  
 A2: [MARY]<sub>CT</sub> cleaned [room number 2]<sub>F</sub>.

We follow the notion of discourse strategies and sub-questions from Rojas-Esponda (2014). Questions with CTs are required to be sister sub-questions in a discourse strategy (21) which together address a super-question (SQ).

- (21) **The discourse strategy for (20):**

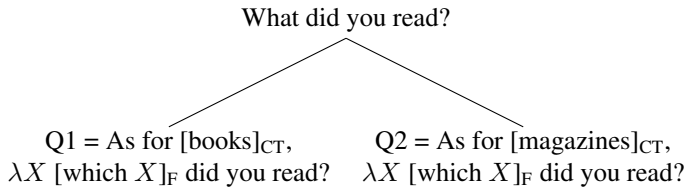


Relevantly for our purposes, this notion of sub-questions in a discourse strategy requires that *contrastive topics are themselves disjoint*.

## 2.2 Proposal

We propose that contrasting nominal domains in contrast sluicing are contrastive topics embedded within *wh*-phrases, which are themselves formally F-marked. This is reflected in the questions in (22) (answers omitted):

- (22) Q1: [Which [BOOKS]<sub>CT</sub>]<sub>F</sub> did you read?  
 Q2: Then, [which [MAGAZINE]<sub>CT</sub>]<sub>F</sub> did you read?
- (23) **The discourse strategy for (22/24):**



The disjointness requirement on contrast sluicing and contrasting questions immediately follows from the disjointness of contrastive topics.

Note that CTs must scope higher than focused phrases by LF (Constant 2014). We can explicitly observe this separation of the nominal domain CT and the containing *wh*-phrase in Japanese: the extracted, contrasting nominal domain takes CT-marking (contrastive *wa*) in Q2', which is equivalent to Q2:

- (24) Q1: [Dono [HON]<sub>CT-O</sub>]<sub>F</sub> yon-da no?  
           which book-ACC read-PAST Q
- Q2: Jaa, [dono [ZASSHI]<sub>CT-O</sub>]<sub>F</sub> yon-da no?  
       then which magazines-ACC read-PAST Q
- Q2': Jaa, [ZASSHI-wa]<sub>CT</sub> [dore t -o]<sub>F</sub> yon-da no?  
       then magazines-CT which -ACC read-PAST Q

## 2.3 Counterexamples to the Disjointness Constraint

The disjointness constraint can be violated by changing the rhetorical relation between the embedding clauses. For example, Chris Tancredi (p.c.) notes that questions in consequences with *so/therefore* do not require disjointness:

- (25) I don't remember [<sub>A</sub> which LINGUISTS came to the party], so/therefore it follows that I don't remember [<sub>B</sub> which SEMANTICISTS came].

We would explain such cases as involving differing discourse moves than the traversal between sister sub-questions. Disjointness is only forced between sister questions, but not between sub-questions and super-questions (B and A in (25)) or between other questions that we a discourse might move between. We will however leave a fuller discussion of possible rhetorical relations and discourse moves for future work.



## 2.4 Conclusion

We have motivated a disjointness requirement on nominal domains in contrast sluicing and their unreduced contrasting question variants, active in both Japanese and English. Our proposal derives this disjointness from the status of contrasting nominal domains of *wh*-phrases: they are (generally) contrastive topics and therefore must be disjoint. Our account also accounts for a range of apparent counterexamples, in section 2.3, where the contrasting nominal domains instead function as foci rather than contrastive topics.

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## References

- Brody, M. (1995). Focus and checking theory. In Kenesei, I., editor, *Approaches to Hungarian V: Levels and structures*, pages 29–44. Szeged: JATE.
- Büring, D. (2003). On D-trees, Beans, and B-accents. *Linguistics & Philosophy*, 26:511–545.
- Chierchia, G. (1993). Questions with quantifiers. *Natural Language Semantics*, 1:181–234.
- Constant, N. (2014). Contrastive topic: Meanings and realizations. PhD thesis, UMass Amherst.
- Dayal, V. (1996). *Locality in WH quantification: Questions and Relative Clauses in Hindi*. Kluwer Academic Publishers.
- Dayal, V. (2002). Single-pair versus multiple-pair answers: *wh*-in-situ and scope. *Linguistic Inquiry*, 33(3):512–520.
- É Kiss, K. (1987). *Configurationality in Hungarian*. Dordrecht: Reidel.
- É Kiss, K. (2002). *The syntax of Hungarian*. Cambridge: Cambridge University Press.
- Fiengo, R. and Lasnik, H. (1972). On nonrecoverable deletion in syntax. *Linguistic Inquiry*, 3:528.
- Fukaya, T. (2003). Island (in) sensitivity in Japanese sluicing and stripping and some implications. In *Proceedings of WCCFL 22*, pages 179–192.
- Fukaya, T. (2007). Sluicing and stripping in Japanese and some implications. PhD thesis, University of Southern California.
- Fukaya, T. and Hoji, H. (1999). Stripping and sluicing in Japanese and some implications. In *Proceedings of WCCFL 18*, pages 145–158.

- Griffiths, J. and Lipták, A. (2014). Contrast and island sensitivity in clausal ellipsis. *Syntax*, 17:189–234.
- Hiraiwa, K. and Ishihara, S. (2002). Missing links: Cleft, sluicing, and the “no *da*” construction in Japanese. In *Proceedings of HUMIT 2001*, pages 35–54. MITWPL.
- Kizu, M. (2000). A note on sluicing in *wh*-in-situ languages. In *Proceedings of the 9th Student Conference in Linguistics (SCIL 9)*, pages 143–159. MITWPL.
- Kotek, H. (2014). Composing questions. PhD thesis, MIT.
- Kuno, S. (1982). The focus of the question and the focus of the answer. *Proceedings of CLS 18*, pages 134–157.
- Merchant, J. (1998). ‘Pseudosluicing’: Elliptical clefts in Japanese and English. In Alexiadou, A., Fuhrhop, N., Law, P., and Kleinhenz, U., editors, *ZAS Papers in Linguistics 10*, pages 88–112.
- Merchant, J. (2001). *The syntax of silence: Sluicing, islands, and the theory of ellipsis*. Oxford: Oxford University Press.
- Merchant, J. (2008). Variable island repair under ellipsis. In *Topics in ellipsis*, ed. Kyle Johnson, pages 132–153. Cambridge: Cambridge University Press.
- Nishigauchi, T. (1990). *Quantification in the theory of grammar*. Kluwer.
- Oku, S. (1998). A theory of selection and reconstruction in the minimalist program. PhD thesis, University of Connecticut.
- Pesetsky, D. M. (2000). *Phrasal movement and its kin*. Cambridge, Mass.: MIT Press.
- Rojas-Esponda, T. (2014). A discourse model for *überhaupt*. *Semantics & Pragmatics*, 7:1–45.
- Rooth, M. (1985). Association with Focus. PhD thesis, UMass Amherst.
- Rooth, M. (1992). A theory of focus interpretation. *Natural Language Semantics*, 1:75–116.
- Ross, J. R. (1969). Guess who. In *Proceedings of CLS 5*, pages 252–286.
- Sag, I. A. (1976). *Deletion and logical form*. PhD thesis, MIT.
- Saito, M. (2007). Notes on East Asian argument ellipsis. *Language Research*, 43:203–227.
- Shimoyama, J. (1995). On ‘sluicing’ in Japanese. Manuscript, UMass Amherst.
- Szabolcsi, A. (1997). Strategies for Scope Taking. In *Ways of Scope Taking*, ed. Anna Szabolcsi, pages 109–154. Dordrecht: Kluwer.
- Takahashi, D. (1993). Movement of *wh*-phrases in Japanese. *Natural Language & Linguistic Theory*, 11(4):655–678.
- Takahashi, D. (1994). Sluicing in Japanese. *Journal of East Asian Linguistics*, 3:265–300.
- Takahashi, D. (2008). Quantificational null objects and argument ellipsis. *Linguistic Inquiry*, 39:307–326.
- Tancredi, C. D. (1992). *Deletion, deaccenting, and presupposition*. PhD thesis, MIT.
- van Craenenbroeck, J. and Lipták, A. (2006). The crosslinguistic syntax of sluicing: Evidence from Hungarian relatives. *Syntax*, 9:248–274.