

Missing Links: Cleft, Sluicing, and “No da” Construction in Japanese*

Ken Hiraiwa and Shinichiro Ishihara
Massachusetts Institute of Technology

This paper, through a close examination, builds missing links between three types of focus constructions in Japanese: *Cleft*, *Sluicing*, and so-called ‘No da’ *in-situ focus construction*. Adopting Rizzi’s (1997) articulated CP clause architecture, we demonstrate that these missing links are provided with a syntactic explanation. We also discuss a syntax-phonology interface phenomenon, namely, the interaction between the intonation pattern of wh-phrases and the *Clause-Mate Condition (CMC)*.

1. Introduction

Japanese has two types of focus constructions, Cleft and the ‘No da’ in-situ focus construction (cf., Koizumi 1995, Kuroda 1992, 1999, Matsuda 1997 for the former and Kuno 1973 for the latter). The syntactic derivations of these focus constructions, however, have not been sufficiently investigated in the literature. This paper demonstrates that Cleft and the ‘No da’ in-situ focus construction are derivationally linked via syntactic operations; more specifically, we will argue that the former is derived from the latter by a focus movement and a subsequent remnant CP topicalization. It will be shown that the proposed theory also builds the previously missing links between these two constructions and another focus construction, Sluicing.

The organization of the paper is structured as follows. Section 2 reviews various similarities between Cleft, the ‘No da’ in-situ focus construction, and Sluicing. We also establish the distinctions between Cleft and Pseudo-Cleft, as well as between Sluicing and Pseudo-Sluicing. Section 3, adopting Rizzi’s (1997) articulated CP structure, proposes a unified syntactic derivation of Cleft and the ‘No da’ in-situ focus construction. Section 4 investigates the nature of the Clause-Mate Condition (CMC) in Cleft and A'-movement in general. Section 5 discusses the prosodic nature of wh-phrases in Japanese and proposes *The Economy Principle on Interface Operations (EPIO)*. Section 6 focuses on another missing link to Sluicing in Japanese. Section 7 concludes the discussion.

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2. Varieties of Focus Constructions in Japanese This section focuses on explicating properties of three kinds of focus constructions: Cleft, the ‘No da’ in-situ focus construction, and Sluicing and of their pseudo-counterparts.

2.1 Cleft and Pseudo-Cleft

There are two types of Cleft constructions in Japanese (cf. Kuroda 1999). We call (1a) and (1b) Cleft and Pseudo-Cleft, respectively.

- (1) a. [Taro-ga tabeta no]-wa **kono-ringo-o** (3-tu) da
 Taro-NOM ate C-TOP this-apple-ACC 3-CL COP
 ‘It is (three of) these apples that Taro ate.’
- b. [Taro-ga tabeta no]-wa **kono-ringo-ø** (3-tu) da
 Taro-NOM ate C-TOP this-apple-ø 3-CL COP

The only difference between (1a) and (1b) is that in Cleft (1a), the Case-particle or a postposition (PP) on the focused element is retained, whereas it is absent in Pseudo-Cleft (1b). (2) schematically represents the structures of (1a) and (1b).

- (2) a. Cleft: [CP ...e...]_{nominalized}-TOP XP_{Case/postposition} copula.
 b. Pseudo-Cleft: [CP ...e...]_{nominalized}-TOP XP-ø copula.

We will first present several empirical reasons for the bifurcation in (2).

2.1.1 Multiple Cleft

First, Cleft in Japanese allows Multiple Cleft. In (3a), two elements are in the focus position (cf. Koizumi 1995). In contrast, Pseudo-Cleft is incompatible with multiple foci, as shown in (3b).

- (3) a. [Taro-ga ageta no]-wa **Hanako-ni ringo-o** (3-tu) da
 Taro-NOM gave C-TOP Hanako-DAT apple-ACC 3-CL COP
 ‘(Lit.) It is (three) apples to Hanako that Taro gave.’
- b. *[Taro-ga ageta no]-wa **Hanako-ø ringo-o** (3-tu) da
 Taro-NOM gave C-TOP Hanako-ø apple-ACC 3-CL COP

As (4) shows, Multiple Cleft requires that all of the focused elements retain Case-particles.

- (4) a. *[Taro-ga ageta no]-wa **Hanako-ni ringo-ø** (3-tu) da
 Taro-NOM gave C-TOP Hanako-DAT apple-ø 3-CL COP
 ‘(Lit.) It is (three) apples to Hanako that Taro gave.’
- b. *[Taro-ga ageta no]-wa **Hanako-ø ringo-o** (3-tu) da
 Taro-NOM gave C-TOP Hanako-ø apple-ACC 3-CL COP

2.1.2 *Island effects*

Secondly, Cleft but not Pseudo-Cleft exhibits an island sensitivity.

- (5) a. *[John-ga [[e_i e_j kaita] hito_i]-o hihansita no]-wa
 John-NOM wrote person-ACC criticized C-TOP
kono-ronbun- θ_j da
 this paper-ACC COP
 ‘(Lit.) It is this paper_j that John criticized the person who wrote e_j .’
- b. [John-ga [[e_i e_j kaita] hito_i]-o hihansita no]-wa
 John-NOM wrote person-ACC criticized C-TOP
kono-ronbun- \emptyset_j da
 this paper- \emptyset COP

In the Cleft sentence (5a), the focused DP has been extracted out of the complex NP and the sentence results in ungrammaticality. In contrast, the Pseudo-Cleft sentence (5b) is immune from the island effect. This strongly indicates that Cleft involves movement whereas Pseudo-Cleft does not (cf. Section 3).

2.1.3 *NP-substitution*

Third, in Cleft, the complementizer *-no* of the topicalized clause cannot be substituted with an NP or a pronoun, whereas such a substitution is possible in Pseudo-Cleft.

- (6) a. [Taro-ga tabeta **no/*mono/*kudamono**]-wa **ringo-o**
 Taro-NOM ate C/thing/fruit-TOP apple-ACC
 (3-tu) da
 3-CL COP
 ‘The thing that Taro ate is (three) apples.’
- b. [Taro-ga tabeta **no/mono/kudamono**]-wa **ringo- \emptyset**
 Taro-NOM ate C/thing/fruit-TOP apple- \emptyset
 (3-tu) da
 3-CL COP
 ‘The thing/fruit that Taro ate is (three) apples.’

2.1.4 *Nominative-Genitive Conversion (NGC)*

In Japanese, a nominative DP optionally alternates with a genitive DP in a structure in which a verb takes an adnominal form. This is called Nominative-Genitive Conversion (NGC) (cf. Hiraiwa 2002). Significantly, Cleft resists NGC, whereas Pseudo-Cleft allows NGC, even though the predicate adnominal form is present in both of them.

- (7) a. [Taro-**ga**? **no** tabeta no]-wa **kono-ringo-o** (3-tu) da
 Taro-NOM/GEN ate(ADN) C-TOP this-apple-ACC 3-CL COP
 ‘It is (three of) these apples that Taro ate.’

- b. [Taro-**ga/no** tabeta no]-wa **kono-ringo-ø** (3-tu) da
 Taro-NOM/GEN ate(ADN) C-TOP this-apple-ø 3-CL COP

2.1.5 Clause-Mate Condition (CMC)

Another point worth mentioning is that Multiple Cleft is allegedly subject to the Clause-Mate Condition (CMC): elements undergoing Multiple Cleft must be clause-mates (cf. Koizumi 1995).¹

- (8) a. Hanako-ga sensei-ni [Taro-ga kono-ringo-o tabeta
 Hanako-NOM teacher-DAT Taro-NOM this-apple-ACC ate
 to] iituketa
 C told
 ‘Hanako told the teacher that Taro ate this apple.’
- b. *[Hanako-ga e_i [Taro-ga e_j tabeta to] iituketa no]-wa
 Hanako-NOM Taro-NOM ate C told C-TOP
sensei-ni_i kono-ringo-o_j da
 teacher-DAT this-apple-ACC COP
 ‘(Lit.) It is the teacher, this apple that Hanako told that Taro ate.’
- c. [Hanako-ga sensei-ni [e_i e_j tabeta to] iituketa no]-wa
 Hanako-NOM teacher-DAT ate C told C-TOP
Taro-ga_i kono-ringo-o_j da
 Taro-NOM this-apple-ACC COP
 ‘(Lit.) It is Taro, this apple that Hanako told the teacher that ate.’

(8b) and (8c) are Multiple Cleft sentences derived from the base sentence (8a). In (8b) the matrix dative argument and the embedded accusative argument have been clefted and the sentence results in ungrammaticality, whereas in (8c), multiple clefting of embedded clause-mates is licit.

2.2 ‘No da’ in-situ focus construction

The ‘No da’ in-situ focus construction is a construction where the entire matrix clause is headed by the nominalizer *-no* followed by the copula *-da*. (cf. Kuno 1973).

- (9) [_{CP} Taro-ga kono-ringo-o tabeta **no**] **da**
 Taro-NOM this-apple-ACC ate C COP
 ‘It is that Taro ate this apple.’

Any phrase in the nominalized CP that has phonological prominence receives a narrow focus interpretation.

¹ CMC is irrelevant for Pseudo-Cleft since it disallows multiple foci (cf. (3b) and (4)).

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- (10) a. [_{CP} TARO-ga kono-ringo-o tabeta **no**] **da**
 Taro-NOM this-apple-ACC ate C COP
 ‘It is Taro who ate this apple.’
- b. [_{CP} Taro-ga KONO-RINGO-o tabeta **no**] **da**
 Taro-NOM this-apple-ACC ate C COP
 ‘It is this apple that Taro ate.’
- c. [_{CP} Taro-ga kono-ringo-o TABETA **no**] **da**
 Taro-NOM this-apple-ACC ate C COP
 ‘Taro did eat this apple.’

Significantly, the ‘No da’ in-situ focus construction shows syntactic properties parallel with Cleft. Just like Cleft, for example, multiple foci is licit with the ‘No da’ in-situ focus construction (cf. Section 2.1.1).

- (11) [_{CP} TARO-ga KONO-RINGO-o tabeta **no**] **da**
 Taro-NOM this-apple-ACC ate C COP
 ‘(Lit.) It is Taro, this apple that (he) ate’

Second, a complementizer *-no* cannot undergo an NP/pronominal substitution (cf. Section 2.1.3).

- (12) [_{CP} TARO-ga kono-ringo-o tabeta **no/*mono/*kudamono**] **da**
 Taro-NOM this-apple-ACC ate C/thing/fruit COP
 ‘It is Taro who ate this apple.’

Furthermore, it is significant to note that the ‘No da’ in-situ focus construction resists NGC (cf. Section 2.1.4).

- (13) [_{CP} TARO-**ga/*no** kono-ringo-o tabeta **no**] **da**
 Taro-NOM/GEN this-apple-ACC ate C COP
 ‘It is Taro who ate this apple.’

Lastly, in contrast with Cleft (cf. Section 2.1.2 and 2.1.5), the ‘No da’ in-situ focus construction is immune from the island effect (cf. (14)) and the CMC (cf. (15)), which are of particular importance in the discussion that follows.

- (14) [John-ga [[_{e_i} KONO-RONBUN-O kaita] hito]_i-o hihansita
 John-NOM this-paper-ACC wrote person-ACC criticized
 no] **da**
 C COP
 ‘(Lit.) It is this paper that John criticized the person who wrote (it).’
- (15) [Hanako-ga SENSEI-ni [Taro-ga KONO-RINGO-o tabeta to]
 Hanako-NOM teacher-DAT Taro-NOM this-apple-ACC ate C
 iituketa **no**] **da**.
 told C COP
 ‘Hanako told the teacher that Taro ate this apple.’

2.3 Sluicing

Sluicing is another focus construction in Japanese. Fukaya and Hoji (1999) argue that Sluicing comes in two types in Japanese: Sluicing (cf. (16a)) and Pseudo-Sluicing (cf. 16b)), depending on the presence of Case-particles.²

- (16) Taro-ga Hanako-ni nanika-o ageta rasii ga...
 Taro-NOM Hanako-DAT something-ACC gave seem but
 ‘It seems that Taro gave Hanako something, but...’
- a. Boku-wa [**nani-o** (da) ka] wakara-nai
 I-TOP what-ACC COP Q know-not
 ‘I don’t know what.’
- b. Boku-wa [**nani-ø** (da) ka] wakara-nai
 I-TOP what-ø COP Q know-not

Not surprisingly, the bifurcation between Sluicing and Pseudo-Sluicing exactly patterns with the one between Cleft and Pseudo-Cleft that we established in Section 2.1. Multiple Sluicing, island effects, and NP-substitution are illustrated in (17)–(19), respectively.

- (17) Taro-ga dareka-ni nanika-o ageta rasii ga...
 Taro-NOM someone-DAT something-ACC gave seem but
 ‘It seems that Taro gave someone something, but...’
- a. Boku-wa [**dare-ni nani-o**] (da) ka wakara-nai
 I-TOP who-DAT what-ACC COP Q know-not
 ‘I don’t know who, what.’
- b. *Boku-wa [**dare-ø nani-ø**] (da) ka wakara-nai
 I-TOP who-ø what-ø COP Q know-not
- (18) John-wa [[otooto-ni nanika-o okutte] hito]-o
 John-TOP brother-DAT something-ACC sent person-ACC
 syootaisita rasii ga,
 invited seem but
 It seems that John invited a person who had send something to his
 brother, but...’
- a. *Boku-wa [**nani-o** (da) ka] sira-nai
 I-TOP what-ACC COP Q know-not
 ‘I don’t know what.’
- b. Boku-wa [**nani-ø** (da) ka] sira-nai
 I-TOP what-ø COP Q know-not

² Fukaya and Hoji (1999) term the two variants, Case-Marked Sluicing and Non-Case-Marked Sluicing. We will use, however, the terms Sluicing and Pseudo-Sluicing throughout this paper. See Fukaya and Hoji (1999) for more empirical evidence for the bifurcation between Cleft and Pseudo-Cleft.

- (19) Mary-ga nanika-o katta rasii ga, ...
 Mary-NOM something-ACC bought seem but ...
 ‘It seems that Mary bought something, but...’
- a. *Boku-wa [sore-ga nani-o (da) ka] wakara-nai
 I-TOP it-NOM what-ACC COP Q know-not
 ‘I don’t know what it is.’
- b. Boku-wa [sore-ga nani- \emptyset (da) ka] wakara-nai
 I-TOP it-NOM what- \emptyset COP Q know-not

There is one striking discrepancy between Cleft and Sluicing, however. Significantly, the Clause-Mate Condition is not observed in Sluicing (cf. Nishigauchi 1998).

- (20) Hanako-ga dareka-ni [Taro-ga nanika-o tabeta to]
 Hanako-NOM someone-DAT Taro-NOM something-ACC ate C
 iituketa rasii ga boku-wa dare-ni nani-o (da) ka wakara-nai
 told seem but I-TOP who-DAT what-ACC COP Q know-not
 ‘It seems that Hanako told someone that Taro ate something, but I don’t know to whom what.’

In (20), the matrix dative argument and the embedded accusative argument have undergone Sluicing, which is perfectly grammatical.

The results of the various diagnostic tests obtained above are summarized in (21).

(21)	Multiple foci	Island	NP-substitution	CMC	NGC
Cleft	yes	yes	no	yes	no
Sluicing	yes	yes	no	no	n/a
‘No da’	yes	no	no	no	no
Pseudo-Cleft	no	no	yes	n/a	yes
Pseudo-Sluicing	no	no	yes	n/a	n/a

We have demonstrated that Cleft and the ‘No da’ in-situ focus construction patterns quite similarly. The only differences are the absence of the island effect and the CMC in the latter. We have also seen that Cleft and Sluicing exhibit a non-trivial parallelism, with the only discrepancy on the applicability of the CMC. In the following sections, we will elucidate the ‘missing syntactic links’ between these three focus constructions.^{3, 4}

³ Due to space limitation, we will not discuss Pseudo-Cleft and Pseudo-Sluicing in this paper. Given the evidence obtained in Section 2 (in particular the absence of multiple foci and island effects and the availability of NP-substitution), they can be analyzed as some kind of base-generated constructions, presumably some kind of equative (copula) constructions.

⁴ The question arises why Sluicing in Japanese does not exhibit ‘island repair’ effects in contrast with many other languages (cf. Merchant 2001). Possibly, the absence of island repair may be related to some difference in the nature of focus, but we leave the issue for future research.

3. Syntactic Derivation: Cleft and ‘No da’ In-situ Focus Construction

The preceding section has shown that there is a striking parallelism between Cleft and the ‘No da’ in-situ focus construction, repeated here as (22) and (23), respectively.

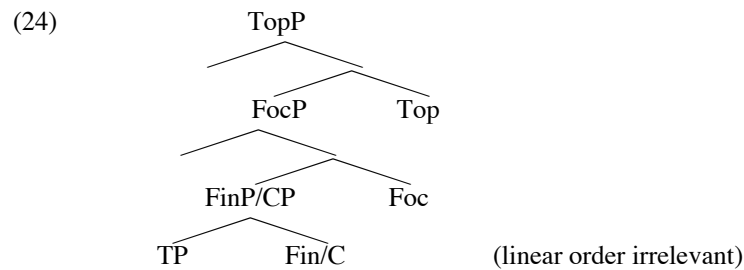
- (22) [Taro-ga e_i tabeta **no**]-wa **kono-ringo-o**_i (3-tu) **da**
 Taro-NOM ate C-TOP these-apples-ACC (3-CL) COP
 ‘It is (three of) these apples that Taro ate.’

- (23) [_{CP} Taro-ga **KONO-RINGO-o** (3-u) tabeta **no**] **da**
 Taro-NOM these-apples-ACC (3-CL) ate C COP
 ‘It is (three of these) apples that Taro ate.’

A natural reasoning, then, is that there is a syntactic connection between the two focus constructions in question.

3.1 Clause architecture: Split CP and focus movement

The key to the elucidation of the missing link between Cleft and the ‘No da’ in-situ focus construction is Rizzi’s (1997) articulated CP clause architecture. Rizzi (1997) proposes that the left periphery CP-domain is more elaborated and decomposed into several functional heads, as in (24).⁵



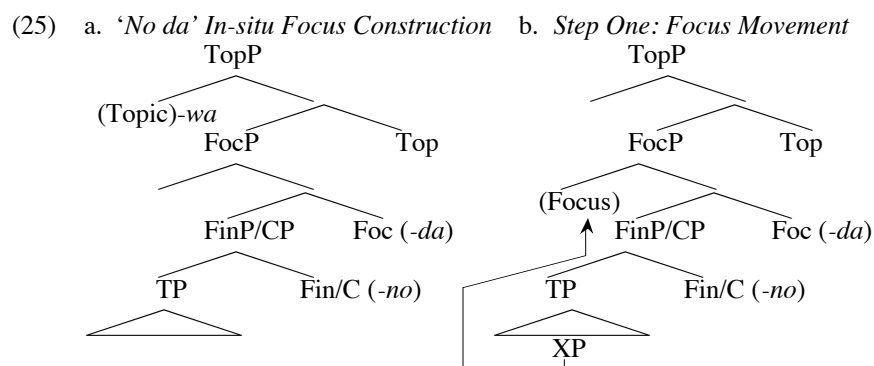
A topicalized element occupies [Spec, TopP] and a focused element, [Spec, FocP]. The locus of the complementizer is the Fin/C head position in (24).

3.2 Focus movement and topicalization of the remnant CP

Now, we propose, adopting Rizzi’s articulated CP structure, that the underlying structure for Cleft is the ‘No da’ in-situ focus construction and the former is derived from the latter via two syntactic operations.

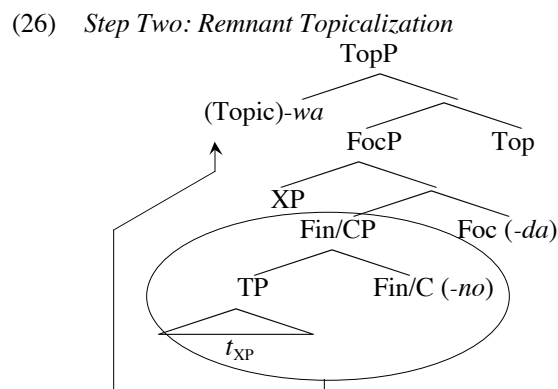
Under Rizzi’s (1997) Split CP architecture adopted in (24), (25a) is the structure of the ‘No da’ in-situ focus construction. We propose that the element in the focus position of Cleft has undergone a *focus movement* to [Spec, FocP], which is headed by the copula focus maker *-da*.

⁵ Rizzi (1997) actually proposes that there is another TopP sandwiched between FinP and FocP. We will assume, however, that this position is not ‘active’ in Modern Japanese. See Watanabe (2001) for some discussions of Classical Japanese.



A remark on the copula *-da* is in order here. We assume that in Cleft, the copula *-da* is a grammaticalized focus particle/marker that heads FocP. Chris Collins (p.c.) points out that a copula in fact tends to be grammaticalized into a focus particle cross-linguistically.⁶

Now at the next step of derivation, after the focus movement of the focused element, the *remnant* nominalized FinP/CP in (25b) is topicalized (with a topic marker *-wa*) and moved to [Spec, TopP], which is right above the FocP under the split CP system, as shown in (26).



It should be noted that the two syntactic operations in (25b) and (26) derive the exact surface structure of Cleft from the underlying ‘No *da*’ in-situ focus construction (25a), without any unnecessary stipulation. Thus Cleft and the ‘No *da*’ in-situ focus construction are derivationally linked.

The proposed syntactic derivation of Cleft and the ‘No *da*’ in-situ focus construction straightforwardly explains their syntactic parallelism observed in Section 2; the island effect is observed in Cleft exactly due to the syntactic focus movement in (25b). The ‘No *da*’ in-situ focus construction, on the other hand, is a focus construction *without any syntactic focus movement* and therefore is immune from the island effect; the unavailability of NP-substitution and NGC in

⁶ See Ore (1990) for Yoruba. Cf. also Pulaar and Chinese. We are grateful to Chris Collins for the observation, which was originally made to him by John Whitman.

both of them is expected since they are in a syntactic derivative relation.⁷ Furthermore, it is worth noting that our proposed derivation also naturally accounts for the distribution of the Case particles in Cleft; as (22) shows, the focused element in Cleft has a Case-marker assigned by the predicate in the topicalized CP. Only the proposed syntactic focus movement in (25b) provides us with a natural account for the Case-matching phenomena in Cleft.⁸

3.3 Focus movement ≠ A'-scrambling

Before closing this section, we would like to provide evidence for the alleged existence of focus movement in Japanese and show that what we call focus movement is not an A'-scrambling.⁹

Saito (1989) argues that long-distance scrambling (LDS) is undone at LF, based on the fact that a *wh*-phrase that has undergone LDS is properly interpreted in-situ. He calls this Radical Reconstruction.

- (27) a. Taro-ga [Hanako-ga **nani-o** tabeta **ka**] siri-tagatteiru.
 Taro-NOM Hanako-NOM what-ACC ate Q know-want
 'Taro wants to know what Hanako ate.'
- b. ?**nani-o**_i Taro-ga [Hanako-ga *t*_i tabeta **ka**] siritagatteiru.
 what-ACC Taro-NOM Hanako-NOM ate Q know-want
 'Taro wants to know what Hanako ate.'

Significantly, focus movement in the derivation of Cleft does not exhibit the 'radical reconstruction' property, which is typical of LDS.

- (28) *[Taro-ga [Hanako-ga *t*_i tabeta **ka**] siritagatteiru no]-wa
 Taro-NOM Hanako-NOM ate Q know-want C-TOP
nani-o_i da
 what-ACC COP
 'It is what that Taro wants to know Hanako ate.'

This indicates that what we call focus movement is a syntactic operation distinct from scrambling.

3.4 Interim summary

Summarizing the discussions so far, we have proposed that Cleft is derivationally linked with the 'No da' in-situ focus construction; more

⁷ See Hiraiwa (2002: Appendix) for detailed discussions about why NGC is illicit in the 'No da' focus in-situ construction and other related constructions.

⁸ Matsuda (1997) also proposes a CP topicalization analysis of Cleft, although her analysis crucially differs from ours in that she assumes a null operator movement instead of the focus movement in (25b). The analysis without focus movement has at least one problem, however; it is difficult to account for Case-matching effect, since there is no direct syntactic Case relation between the null operator and the focused element in her analysis.

⁹ The fact that Cleft is not clause-bound and long-distance dependency is allowed trivially shows that the alleged focus movement is not A-scrambling/movement (cf. (8c)).

specifically, we have argued that the former is derived from the latter via two syntactic operations, focus movement and remnant topicalization, and shown that the proposed analysis explains the cluster of the syntactic properties shared by them.


4. Clause-Mate Condition (CMC)

One more important aspect of Cleft, however, has not been discussed yet under the proposed analysis, namely, the Clause-Mate Condition (henceforth, CMC). Let us look at the nature of the CMC in detail here.

First of all, it is important to notice that the CMC effect is not observed in a Multiple Cleft sentence when the clefted phrases are wh-phrases:

- (29) a. *Naoya-ga t_i [Mari-ga t_j nonda to] iituketa no wa
 Naoya-NOM Mari-NOM drank C told C TOP
Yumi-ni_i wain-o_j da
 Yumi-DAT wine-ACC COP
 ‘(Lit.) It is to the Yumi_i, wine_j that Naoya told t_i that Mari drank t_j .’
- b. Naoya-ga t_i [Mari-ga t_j nonda to] iituketa no wa
 Naoya-NOM Mari-NOM drank C told C TOP
dare-ni_i nani-o_j na no?
 who-DAT what-ACC COP Q
 ‘(Lit.) To whom_i what_j is it that Naoya told t_i that Mari drank t_j ?’

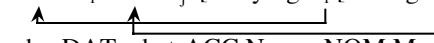
Furthermore, it should be also noted that A'-scrambling also exhibits the CMC effect. When two non-clause-mate phrases are A'-scrambled to the same clause, the sentence is ungrammatical.¹⁰

- (30) a. Naoya-ga **Yumi-ni** [Mari-ga **wain-o** nonda to] iituketa
 Naoya-NOM Yumi-DAT Mari-NOM wine-ACC drank C told
 ‘Naoya told the Yumi that Mari drank wine.’
- b. ***Yumi-ni_i wain-o_j** [Naoya-ga t_i [Mari-ga t_j nonda to] iituketa]

 Yumi-DAT wine-ACC Naoya-NOM Mari-NOM drank C told

This fact suggests that the CMC is not a property unique to Cleft, but rather a more general constraint.

Just like the Cleft case in (29b), wh-phrases are again exempt from the CMC in the A'-scrambling case. When two wh-phrases originating from different clauses are A'-scrambled in the same way as (30b), the CMC effect disappears:

¹⁰ In example (30) and hereafter, we are assuming that the landing site of long distance scrambling is [Spec, CP] (in traditional notation; presumably [Spec, FinP/CP] in our terms), and hence, the matrix dative phrase *Yumi-ni* ‘Yumi-DAT’, which is scrambled outside the long-distance scrambled phrase, is also in [Spec, CP]. Therefore both movements count as A'-scrambling.

- (31) a. Naoya-ga **dare-ni** [Mari-ga **nani-o** nonda to]
 Naoya-NOM who-DAT Mari-NOM what-ACC drank C
 iituketa no?
 told Q
 ‘To whom did Naoya tell that Mari drank what?’
- b. **dare-ni_i** **nani-o_j** [Naoya-ga t_i [Mari-ga t_j nonda to] iituketa no]?

 who-DAT what-ACC Naoya-NOM Mari-NOM drank C told Q

This fact further suggests that the CMC effect in Cleft and A'-scrambling be treated in the same fashion. Therefore, we claim that the CMC is a constraint that applies to A'-movement in general.

- (32) *Clause-Mate Condition (CMC)*
 Elements that are A'-moved to the specifier of the same head must be clause-mates.

We proposed above that the clefted phrases are moved to [Spec, FocP] via focus movement, which is an instance of A'-movement just like A'-scrambling (although they are not exactly the same operation, as shown in Section 3.3). If it is assumed that the CMC is a constraint that applies to both kinds of movement, the parallelism between Cleft and A'-scrambling can be accounted for.

There is, however, one peculiar exception to the generalization in (32); that is, movement of wh-phrases is exempt from the CMC, as shown in (29b) and (31b). The next section discusses this property of wh-phrases. We will present data that explain the peculiarity of wh-phrases, and accordingly maintain that our analysis of the CMC presented above is on the right track.

5. Wh-phrases in Japanese and an Economy Principle

In this section, we claim that wh-phrases have a certain special property that makes them exempt from the CMC. Specifically, we demonstrate that this CMC obviation effect is due to a special intonation pattern that wh-phrases obligatorily induce. We also propose an economy principle that explains an apparent counterexample to our analysis.

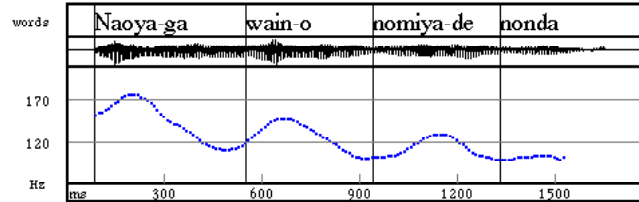
5.1 Prosodic focalization and deaccenting

Wh-questions have a special intonation pattern. There are two prosodic phenomena relevant for this intonation pattern. First, wh-phrases obligatorily receive prosodic prominence. When a pitch contour of wh-question is compared with that of a normal affirmative sentence, the wh-phrase exhibits a higher pitch (F_0) peak than the non-wh counterpart. Second, all the material following the wh-phrase is phonologically reduced. As a result, the pitch contour of this part is flattened. Let us look at the following example¹¹:

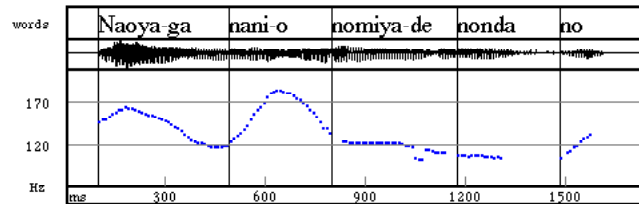
¹¹ Sound data of all the pitch contours in this paper are available at <http://web.mit.edu/s_i/www/>.

Missing Links: Cleft, Sluicing, and “*No da*” Construction in Japanese

- (33) a. Naoya-ga wain-o nomiya-de nonda
 Naoya-NOM wine-ACC bar-LOC drank
 ‘Naoya drank wine at the bar.’



- b. Naoya-ga nani-o nomiya-de nonda no?
 Naoya-NOM what-ACC bar-LOC drank Q
 ‘What did Naoya drink at the bar?’



In (33a), the second phrase is a non-wh-phrase *wain-o* ‘wine-ACC’. In (33b), on the other hand, the second phrase is a wh-phrase *nani-o* ‘what-ACC’. As is evident from the pitch contours above, the height of the second peak is higher in (33b) than (33a). The higher peak on the wh-phrase in (33b) indicates the prosodic prominence that wh-phrases always receive. We call this phenomenon *Prosodic Focalization* (henceforth, *P-focalization*).

Another important fact to be noted in (33a) and (33b) is that the third peak (which corresponds to the lexical accent on the PP *nomiya-de* ‘bar-LOC’) is sharply reduced in (33b), while it clearly appears in (33a).¹² It is a general property of Japanese prosody that after a P-focalized element, the pitch range is reduced, and accordingly the pitch contour is flattened. We call this phenomenon *Deaccenting*.^{13, 14}

¹² In general, the F_0 peak on the verb is always reduced (unless the verb is P-focalized). This is because the verb is always subject to *downstep* (Selkirk and Tateishi 1991, Kubozono 1993) (a.k.a. *catathesis*; Pierrehumbert and Beckman 1988). Since the pitch range of the verb is already reduced by downstep, F_0 peaks on the verb do not indicate the effect of deaccenting, which we are now interested in. Hence we ignore peaks on verbs in this paper.

¹³ The domain of deaccenting has a strong correlation with the scope of the wh-phrase: deaccenting continues until the question particle at which the wh-phrase inducing the deaccenting is interpreted. Therefore, in the case of matrix wh-questions, deaccenting continues until the end of the sentence, where the question particle *-no* or *-ka* appears. In the case of embedded questions, deaccenting stops at the end of the question clause, where the question particle *-ka* appears, and the pitch range is regained after it. See Ishihara (2002) for more detailed description of P-focalization and deaccenting.

¹⁴ In the case of sentences with multiple wh-phrases or multiple foci, deaccenting only takes place after the rightmost P-focalized phrase (cf. Nagahara 1994, Ishihara 2002).

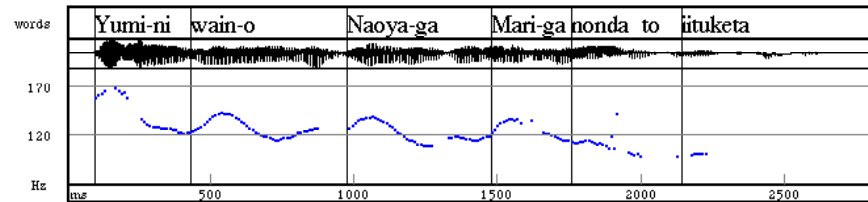
This intonation pattern (i.e., P-focalization + deaccenting) is in fact found not only in wh-questions, but also in any sentence containing a narrowly or contrastively focused phrase. Therefore a non-wh-phrase may be P-focalized and induce deaccenting if required by the discourse.

In sum, the generalization is the following: (i) P-focalization is obligatory for wh-phrases, while it is optional for non-wh-phrases; and, (ii) a P-focalized element obligatorily induces deaccenting of the following material.

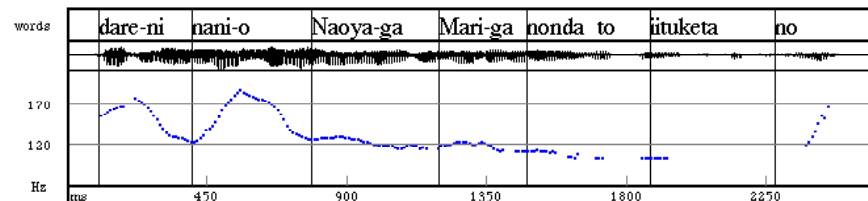
5.2 Obviation of the CMC

Bearing the intonation pattern illustrated above in mind, let us consider the CMC effect again. As shown in (30b) and (31b) above, repeated here as (34a) and (34b), respectively, when two non-wh-phrases originating from different clauses are A'-scrambled, the sentence is subject to the CMC while the sentence is immune from the CMC when two wh-phrases are A'-scrambled. It should be noted that, if (34a) and (34b) are pronounced with maximally neutral intonation, their intonation patterns are crucially different: the full (i.e., non-deaccented) pitch contour is observed in (34a) while deaccenting takes place after the A'-scrambled wh-phrase in (34b).

- (34) a. *Yumi-ni_i wain-o_j [Naoya-ga t_i [Mari-ga t_j nonda to] iituketa]
 Yumi-DAT wine-ACC Naoya-NOM Mari-NOM drank C told
 'Naoya told to Yumi that Mari drank wine.'



- b. **dare-ni_i nani-o_j** [Naoya-ga t_i [Mari-ga t_j nonda to]
 who-DAT what-ACC Naoya-NOM Mari-NOM drank C
 iituketa no?
 told Q
 'To whom did Naoya tell that Mari drank what?'

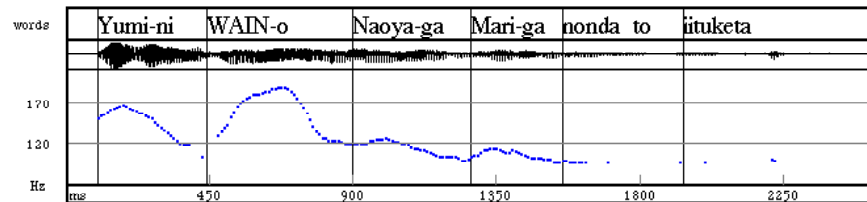


In (34b), the preposed phrases are wh-phrases. Therefore, they are obligatorily P-focalized, and the second wh-phrase induces deaccenting of the subsequent

material. When non-wh-phrases are preposed as in (34a), P-focalization is not required. Therefore, no deaccenting takes place.

It should be noted, however, that it is possible for (34a) to have the same pitch contour as (34b). If the scrambled non-wh-phrases in (34a) are P-focalized and deaccenting takes place subsequently, (34a) would have the same pitch contour as (34b).¹⁵ When this is the case, as in (35), the CMC effect observed in (34a) is no longer present.

- (35) Yumi-ni_i WAIN-o_j [Naoya-ga _{t_i} [Mari-ga _{t_j} nonda to] iituketa]
- ↑ ↑ ↑ ↑
- Yumi-DAT wine-ACC Naoya-NOM Mari-NOM drank C told
- ‘Naoya told to YUMI that Mari drank WINE.’



This example strongly suggests that the specific intonation pattern, namely, P-focalization and deaccenting, is relevant for the obviation of the CMC. Now we have the following generalization:

- (36) *Obviation of the Clause-Mate Condition*
 Prosodic focalization followed by deaccenting obviates the Clause-Mate Condition.

Since wh-phrases always receive P-focalization and induce deaccenting of the subsequent material, movement of wh-phrases is never subject to the CMC, no matter what type of movement it is. Non-wh-phrases, on the other hand, may be optionally P-focalized. When they are not P-focalized, they are subject to the CMC. When they are P-focalized, they are no longer subject to the condition, just like wh-phrases. We do not know at this point why P-focalization and the subsequent deaccenting obviates the CMC. We leave this question for future research.

5.3 Economy Principle on Interface Operations (EPIO)

Given the discussion above, it is predicted that obviation of the CMC should be available in Multiple Cleft if the clefted phrases are P-focalized. This prediction is not borne out, however, as shown in (37). On the other hand, a Multiple wh-Cleft sentence (29b) successfully avoids violating the CMC.

¹⁵ Especially important here is the P-focalization of the second phrase *wain-o* ‘wine-ACC’ rather than the first phrase *Yumi-ni* ‘Yumi-DAT’, since the second phrase is the one that induces deaccenting. See footnote 14.

- (37) * Naoya-ga t_i [Mari-ga t_j nonda to] iituketa no wa
 Naoya-NOM Mari-NOM drank C told C TOP
YUMI-ni **WAIN-o** _{j} da
 Yumi-DAT wine-ACC COP
 ‘(Lit.) It is to Yumi _{i} , wine _{j} that Naoya told t_i that Mari drank t_j ?’

The contrast between (37) and (29b) casts doubt on our claim that P-focalization and deaccenting is the factor that obviates the CMC effect.

Note, however, that the phrases in the focus position of Cleft (i.e., in [Spec, FocP]) are already focalized by focus movement. Even if they are further focalized by P-focalization, the focalization in such a case would be semantically vacuous. It is natural to suppose that such a vacuous operation at the interface level is banned for an economy reason (cf. Fox 2000). Therefore, we propose *Economy Principle on Interface Operations (EPIO)* as follows:

- (38) *Economy Principle on Interface Operations (EPIO)*
 Interface operations (such as prosodic focalization) cannot be semantically vacuous.

According to this principle, phrases that have undergone focus movement to [Spec, FocP] cannot be P-focalized, because P-focalization after focus movement would be semantically vacuous.

If this is a correct analysis, the contrast between (37) and (29b) can be accounted for. In (37) the phrases in the focus position cannot be P-focalized due to the EPIO, hence it cannot circumvent the CMC effect by P-focalization. In (29b), on the other hand, P-focalization of the clefted wh-phrases is obligatory, because it is an intrinsic property of wh-phrases and therefore semantically meaningful. Thanks to this intrinsic property of wh-phrases, the sentence avoids violating the CMC.

The economy principle we proposed above also strengthens our claim that there is a link between Cleft construction and the ‘No da’ in-situ focus construction. Cleft is a focus construction that exploits a syntactic operation, i.e., focus movement, to focalize a phrase (or phrases). The ‘No-da’ construction, on the other hand, does not exploit any syntactic operation, but a phonological operation, namely, P-focalization and deaccenting, to yield the same effect. Their underlying structures are otherwise the same.

We proposed that P-focalization and subsequent deaccenting is the factor that obviates the CMC. We also proposed Economy Principle on Interface Operations, which prohibits a vacuous operation at the interface level (e.g., P-focalization on an already syntactically focalized element).

6. Sluicing

So far, we have mainly discussed Cleft. Based on the preceding discussion, this section discusses Sluicing in Japanese. It will be shown that Sluicing basically has the same underlying structure as Cleft, namely, the ‘No da’ construction.

6.1 Sluicing and ‘No *da*’ in-situ focus construction

It has been claimed (Ross 1969 for English, Takahashi 1994 for Japanese) that Sluicing is derived from overt wh-movement and TP-deletion.¹⁶

(39) Jack brought something, but I don’t know **what** [_{TP} ~~he bought *t*_i~~].

(40) Taro-ga nanika-o tabeta rasii ga, ...
Taro-NOM something-ACC ate seem but
‘It seems that Taro ate something, but...’

\swarrow wh-movement \searrow TP-deletion
 boku-wa [_{CP} nani-o_i [_{TP} Taro-ga *t*_i tabeta] ka] wakara-nai
 I-TOP what-ACC Taro-NOM ate Q know-not
 ‘I don’t know what (Taro ate).’

As Nishiyama et. al. (1995) point out, however, simply applying the TP-deletion analysis of English Sluicing to Japanese Sluicing cannot be quite correct. In Japanese Sluicing, a copula *-da* may optionally occur before the embedded clause complementizer *-ka*, as in (41).¹⁷

(41) Taro-ga nanika-o tabeta rasii ga, ...
Taro-NOM something-ACC ate seem but
‘It seems that Taro ate something, but...’
boku-wa nani-o (**da**) ka wakara-nai
I-TOP what-ACC COP Q know-not
‘I don’t know what.’

This copula cannot attach to a non-elided TP directly. In order for the non-elided version of the sentence to be grammatical, there must be a nominalizer *-no* in front of the copula *-da*:

(42) Taro-ga nanika-o tabeta rasii ga, ...
Taro-NOM something-ACC ate seem but
‘I heard that Taro ate something, but...’
boku-wa nani-o_i [_{TP} Taro-ga *t*_i tabeta] ***(no) da** ka wakara-nai
I-TOP what-ACC Taro-NOM ate C COP Q know-not
‘I don’t know what Taro ate.’

This fact suggests that the optional copula in Sluicing is the copula of the ‘No *da*’ construction, and the elided part is not the normal TP as in (43a), but the FinP/CP as in (43b).

¹⁶ Cf. Chung, Ladusaw and McCloskey (1995) for an alternative non-deletion analysis.

¹⁷ The optionality of copula *-da* is not a special property of Sluicing. It can be generally omitted in embedded question clauses, which are headed by a question particle *-ka*:

(i) Taro-ga [Mari-ga kirei (da) ka] sira-nai (koto)
Taro-NOM Mari-NOM cute COP Q know-not fact
‘(the fact that) Taro does not know whether Mari is cute.’

- (43) Taro-ga nanika-o tabeta rasii ga, ...
 Taro-NOM something-ACC ate seem but
 ‘It seems that Taro ate something, but ...’
 a. *boku-wa nani-o_i [_{TP} Taro-ga *t_i* tabeta] da ka wakara-nai
 b. boku-wa nani-o_i [_{FinP/CP} [_{TP} Taro-ga *t_i* tabeta] **no**] da ka wakara-nai
 I-TOP what-ACC Taro-NOM ate C COP Q know-not
 ‘I don’t know what (John ate).’

From this fact, we conclude that the underlying structure for Japanese Sluicing is the ‘No da’ construction.

6.2 Derivation of Sluicing

Since Sluicing involves the ‘No da’ construction, it is reasonable to extend our analysis of Cleft to Sluicing, i.e., the split CP architecture and focus movement. We claim that the underlying structure for Sluicing is just like Cleft, and that the wh-phrase in Sluicing undergoes focus movement to [Spec, FocP] headed by the copula *-da*, which is optionally visible in embedded question clauses.

In the case of Sluicing, however, the topicalization of the remnant FinP/CP to [Spec, TopP], which is the final step in the derivation of Cleft, does not take place, as is obvious from the lack of topicalized constituent. Instead, a sentence undergoes the FinP/CP-deletion (ellipsis).

- (44) Taro-ga nanika-o tabeta rasii ga, ...
 Taro-NOM something-ACC ate seem but
 ‘It seems that Taro ate something, but ...’
 ↓ Focus movement ↓ FinP/CP-deletion
 boku-wa [_{FocP} nani-o_i [_{FinP/CP} Taro-ga *t_i* tabeta ~~no~~] (da)] ka wakara-nai
 I-TOP what-ACC Taro-NOM ate C COP Q know-not
 ‘I don’t know what (Taro ate).’

Ellipsis is a phonological operation that eliminates the phonological content of certain linguistic material, and is only allowed when the elided material has a linguistic antecedent (Hankamer and Sag 1976), which, in the case of Sluicing, is provided by the preceding sentence. Tancredi (1992) observes that the environment where ellipsis may take place coincides with the environment where deaccenting takes place in certain cases. This observation is also true of Japanese Sluicing. If the FinP/CP in (44) is not elided but pronounced, it has to be deaccented. Since wh-phrases are obligatorily P-focalized, the phrases in FinP/CP are deaccented. Ellipsis may be regarded as an extreme case of deaccenting. This means that Sluicing exploits deaccenting in its derivation.¹⁸

6.3 Multiple Sluicing and the lack of the CMC in Sluicing

The analysis presented above naturally explains the properties of Sluicing presented in Section 2.3. All the properties of Sluicing that are shared with Cleft are explained in a parallel way to the Cleft cases. For example, the existence of

¹⁸ Deaccenting only continues until the embedded question particle *-ka* in this case. Therefore only FinP/CP is deleted when the ellipsis (i.e., extreme deaccenting) takes place. See footnote 13.

Multiple Sluicing is explained by multiple application of focus movement, just like Multiple Cleft. The island violation is also explained because of the use of focus movement in the derivation.

Recall one minimal difference between Cleft and Sluicing, that is, Cleft is subject to the CMC while Sluicing is not (see (21)). Note that this difference is no longer problematic under our analysis. We have shown that the CMC effect in Cleft disappears when the clefted phrases are *wh*-phrases (see (29b)). We have also shown in Section 5.2 that this CMC obviation effect is due to P-focalization and the subsequent deaccenting. Given that, the CMC effect is not expected in Sluicing, because the phrases that undergo focus movement in Sluicing are *wh*-phrases, which are obligatorily P-focalized and induce deaccenting of FinP/CP.

In this section, we demonstrated that by extending our analysis of Cleft to Sluicing, the similarities and the one difference between the two constructions are accounted for. Both Cleft and Sluicing have the ‘No da’ construction as their underlying structures, and exploit focus movement. They only differ in the next step: the former exploits topicalization while the latter exploits ellipsis of FinP/CP. The shared properties explain the similarities between the two constructions (Multiple Cleft/Sluicing and island sensitivity), while the difference explains the minimal difference between them (CMC).

7. Conclusion

In this paper, we have proposed a new analysis of Cleft in Japanese. First, we have claimed that Cleft in Japanese is derived from the so-called ‘No da’ in-situ focus construction, i.e., another kind of focus construction in Japanese. Phrases in the focus position in Cleft are moved by A'-focus movement, and occupy [Spec, FocP], headed by the copula *-da*. In Cleft, the FinP/CP is topicalized and marked by *-wa*. This analysis can derive the Multiple Cleft by assuming multiple application of focus movement to Spec, FocP.

Next, we have shown that A'-movements (focus movement, A'-scrambling, etc.) are subject to the Clause-Mate Condition (CMC) in general. Our analysis can explain the CMC facts because the derivation of Cleft involves A'-focus movement. We have also shown that the lack of the CMC with *wh*-phrases is due to the obligatory prosodic focalization and the subsequent deaccenting. The Economy Principle for Interface Operation (EPIO) prohibits semantically vacuous P-focalization of already syntactically focalized phrases.

Finally, we have proposed that Sluicing also involves the ‘No da’ construction. It is derived by focus movement of the *wh*-phrase and ellipsis (or deaccenting) of FinP/CP. Since Sluicing has a structure parallel to that of Cleft, it allows Multiple Sluicing. Sluicing is exempt from the CMC because it involves prosodic focalization of *wh*-phrases and deaccenting of FinP/CP.

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Ken Hiraiwa
hiraiwa@MIT.EDU
<http://web.mit.edu/hiraiwa/www/home.htm>

Shinichiro Ishihara
s_i@MIT.EDU
http://web.mit.edu/s_i/www/