

# NP-ellipsis revisited: the role of D feature<sup>1</sup>

Heejeong Ko & Saetbyol Seo  
(Seoul National University)

This paper investigates the characteristics of NP-ellipsis that co-occurs with a non-nominal category (e.g. CP, NumP) in Japanese and Chinese. First, we show that the recent influential approach to NP-ellipsis by Saito, Lin, and Murasugi (2008, *Journal of East Asian Linguistics*) bears some inadequacy in explaining the contrast between Japanese and Chinese. We then demonstrate that clausal arguments in Japanese and Chinese behave differently in other domains as well, such as factive constructions and clausal subject constructions. We propose that these facts are correlated with each other, and that the key to understanding the cross-linguistic variation in NP-ellipsis is the role of D-feature. In particular, we argue that NP-ellipsis occurs only when a neighboring phrase contains a D-feature, which can be agreed with a higher D head. Crucially, languages may differ whether a non-nominal category may contain a D-feature or not. We claim that Japanese non-nominal categories such as CPs and NumPs do not carry a D-feature so that NP-ellipsis cannot be licensed *regardless of* its argument status, in contrast to Chinese counterparts. Our proposal has a theoretical implication that general scrambling and DP-internal movement have different sources - only the latter involves D-feature agreement.

**Key words:** NP-ellipsis, relative clauses, clausal subjects, factive constructions, D-feature, scrambling, Japanese, Chinese

---

<sup>1</sup> First and foremost, we thank our informants for their judgments and helpful input. For Chinese judgments, we thank Ehri Han, Huan Liu, Hui Kim, and Jingjing Zhao. For Japanese judgments, we are grateful to Kana Mori, Takayoshi Ito, Momoko Iida, and Otsuka Tadakura. We are also indebted to Marcel den Dikken, Min-Joo Kim, Seungho Nam, Yang-Sook Park, and Hyopil Shin for their comments on earlier versions of this work. Special thanks go to three anonymous reviewers of *Studies in Generative Grammar* for their helpful comments. A preliminary version of this collaborative work was reported earlier in Seo (2009). Any remaining errors are of our own. Address correspondence concerning this article to: Heejeong Ko at <hko@snu.ac.kr> and Saetbyol Seo at <hunbyol@hanmail.net>.

## 1. Introduction

NP-ellipsis refers to a phenomenon where sub-parts of a nominal projection are deleted, the rest of the projection being pronounced in the overt syntax. It has been known that NP-ellipsis is typically possible when a genitive marked phrase is stranded (Jackendoff 1971). A representative example of NP-ellipsis is given in (1) from English. Recently, Saito, Lin, and Murasugi (2008: SLM hereafter) argue that Japanese and Chinese also allow NP-ellipsis, as described in (2). As shown in (2)a, the noun *hakai* 'destruction' can be elided to the exclusion of the genitive-marked phrase, *Kyoto no* 'Kyoto-GEN'. The same is true of the Chinese counterpart with the *de* marker, as illustrated in (2)b.

- (1) I like Bill's wine, but [<sub>NP</sub> Max's [<sub>N'</sub> e ]] is even better.

(Jackendoff 1971: 28)

- (2) NP-ellipsis in Japanese and Chinese

- a. [Rooma no *hakai*]-wa [Kyoto no *hakai*]-yorimo hisan-datta  
 Rome GEN destruction-TOP Kyoto GEN -than miserable-was  
 'Rome's destruction was more miserable than Kyoto's.' [Japanese](SLM: 253)
- b. [Luoma de *huimie*] bi [Bali de *huimie*] geng canlie  
 Rome GEN destruction compare Paris GEN more disastrous  
 'Rome's destruction was more disastrous than Paris's.' [Chinese](SLM: 259)

SLM argue that NP-ellipsis in Japanese and Chinese can be systematically explained by the assumption that NP-ellipsis is possible when SpecDP is filled (adapting Lobeck 1990). The aim of this paper is to show that SLM's original insight is essentially on the right track, but that their analysis has some internal inconsistency and is insufficient to explain certain facts on NP-ellipsis. To resolve the puzzles on NP-ellipsis, we argue that it is important to understand the role of D-features. Specifically, we propose that movement into SpecDP is triggered by D-feature, and that languages may differ in which category bears the D-feature to undergo DP-internal movement. This way, we explain core facts on NP-ellipsis without damaging SLM's insight, and provide a unified account on a variety of facts that have not received a proper analysis under SLM: namely, NP-ellipsis, and its correlation with presence of clausal subjects, clausal factive objects, fronting of numeral quantifiers and definiteness effects. Our argument also has some non-trivial implication for the typology of movement. If our proposal is successful, we are led to conclude that purely EPP-driven scrambling has a

different consequence from D-feature-driven movement for NP-ellipsis: only the latter allows NP-ellipsis.

The paper is organized as follows. In section 2, to set the baseline, we introduce basic facts on NP-ellipsis in Japanese and Chinese and review SLM's analysis. In section 3, we discuss new facts that may challenge SLM's analysis. In particular, we show that otherwise expected argument-adjunct asymmetry disappears in NP-ellipsis when the complement of D is a clausal element, to the surprise of SLM. There, we propose our own accounts for NP-ellipsis and CP movement within DP. In section 4, we provide further support for our proposal from the distribution of clausal subjects and factive objects in Japanese and Chinese. In section 5, we examine the interaction between definiteness effects and NP-ellipsis, which points to internal inconsistency of SLM's analysis. We argue that the interaction can be explained by our proposal on the role of D features in NP-ellipsis. In section 6, we conclude the paper with remarks on remaining issues.

## 2. NP-ellipsis in Japanese and Chinese

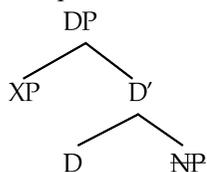
As illustrated in (1)-(2), Japanese and Chinese allow NP-ellipsis, like English paradigms. Adapting Lobeck's (1990) proposal, SLM argue that NP-ellipsis is possible when SpecDP is filled. Specifically, when SpecDP is occupied by some category XP, the complement of D can be elided, resulting in NP-ellipsis. This is depicted in (3).<sup>1</sup> SLM call the type of ellipsis described in (3) *N'-ellipsis*, but the conventional term is not valid any more under the DP system. Accordingly, we term the deletion phenomenon in (3) as *NP-ellipsis*. For convenience, we call the remaining parts after NP-ellipsis *E-remainder*.

---

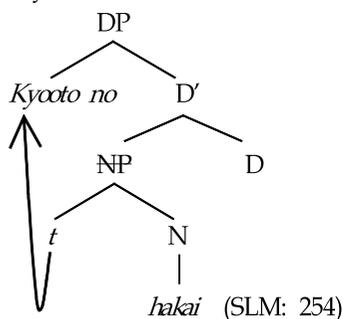
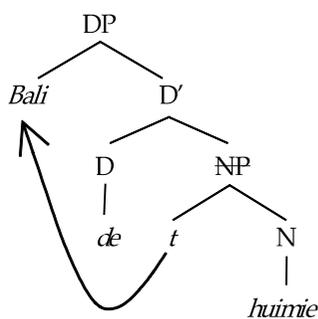
<sup>1</sup> More precisely, Lobeck (1990) proposes that the deletion of the complement is allowed only when the Spec agrees with its head, and that this applies not only to NP-ellipsis, but also to VP-ellipsis and sluicing (TP-ellipsis). In fact, Lobeck's proposal has a different prediction from SLM's theory of NP-ellipsis. Under Lobeck, an overt specifier is not required to license ellipsis of the complement and even null Spec may license ellipsis if there is agreement between the head and the (null) Spec. In contrast, under SLM, it is crucial that the Spec is actually filled with some overt category either by external-merge or internal-merge. In this paper, we entertain Lobeck's original analysis with some modification, and eventually, this results in the departure of our analysis from SLM's. Specifically, we assume that Spec-head agreement is crucial for NP-ellipsis, and that an element may fill SpecDP and license NP-ellipsis only when there is a D-feature agreement between D and Spec (see section 3).

## (3) NP-ellipsis

(SLM 2008: 252)



To be specific, the argument *Kyoto* of 'destruction' in (2)a undergoes DP-internal movement to SpecDP, and the noun *hakai* is elided. Thus, *Kyoto* becomes a legitimate E-remainder in (4). SLM argue that the same operation is at work for NP-ellipsis in Chinese (2)b, as described in (5).

(4) *Kyoto no hakai*  
'Kyoto's destruction'(5) *Bali de huimie*  
'Paris' destruction'

The only difference between Japanese (2)a and Chinese (2)b is the role of the genitive marker. In Japanese, the genitive marker *no* is a contextual Case marker, and it can be freely inserted within DP/NP for Case marking (Kitagawa and Ross 1982). In contrast, the marker *de* in Chinese is the functional head D, and whenever some category XP precedes *de*, it implies that the XP necessarily occupies SpecDP (see also Simpson 2003; cf. Tang 2007 for discussion).

SLM argue that the proposed distinction between *no* and *de* explains otherwise unexpected contrasts between Japanese and Chinese in genitive Case marking and NP-ellipsis. As illustrated in (6), the contextual genitive marker *no* may be inserted between 'rain' and 'day' in Japanese. In contrast, the marker *de* cannot be licensed in the same context in Chinese (7). Furthermore, NP-ellipsis in (8) is ungrammatical in Japanese. All things being equal, it would be puzzling



### 3. New Challenges and Proposal

#### 3.1. DP-internal Movement of CP

In the previous section, we have seen that NP-ellipsis may occur in Japanese and Chinese but that they may show different characteristics due to the status of the genitive marker, *no* and *de*. In this section, we will take a look at SLM's account for NP-ellipsis which involves movement of CP. As described in (9), Japanese and Chinese exhibit differences in regard to NP-ellipsis involving a relative clause. A relative clause *cannot* be an E-remainder in Japanese, as in (9)a, whereas a relative clause can be a legitimate E-remainder in Chinese, as shown in (9)b.

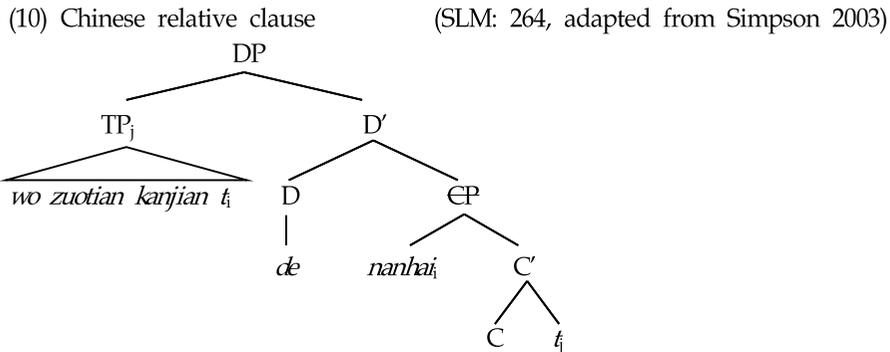
- (9) Relative clauses and NP-ellipsis (SLM: 263)
- a. \*[Taroo-ga kinoo atta] hito-wa yasasii-ga,  
     T-NOM yesterday saw person-TOP kind-though  
     [Hanako-ga kinoo atta] hito-wa kowai  
     H-NOM yesterday saw -TOP scary  
     '(The) person Taroo saw yesterday is kind, but (the person) Hanako  
     saw yesterday is scary.' [J]
- b. [Wo zuotian kanjian] de nanhai  
     I yesterday see GEN boy  
     bi [ni zuotian kanjian] de nanhai geng youqian  
     than you yesterday see GEN more rich [C]  
     '(The) boy I saw yesterday is richer than (the boy) you saw yesterday.'

SLM claim that the difference between (9)a and (9)b can be explained by the same contrast as the one between (8) and (2)a. Specifically, SLM assume that relative clauses in Japanese are adjuncts, and thus cannot move into SpecDP, just as the adjunct *ame* 'rain' in (8) cannot move into SpecDP. Consequently, a relative clause cannot be an E-remainder in Japanese, as described in (9)a.<sup>3</sup> SLM

vs. adjunct asymmetry holds (e.g. (8)) in nominal ellipsis.

<sup>3</sup> Capitalizing on the data like (i), Takahashi (2011) argues that adjunct relative clauses in Japanese can be an E-remainder in some contexts. It is not clear, however, whether (i) can be treated in the same manner as (9)a. Crucially, there is no *no*-marker at the end of the relative clause in (9a), but in (i), *no* is attached to the relative clause, which involves long-distance relativization over an infinitival. Takahashi suggests that *no* in (i) is a copula and the copula sentence (ii) may be the source of (i), but as he acknowledges, the status of *tumori* 'intend' is uncertain. It awaits further research how and why (i) differs from (9a), but it is certain that they cannot be treated in the same way.

further argue that relative clauses in Chinese are not adjuncts, but parts of the complement of D, following Kayne (1994) and Simpson (2003). Therefore, a relative clause in Chinese can be a legitimate E-remainder in (9)b, in contrast to (9)a. This is depicted in (10).



SLM's analysis for (9)a-(9)b crucially assumes that underlying structures of relative clauses in Japanese and Chinese differ from each other, but there is no difference between the two languages in the syntactic mechanism of DP-internal movement. We, however, argue that this is incorrect. If SLM's proposal is on the right track, we predict that a complement CP in Japanese would behave in the same way as Chinese relative clauses in NP-ellipsis. Specifically, we would predict that clausal complement of a noun in Japanese may undergo DP-internal movement to SpecDP, and license NP-ellipsis, just as Chinese relative clauses in (9)b/(10). We tested this prediction with (11), and the prediction is proven to be wrong.

- (11) \*[Hanako-ga Taroo-toketkonsita]zizitu-wa igaidatta-ga,  
 H-NOM T-with married fact-TOP unexpected-though

- 
- (i) [John-ga su-ru-tumori]-no kougeki-wa seikousu-ru-darou-ga  
 John-NOM do-PRES-intend-COP attack-TOP succeed-PRES-probably-though  
 [Mary-ga su-ru-tumori]-no kougeki-wa seikousi-na-i-darou.  
 Mary-NOM do-PRES-intend-COP -TOP succeed-NEG-PRES-probably  
 'lit. An attack John intends to do will probably succeed, but an attack that Mary intends to do probably will not succeed.'  
 (Takahashi 2011: 143)
- (ii) John-ga kougeki-o su-ru-tumori-da.  
 John-NOM attack-ACC do-PRES-intend-COP  
 'lit. John intends to do an attack.'  
 (Takahashi 2011: 142)

[Taroo-ga Hanako-to ketkonsita]zizitu-wa nattokusita  
 T-NOM H-with married -TOP understood  
 '(The) fact that Hanako married Taroo was unexpected, but (the fact)  
 that Taroo married Hanako was understood.' []]

As illustrated in (11), the complement of a noun 'fact' *zizitu* cannot be a proper E-remainder in Japanese, just like the adjunct relative clause seen in (9)a.<sup>4</sup> If a clausal complement may undergo DP-internal movement in Chinese, as described in (10), the ungrammaticality of (11) in Japanese is just puzzling. If CP in general cannot undergo DP-internal movement to SpecDP, one may account for the ungrammaticality of (11), but the original contrast between Japanese (9)a and Chinese (9)b in relative clause constructions would turn into a new problem.<sup>5</sup> Furthermore, if complement-adjunct status of a CP is solely responsible for NP-ellipsis, we would expect that a complement CP of a noun in Chinese would license NP-ellipsis quite straightforwardly. It turned out, however, that much further work is needed to verify this prediction. Some Chinese speakers accepted NP-ellipsis with a CP complement such as (12), but there was certain variation among speakers in acceptability (one speaker reports that it is acceptable only when the head noun *shishi* is definite: see (14) for interpretation of this fact).

(12) %[Lisi xihuan Zhangsan] de shishi zhen de,  
 L like Z GEN fact true DE  
 danshi [Zhangsan xihuan Lisi] de shishi bu shi zhen de.  
 but Z like L GEN not be true DE  
 '(The) fact that Lisi likes Zhangsan was true, but (the fact) that  
 Zhangsan likes Lisi was not true.'

### 3.2 Proposal: D-feature matters!

<sup>4</sup> A reviewer wonders whether the noun-complement construction in (11) involve an adjunct structure just like a relative clause so that (11) is ungrammatical. It is not obvious, however, why the clause in (11) must be analyzed as an adjunct despite its semantic/selectional relationship between the noun and the clause. N. Takahashi (2010) also provides evidence that noun-complement clauses such as (11) have a different syntactic structure from relative clauses in Japanese. Thus, we do not adopt the possibility that (11) and the relative clause share the same underlying structure.

<sup>5</sup> SLM's analysis of Chinese relative clauses in (10) is not without controversy. As SLM acknowledge, the structure in (10) may face a minimality problem because TP moves to SpecDP without going through an intermediate landing site, SpecCP. SLM attempt to resolve this problem by assuming that *Ā* moves from C to D in Chinese and extends the minimal domain so that SpecDP and SpecCP become equidistant from each other (adopting Lin et al. 2001). But, independent evidence for this assumption needs to be adduced.

As seen in the previous section, the cross-linguistic difference between Japanese and Chinese cannot be explained by the argument/adjunct asymmetries. This suggests that there are at least some real difference between Japanese and Chinese, and we propose that the locus of the distinction lies in the D-property of CPs. Specifically, we propose that the two hypotheses stated in (13) conspire to explain the inter- and intra-language diversity in NP-ellipsis.

(13) *Proposal on DP-internal movement*

- A. A phrase may move into SpecDP only when the phrase contains an interpretable D-feature, which can be matched/Agreed with the (uninterpretable/unvalued) D head in DP.  
 B. Languages may differ whether a non-nominal category may contain a D-feature.

By assuming the hypotheses in (13), we can explain the facts presented in section 2 as well as the new data involving movement of CP in section 3. We propose that all nominal phrases (e.g. NP, DP) have a D-feature, but that languages differ in whether they allow non-nominal phrases (e.g. TP, CP, NumP, etc.) to bear a D-feature. All nominal arguments may undergo DP-internal movement (by (13)A), and thus we correctly predict that nominal arguments may be an E-remainder both in Japanese and Chinese, as seen in (2)a and (2)b.

Non-nominal categories, in contrast, may or may not carry a D-feature in languages (by (13)B).<sup>6</sup> We in particular argue that Chinese CPs have a D-feature, whereas Japanese CPs do not bear a D-feature. Under our proposal, a Japanese CP lacks a D-feature so that it may not undergo DP-internal movement to SpecDP whether it is an adjunct relative clause, as in (9)a, or a complement of a noun, as in (11). Consequently, a clausal element cannot be an E-remainder in

---

<sup>6</sup> We are not the first one to argue that CP has a D-property. Rackowski and Richards (2005) argue that CP may receive Case in Tagalog. As in (i), the verb *sabi* 'say' may bear nominative Case, agreeing with the DP *kalabaw*: Crucially, however, the verb may also bear accusative Case, which agrees with the CP-complement as in (ii). These examples suggest that Tagalog CPs are nominal and receive Case, just like nouns.

- (i) **M**-agsa-sabi *ang kalabaw* na masarap ang bulaklak  
**NOM**-ASP-say ANG water.buffalo that delicious ANG flower  
 'The water buffalo will say that the flower is delicious.'  
 (ii) Sa-sabih-**in** ng kalabaw na masarap ang bulaklak  
 ASP-say-ACC CS water.buffalo that delicious ANG flower  
 'A/The water buffalo will say that the flower is delicious'

Japanese regardless of its adjunct/argument status. On the other hand, Chinese CPs do carry a D-feature and undergo DP-internal movement into SpecDP. It follows then that Chinese complement CPs (e.g. (9)b, (12)) may be an E-remainder, in contrast to the Japanese counterparts.<sup>7</sup>

Going back to judgement variation reported in (12), we adopt Tang's (2007) claim that concreteness of a head noun may affect speakers' judgements concerning NP-ellipsis. According to Tang (2007), only concrete/definite head nouns may be null in Chinese due to recoverability conditions in pragmatics. It is generally true that definite head nouns can be null in Chinese while indefinite/non-concrete nouns cannot be null, as illustrated by the contrast in (14)a and (14)b (See Tang (2007) for various factors that play a role in licensing an empty head noun). On our view, the complement CPs in Chinese may be licensed as a legitimate E-remainder in syntax but due to the pragmatic constraint regarding concreteness, speakers may reject NP-ellipsis in some noun-complement constructions. This is in line with the fact that judgments concerning NP-ellipsis in (12) are variable (affected by pragmatics), not categorical (determined by syntax).

- (14) a. [Ta mai dongxi]-de na yi ge \*(didian) bu hao.  
           he buy thing-<sub>DE</sub> that one <sub>CL</sub> place not good  
           'That place that he bought things is not good.' [C]
- b. [Ta mai dongxi]-de na yi jia (dian) bu hao.  
           he buy thing-<sub>DE</sub> that one <sub>CL</sub> store not good  
           'That store that he bought things is not good.' [C] (Tang 2007: 1008-9)

Note that we crucially inherit SLM's claim that NP-ellipsis is licensed when SpecDP is filled, but we depart from SLM in specifying what makes movement into SpecDP ever possible. Whereas SLM assume that arguments (regardless of its categorial status) may move into SpecDP, we propose that not all arguments can move into SpecDP, but that only the arguments with a D-feature may move to SpecDP and be a legitimate E-remainder. This way, we can explain the cross-linguistic differences between Japanese and Chinese in NP-ellipsis as well as their similarities. The success of our approach, of course, depends on the validity

---

<sup>7</sup> We adopt the claim that relative clauses form a CP in Japanese and Chinese (see Kaplan and Whitman (1995) for Japanese, and Aoun and Li (2003) for Chinese), but even if relative clauses are TPs, as assumed in SLM, the main point stays intact if we assume that TPs in Japanese lack a D-feature, unlike nouns and Chinese TPs.

of the hypotheses in (13), and in the next section, we attempt to provide independent evidence for it.

#### 4. Further Support: all CPs are *not* equal

The best way to show that (13) is on the right track would be to provide direct morphological evidence for it. For instance, if Japanese or Chinese would show overt morphological agreement between D-head and its complement, it can be rather straightforwardly tested whether agreement matters in ellipsis. Alternatively, if DP-internal movement involves phonological change in word order, one might expect to find certain correlations between word order and ellipsis. Unfortunately, however, these types of morpho/phonological evidence (if any) are extremely hard to come by in these languages. Agreement are very poor in both languages, and arguments for/against ordering shift can be established only indirectly due to the controversial status of head-directionality and the internal structure of DP.

Therefore, in this paper, we attempt to provide some syntactic evidence for (13), which is necessarily indirect. We do believe, however, that syntactic evidence can be taken as strong as morphological evidence once it is founded on plausible hypotheses and correlated solid facts. Specifically, we argue that D-feature plays a significant role in syntax in contexts other than ellipsis. Once D-feature is given to a phrase, it may receive Case and function as an argument. Nouns are prototypical elements that can be assigned D-feature and Case. As we argue in (13), however, we hypothesize that other phrases such as CPs may also receive D-feature, so that it can bear Case and function as an argument in syntax.

More specifically, if our proposal for NP-ellipsis is correct, we predict that CPs in Japanese and Chinese would show different characteristics due to the presence/absence of D-feature. We argue that this is indeed correct. We show that clausal arguments in Chinese bear a nominal feature so that they may fulfill the same function as prototypical nouns in syntax, whereas clausal arguments in Japanese lack such features so that they show a distinct distribution from nouns.

Let us first consider clausal subjects. As illustrated in (15)a, CPs in Japanese cannot be the subject of a main clause. If (15)a is ever possible, the CP is interpreted as a conditional adjunct. By contrast, CPs in Chinese may function as the subject of a main clause, as shown in (15)b. To the best of our knowledge, this contrast has not been explored in the previous studies. The contrast between

(15)a and (15)b, however, naturally follows from our proposal in (13).

(15) Clausal subjects

- a. [5-nin-ka-6-nin-ka-kurai hito-ga kono kurasu-o erabu-to] minna-ni-totte ii  
 5-or-6 person-NOM this class-ACC elect-C everyone-to good  
 \*‘That five or six people elect this course will be good to everyone.’ [J]  
 ‘If five or six people elect this course, (it) will be good to everyone.’
- b. [You wuliuge ren xuan zhemeng ke] dui meige ren dou hao  
 have5-or-6 man elect this course to every man all good  
 ‘(That) five or six people elect this course will be good to everyone.’  
 [C: Huang (1998: 97)]

If Japanese CPs lack D-feature, it is expected that they cannot satisfy/check unvalued nominal features of T (e.g. EPP, Case). If, on the other hand, Chinese CPs do have a D-feature, they may satisfy those requirements for T, just like nominal arguments. Put differently, the distinction between (15)a and (15)b can be explained by the same logic that explains the contrast between Japanese (11) and Chinese (9)b. CPs with a D-feature may license NP-ellipsis and only those CPs may be the subject of a clause, like nominal arguments. If Chinese CPs carry a D-feature, as we proposed, it is expected that Chinese CPs may function as the subject, checking relevant nominal features of T, as in (15)b. If Japanese CPs lack a D-feature, as assumed for NP-ellipsis data, it is predicted that Japanese CPs cannot function as the subject of a clause, in contrast to nominal arguments.<sup>8</sup>

The next evidence comes from the distribution of clausal objects as the complement of a factive verb. As described in (16)a, a factive verb cannot take a CP as its complement in Japanese. In order for a CP to be placed in complement position of a factive verb, the CP must be accompanied with a head noun. In sharp contrast to this, CPs in Chinese can be selected as a direct object of a factive verb. This is illustrated in (16)b. If CPs in Japanese and Chinese were just alike, the contrast between (16)a and (16)b would simply be a mystery.<sup>9</sup>

<sup>8</sup> One might wonder whether the sentence initial clause in (15)b is a hanging topic (with a null subject) instead of a syntactic subject. Tsai (1995) and Zhang (2008) independently show that the sentence initial clause in Chinese is a subject, not a topic. Crucially, the sentence initial clause can be marked by a focus, in contrast to topics. We thank a reviewer for directing our attention to this issue.

<sup>9</sup> As noted above, factive verbs in Japanese cannot take *-to* marked clauses as its complement. Only a clause embedded under a nominalizer *-no/koto* may function as a complement of a factive verb. This, however, does not mean that the ungrammaticality of (15a) and (16a) is rooted solely in morphology. Rather, it supports our proposal that factive verbs require its complement to be nominal

- (16) Clausal object of factive predicates
- a. \*Watasi-wa [Hanako-ga sukidatta-to] kookai-site-iru  
 I<sub>-TOP</sub> H<sub>-NOM</sub> liked<sub>-C</sub> regret-do-be  
 'I regret that (I) liked Hanako.' [J]
- b. Wo houhui [wo xihuan Zhangsan]  
 I regret I like Z  
 'I regret (that) I liked Zhangsan.' [C]

The facts in (16), however, are rather straightforwardly explained under our proposal. Since the seminal work by Kiparsky and Kiparsky (1971), there have been a lot of studies on the complement of factive verbs. Among them, de Cuba's (2007) proposal coupled with our proposal explains the puzzles concerning (16). de Cuba (2007) proposes that factive verbs take a bare CP as its complement, and crucially the bare CP carries a nominal property. Under de Cuba (2007), the complement of a non-factive verb contains an extra layer of functional projection *dP*, and that *dP* takes a nominal CP as its complement.<sup>10</sup> On this view, the complement of a factive verb must bear a nominal property while the complement of a non-factive verb is not subject to such a restriction.

Combining de Cuba's proposal with ours, we are led to conclude that clausal elements which cannot be an E-remainder cannot function as the direct object of a factive verb, either. Specifically, if a clausal element cannot license NP-ellipsis, it suggests to us that the clausal element lacks a D-feature for DP-internal movement. This in turn suggests that those clausal elements cannot function as a direct object of a factive predicate, which requires a nominal feature. Under our proposal, the ungrammaticality of NP-ellipsis in (9)a and (11), and the unavailability of factive clausal object in (16)a are in fact predicted to be correlated with each other. The grammaticality of (16)b shows that the reverse is also true. If a clausal element licenses NP-ellipsis, we expect that the clausal

---

in syntax (see Ono 2006 for independent evidence for this claim). Unlike *-no/koto* the complementizer *-to* cannot assign a nominal property to its clause. Thus, it is expected that *-to* marked clauses cannot appear as a complement of a factive verb.

<sup>10</sup> The analyses for factive predicate constructions can be divided into two schools. One is a traditional approach following Kiparsky and Kiparsky (1971), which posits an extra structure for factive complements. The other goes to opposite way, which proposes an extra structure for non-factive complements (e.g. Nichols 2001, McCloskey 2006, and de Cuba 2007). We follow the latter approach here. See also Ono (2006) for various types of evidence that factive verbs in Japanese require a nominalized complement. Ono shows that even exclamatives with factive presupposition cannot appear as a complement of a factive verb due to lack of nominal properties in syntax such as Case.

element may also show other nominal properties. It is not surprising then that Chinese clauses may function as a direct object of a factive verb, which requires a nominal CP.

To complete the picture, clausal elements in Japanese may function as a complement of a non-factive verb, just as in Chinese. For instance, in (17)a, a full clause *kare-ga dono hito-mo sukida-to* 'he likes everyone' can be selected as complement of a non-factive verb *sinzite-iru* 'believe-be'. In this respect, Japanese clausal complement behaves in the same way as Chinese counterpart in (17)b. The clausal complement in (17)a, however, lacks nominal features and it is not presupposed that the clausal complement is true, as shown in (18)a. The same is true of Chinese non-factive complement in (18)b.

(17) Clausal object of non-factive predicates

- a. Hanako-wa [kare-ga dono hito-mo sukida-to] sinzite-iru  
 H-TOP he-NOM every person-PRT(any) like-C believe-be  
 'Hanako believes that he likes everyone.' [J]
- b. [Ta xihuan meige ren] Lisi xiangxin  
 he likes every man L believe  
 '(That) he likes everyone, Lisi believe.' [C: Huang (1998: 147)]

(18) Lack of presupposition: complement of a non-factive verb

- a. Hanako-wa [kare-ga dono hito-mo sukida-to]  
 H-TOP he-NOM every person-PRT(any) like-C  
 sinzite-iru-ga, zitu-wa kare-wa soodewa nai  
 believe-be-though in-fact-TOP he-TOP do-so not  
 'Hanako believes that he likes everyone, but in fact, he does not.' [J]
- b. Lisi yiwei [ta xihuan meige ren], danshi ta bu xihuan  
 L think he likes every man but he not like  
 'Lisi thinks (that) he likes everyone, but he doesn't like (everyone).' [C]

In contrast to (18), a factive predicate in Japanese and Chinese does carry the presupposition that the event described by its complement is true. This is shown in (19). Note that the complement of a factive verb in Japanese (19)a must be realized with a head noun plus an adjunct clause, in contrast to the Chinese counterpart.

## (19) Presupposition of a factive verb

- a. #Watasi-wa Hanako-ga sukidatta no-o kookai site-iru-ga,  
 I-TOP H-NOM liked thing-ACC regret do-be-though,  
 watasi-wa kanozyo-ga sukidewa nakatta  
 I-TOP she-NOM like didn't  
 'I regret (that I) liked Hanako, but I didn't like her.' [J]
- b. #Wo houhui wo xihuan Zhangsang, danshi wo bu xihuan  
 I regret I like Z but I not like  
 'I regret (that) I liked Zhangsang, but I didn't like (him).' [C]

Finally, one might wonder whether there is an intrinsic correlation between semantic factivity and syntactic ellipsis. We argue that there would be no such correlation, at least in Chinese and Japanese. We have claimed that Chinese CPs in general bear D-feature syntactically - whether it functions as a relative clause, a complement of a factive verb or non-factive verb. Thus, we predict that ellipsis of a head noun in Chinese would not be affected by the (non-)factivity of its complement. Given that the complement clause carries D-feature, it is expected that the head noun can be elided regardless of the semantic factivity of the complement clause. The examples in (20) and (21) show that this is indeed the case. The complement of a noun in Chinese can be an E-remainder whether the complement bears factive presupposition or not (with some pragmatic restrictions mentioned in section 3).

## (20) [the statement + factive CP] ⇒ NP-ellipsis is possible in Chinese

Tamen bu xiangxin [zongtong hui yu.shi.yuefen fangqi ziji de zhiwei de  
 they not believe president.will.in.10.month resign self<sub>GEN</sub> position<sub>GEN</sub>  
 shengming] danshi tamen xiangxin  
 statement but they believe  
 [zongtong hui yu.shier.yuefen fangqi ziji dezhiwei de shengming].  
 president.will.in.12.month resign self<sub>GEN</sub> position<sub>GEN</sub>  
 'They do not believe (the) statement that the president will resign his  
 post in October, but they believe (the statement) that the president will  
 resign his post in December.'

## (21) [the proposal + non-factive CP] ⇒ NP-ellipsis is possible in Chinese

He [hui zhang gongzi de tiyi] xiangbi  
 with will raise pay<sub>GEN</sub> proposal being.compared

[hui zhang canfei de tiyi] geng rang wo chijing  
 will raise food.bonus<sub>GEN</sub> more to me surprise  
 '(The) proposal that my food bonus get raised is more surprise to me  
 comparing to (the proposal) that my pay get raised.'

We have claimed that CPs in Japanese cannot bear D-feature regardless of its function – whether it functions as a relative/adjunct clause or a complement clause. Thus, we predict that a CP in Japanese cannot be an E-remainder whether it bears factive presupposition or not. The example (22) shows that this is the case. The complement clause of the attitudinal noun (which expresses speaker's attitude toward facts) cannot be an E-remainder in Japanese even though it bears factive presupposition. In section 3, we have seen that a clause without factive presupposition cannot be an E-remainder, either. Taken together, these facts presented in (20-22) support our overall proposal that the syntax of CP, namely the presence or absence of D-feature matters in NP-ellipsis (we thank a reviewer for directing our attention to this issue).

- (22) \*[the surprise + factive CP] ⇒ NP-ellipsis is impossible in Japanese  
 \*[kuredittokaado-no yuukookigen-ga kireteta] bitkuri-wa  
 credit.card-<sub>GEN</sub> expiration.date-<sub>NOM</sub> being.cut.off surprise-<sub>TOP</sub>  
 [untenmenkyo-no yuukookigen-ga kireteta] bitkuri-yori  
 driver's.license-<sub>GEN</sub> expiration.date-<sub>NOM</sub> being.cut.off -than  
 bibitaru mono-da  
 trivial thing-<sub>DEC</sub>  
 '(The) surprise (that the) card has expired is trivial comparing to (the  
 surprise that the) driver's license has expired.'

## 5. Extension: Numeral Quantifiers and NP-ellipsis

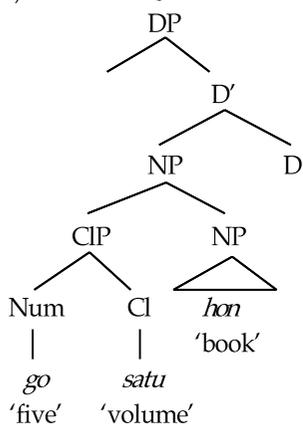
In the previous sections, we argued that correlations among NP-ellipsis, clausal subjects, and factive objects can receive a unified account under our proposal. In this section, we discuss implications of our proposal for the distribution of numerals and NP-ellipsis in Japanese and Chinese. As illustrated in (23)a, a numeral quantifier (with the genitive marker *no*) cannot be an E-remainder in Japanese. On the other hand, an NP adjacent to a numeral quantifier may undergo ellipsis in Chinese, as in (23)b.

- (23) a. \*Taroo-wa [san-satu no hon]-o katta-ga,  
 T-TOP 3-CL GEN book-ACC bought-though  
 Hanako-wa [go-satu no hon]-o katta  
 H-TOP 5-CL GEN -ACC bought  
 ‘Taroo bought three books, but Hanako bought five.’ [J]
- b. Suiran Zhangsan mai-le [san-benshu],  
 though Z buy-PERF 3-CL book  
 dan Lisi mai-le [wu-benshu]  
 but L buy-PERF five-CL  
 ‘Zhangsan bought three books, but Lisi bought five.’ [C]

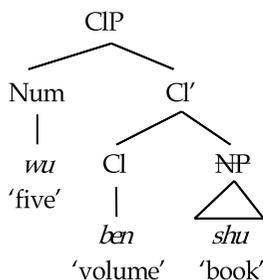
SLM explain the contrast between (23)a and (23)b by an argument-adjunct asymmetry in NP-ellipsis again. SLM argue that a numeral quantifier in Japanese is an adjunct of an NP, as depicted in (24), whereas a numeral quantifier in Chinese selects an NP as its argument, as in (25). Since CIP *go-satu* in Japanese is an adjunct and cannot undergo movement into SpecDP (on a par with the adjunct *ame* ‘rain’ in (8)), it is impossible for *hon* ‘book’ in (23)a to be elided. In contrast, the classifier in Chinese selects an NP as its complement and when SpecCIP is filled with a numeral, the complement of CIP (e.g. *shu* ‘book’ in (23) b) can be deleted. Under SLM, NP-ellipsis in (23)b is licensed by the same mechanism as the one for (2)b (cf. Watanabe 2010, Bošković 2012).<sup>11</sup>

<sup>11</sup> Contra SLM, some researchers argue that Japanese allows numerals to be an E-remainder, as in (i-ii) (see Bošković 2012, Takahashi 2011, Watanabe 2010, among others). We note, however, that (i-ii) are somewhat different from SLM’s data in their nature. In (i), the E-remainder *go-satu* does not carry the *no*-marker, unlike (23)a. The argument *hon-o* may be dropped from a different source (e.g. ~~hon-o~~ *go-satu*) in the second clause, and it is possible that (i) does not involve NP-ellipsis, but *pro*-drop (cf. Watanabe (2010: 64) for an argument against this possibility based on a parallelism requirement). Examples like (ii) seem to be more problematic for SLM since *no* remains overt after NP-ellipsis. The status of *no* in (ii), however, seems to be different from the contextual marker *no* in (23)a. In (ii), *no* contributes to the semantic aspect which can be translated into English *during*. We believe that much future research is required to verify how to reconcile the tension between SLM and data like (i-ii).

- (i) Taroo-wa [san-satu-no hon]-o katta ga, Hanako-wa go-satu katta  
 Taro-TOP three-CL-GEN book-ACC bought though, Hanako-TOP five-CL bought  
 ‘Taro bought three books, but Hanako bought five.’ (Watanabe 2010: 64)
- (ii) Amerikagun-wa nizyu-pun-no kougeki-o keikakusi-ta-ga  
 U.S. Army-TOP 20-minute-GEN attack-ACC plan-PAST-though  
 nihongun-wa [rokuzyu-pun-no [kougeki]-o] keikakusi-ta  
 Japan Army-TOP 60-minutes-GEN -ACC plan-PAST  
 ‘lit. The U.S. army planned attack of 20 minutes, but the Japanese army planned attack of 60 minutes’ (Takahashi 2011: 144)

(24) Numeral Quantifiers in Japanese<sup>12</sup>

## (25) Numeral Quantifiers in Chinese



SLM claim that the proposed structures in (24) and (25) may explain other contrasts between Japanese and Chinese in the distribution of numeral quantifiers, exemplified in (26)a and (26)b. The example (26)a shows that a numeral quantifier in Japanese *san-satu* may undergo fronting, stranding its host noun *hon* 'book'. The example in (26)b, by contrast, illustrates that the numeral quantifier *san-ben* in Chinese cannot move leftwards, stranding its host *shu*.

- (26) a. [San-satu]<sub>i</sub>, Taroo-wa [<sub>t</sub> hon]-o katta  
 three-CL T-TOP book-ACC bought  
 'Taroo bought three books.' [J]

<sup>12</sup> See SLM for independent arguments for (24). Under this proposal, *no* is considered as a contextual marker and inserted in morpho/phonological component (see Kitagawa and Ross 1982).

- b. \*[San-ben]<sub>i</sub>, Zhangsan mai-le [t<sub>i</sub> shu]  
 three-CL Z buy-PERF book  
 'Zhangsan bought three books.' [C]

SLM argue that the contrast between (26)a and (26)b follows from the structures in (24) and (25). Under (24), a numeral quantifier plus a classifier in Japanese form a constituent (namely, CIP) and thus *san-satu* 'three-CL' may undergo fronting as a constituent in (26)a. If (25) is the right structure for Chinese, a numeral quantifier does not form a constituent with a classifier. It is then expected that *san-ben* 'three-CL' may not move together, stranding the complement NP *shu* in (26)b.

We argue, however, that there is some important pitfall in this logic of arguments for (23)-(26). If *san-satu* in (26)a may undergo movement to the left of the subject as a constituent, it becomes puzzling why it cannot undergo movement into SpecDP, licensing NP-ellipsis in (23)a. In other words, to explain the contrast between *san-satu* in (26)a and *san-ben* in (26)b, it is crucial to assume that *san-satu* in (26)a is in principle movable in syntax. If *san-satu* may undergo movement, it is mysterious why it cannot undergo DP-internal movement into SpecDP. To resolve these issues, it is important to verify which types of movement *san-satu* may undergo and why.

In this respect, it is notable that not every numeral quantifier may be fronted in Japanese. As Furuya (2008) extensively discusses, a numeral quantifier phrase may undergo leftward fronting when the host noun is indefinite, as in (27)a, but it cannot be fronted when the host noun is definite, as in (27)b. Furuya (2008) explains the contrast between (27)a and (27)b by assuming that only the former contains an escape hatch for movement of numeral quantifiers. Specifically, *san-nin* in (27)a may be fronted because SpecDP of an indefinite noun *gakusei-o* is empty so that *san-nin* may move through SpecDP and land at SpecTP. In contrast, (27)b is ungrammatical because SpecDP of the definite noun *sono karera-o* is already filled by the demonstrative (or definite operator), so that there is no escape hatch for *san-nin* to move out of the noun. If a DP is a phase domain, it follows that the numeral quantifier in (27)b cannot move any further.

(27) *Definiteness effect of NQ-fronting*

- a. [San-nin]<sub>i</sub> Suzuki sensei-wa [gakusei t<sub>i</sub>]-o sikatta  
 3-CL Suzuki teacher-TOP student -ACC scolded

- 'Prof. Suzuki scolded (3) students.'
- b. \*[San-nin]<sub>i</sub> sensei-wa [(sono) karera <sub>t<sub>i</sub></sub>]-o sikatta  
 3-CL teacher-TOP those them -ACC scolded  
 '(lit.) The professor scolded (those) them three.' (Furuya 2008: 155)<sup>13</sup>

Note that Furuya's explanation for (27) is incompatible with SLM's proposals for (23)-(26). Under SLM, the fact that NP-ellipsis is impossible in (23)a suggests that a numeral quantifier cannot undergo DP-internal movement to SpecDP at all; otherwise, NP-ellipsis would be possible in (23)a, just like Chinese (23)b. Under Furuya, however, the contrast in (27) suggests that a numeral quantifier may move out of a host noun phrase *only if* it may move through SpecDP. Thus, if Furuya's account is correct, the very existence of the data in (26)a challenges SLM's account for (23).<sup>14</sup>

We propose that the puzzles addressed above can be resolved by understanding the types of movement that a non-nominal category may undergo. Specifically, by extending our proposal (13) to numeral quantifier constructions, we propose that numeral quantifier phrases in Japanese (NumP or CIP) lack a D-feature so that it cannot undergo DP-internal movement into SpecDP. Thus, NP-ellipsis in (23)a is not licensed. It is, however, possible that non-nominal categories in Japanese may undergo purely EPP-driven scrambling such as (26)a. Specifically, *san-satu* in (26)a lacks a D-feature (and thus cannot move into SpecDP) but may undergo EPP-driven scrambling to IP/CP-adjoined position.

A generalized version of the proposal is stated in (28). We propose that DP-internal movement and general EPP-driven scrambling have different consequences. The former requires a D-feature which triggers agreement between

<sup>13</sup> For clarification, the base position of a numeral in (26) is marked differently from that of (27) because each paper cited above adopts a different underlying structure for numerals. As will be specified later, however, we argue that a numeral can be merged in both pre-nominal and post-nominal adjunction position. Thus, nothing crucial hinges on this for NP-ellipsis per se, but the word order between the host and numeral is affected by the base order. See (30) for discussion.

<sup>14</sup> SLM argued that (26)b is ungrammatical because *san-ben* does not form a constituent, in contrast to *san-satu* in Japanese. The example (i), however, shows that this argument is incomplete. If *go-satu* in (i) may undergo fronting as a constituent (as assumed for (26)a), it is mysterious why the remaining constituent *han-o* cannot be elided after numeral fronting or replaced with *pro* in (i).

- (i) \*San-satu Taroo-wa hon-o katta-ga, go-satu Hanako-wa ~~hon-o~~ katta.  
 3-CL Taroo-TOP book-ACC bought-but 5-CL Hanako-TOP bought  
 'Taroo bought three books, but Hanako bought five (books).'

the head D and its Spec, which is necessary for NP-ellipsis (strictly following Lobeck's (1990) original proposal). See also Kitahara (1993) for a suggestion that feature checking is necessary for DP-internal movement (cf. a response to it by Park 2008). The latter, in contrast, does not require D-agreement between the probe and the goal. Even non-nominal adjuncts may undergo scrambling (driven by EPP) even if it cannot move into SpecDP.<sup>15</sup>

(28) *Movement in Japanese*

- A. A D-feature triggers DP-internal movement of arguments and subsequent NP-ellipsis.
- B. An EPP-feature triggers general scrambling of adjuncts and arguments.

This line of approach is necessary for movement of CP as well. In section 3, we have argued that CPs in Japanese lack a D-feature (regardless of its argument/adjunct status), and thus cannot be an E-remainder. It is not the case, however, that CPs in Japanese must stay in-situ. As illustrated in (29), CPs may undergo scrambling to the left of the main subject. If CPs are just immobile, the grammaticality of (29) would be perplexing. Under our proposal (28), however, the grammaticality of (29) and lack of NP-ellipsis are not contradictory with each other. Under the current proposal, CPs may undergo general EPP-driven scrambling such as (29), but it lacks a D-feature so it cannot license NP-ellipsis in (11).

---

<sup>15</sup> If numerals in Japanese lack D-feature, we predict that numerals cannot function as an argument or receive Case. We argue that this is the case. In examples like (i), we claim that Case is assigned to the preceding host noun/*pro* not to the adnominal numeral. If Case is assigned to a numeral independently of its host, the sentence becomes ungrammatical, as in (ii)-(iii) (see Ko 2005). It is also noteworthy that numerals cannot appear as a subject in non-anaphoric contexts such as (iv) (Downing 1986). Since *pro* cannot appear in indefinite contexts such as (iv), it is expected that numerals cannot appear in (iv), either.

- (i) John-wa        **(hon)**        **san-satsu-o**        katta  
       John-<sub>TOP</sub>        book/*pro*    3-<sub>CL</sub>-<sub>ACC</sub>        bought  
       'John bought three (books)' (Watanabe 2006)
- (ii) \*John-wa        **hon-o**        **san-satsu-o**        katta
- (iii) \***Gakusei-ga**    **san-nin-ga**        sake-o        nonda  
       student-<sub>NOM</sub>    3-<sub>CL</sub>-<sub>NOM</sub>        sake-<sub>ACC</sub>        drank  
       'Three students drank sake.'
- (iv) \*Mukasi-mukasi aru    tokoro-ni    **san-nin**    sumimasita  
       past-past        some    place-in    3-<sub>CL</sub>        lived  
       'Long, long ago, (there) lived three men in some place.'

- (29) [Hanako-ga Taroo-o nagutta-to]<sub>i</sub>; watasi-ga  $\bar{t}$  itta  
 Hanako-NOM Taroo-ACC hit-C I-NOM said  
 'I said that Hanako hit Taroo.' [j]

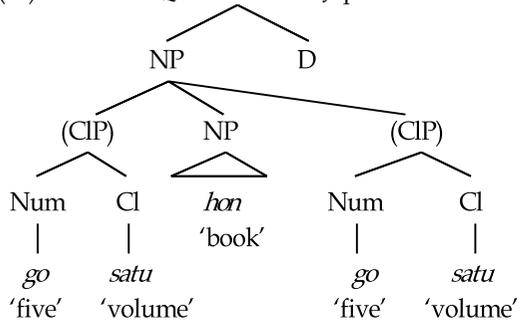
One remaining question is why the contrast between (27)a and (27)b holds. We have argued that numeral quantifier phrases cannot move into SpecDP due to the lack of a D-feature. Though the details of our proposal are quite different from SLM, our arguments have the same issue with Furuya's (2008) analysis as SLM. If numeral quantifiers cannot move into SpecDP, how come they move out of a noun phrase at all? Why definiteness matters for fronting of numeral quantifiers? We do not have a concrete answer for these questions, yet, but we do believe that the contrast between (27)a and (27)b can be explained without compromising the main thrust of our proposal.

Ko (2005) argues that the contrast between (27)a and (27)b can be explained without recourse to the phase theory by Chomsky (2000, 2001) (cf. Furuya 2008). In particular, Ko suggests that if we adopt Cyclic Linearization approach by Fox and Pesetsky (2005), the data in (27) can be explained without assuming an escape hatch within DP. Suppose that DP is a Spell-out domain where the linear ordering among elements within the DP must be preserved after Spell-out. Since *san-nin* lacks a D-feature, it cannot move into SpecDP before Spell-out of DP. The linear ordering in the definite noun phrase, *sono karera san-nin-o* in (27)b must be preserved after Spell-out of DP. If *san-nin* undergoes leftward scrambling as in (27)b, an ordering conflict arises between the ordering at DP and the ordering at CP: namely, *san-nin* follows *sono karera* at DP, but it precedes *sono karera* at CP. The derivation will not be properly pronounced at PF.

By contrast, the ordering at (27)a is taken to be legitimate because *san-nin* is an adjunct to an NP (as proposed by SLM). Since adjuncts in general can be adjoined either to the left or to the right of an NP, it may precede or follow the host noun within DP. This is described in (30). Thus, even if *san-nin* cannot move into SpecDP, it is still possible to derive the ordering *san-nin* > *gakusei* or *gakusei* > *san-nin* within DP. Hence, the grammaticality of the ordering in (27)a follows.<sup>16</sup>

<sup>16</sup> Furuya (2008) argues that a null Operator may also block NQ-fronting in Japanese. Specifically, a definite (null) operator occupies SpecDP and thus blocks DP-internal movement of a numeral quantifier into SpecDP (adopting Campbell 1996). If a null operator causes an ordering conflict at PF, Furuya's arguments will be accommodated under Ko's analysis without essential changes. It is,

## (30) Numeral Quantifiers in Japanese



## 6. Conclusion

In this paper, we have argued that the cross-linguistic differences between Japanese and Chinese in NP-ellipsis can be explained by considering the role of a D-feature in NP-ellipsis. Specifically, we have proposed that NP-ellipsis may occur when the complement of an NP contains a D-feature, which undergoes agreement with the D head. This explains why only subset of complement categories may license NP-ellipsis, to the surprise of SLM's original account. In particular, our proposal provides a unified account for the correlation among the following facts: (i) a complement clause in Japanese cannot license NP-ellipsis, unlike relative/complement clauses in Chinese; (ii) a clausal subject is not allowed in Japanese while it is licensed in Chinese; (iii) a factive verb in Japanese cannot take a clausal object, in contrast to Chinese counterparts; (iv) a numeral quantifier in Japanese cannot be stranded as a consequence of NP-ellipsis, in contrast to Chinese counterparts; (v) leftward movement of a numeral quantifier in Japanese is possible only when the host noun is indefinite.

Admittedly, many important questions remain unanswered, however. This paper does not provide any broader generalization on which functional categories licenses NP-ellipsis. Thanks to SLM's research, it was shown that D and Cl may license NP-ellipsis, but it remains open whether other categories may also license NP-ellipsis and how D-feature interacts with them in NP-ellipsis. It also remains a future research whether other head-final languages would show the same pattern as Japanese; if so, how, and if not, why. As discussed in Seo (2009),

---

however, not obvious how null operators are treated under Cyclic Linearization and we leave the interaction between null operators and NP-ellipsis for future research.

Korean patterns with neither Japanese nor Chinese regarding NP-ellipsis. Simply, Korean does not exhibit NP-ellipsis phenomena at all. It would be interesting why this should be so. Seo (2009) argues that the nominal projection of Korean completely lacks a DP-layer to license NP-ellipsis, but given the discussion in this paper, we may consider an alternative approach such that Korean does have a DP-layer but lacks D-feature agreement, which is necessary for NP-ellipsis (going back to Lobeck's (1990) claim). It also awaits further research why some languages allow a non-nominal category to bear a D-feature while others do not. We hope that the current research will provide a useful backdrop to examine some important puzzles in NP-ellipsis.

## References

- Aoun, Joseph, and Yen-hui Audrey Li. 2003. *Essays on the Representational and Derivational Nature of Grammar: The Diversity of Wh-Constructions*. Cambridge: MIT Press.
- Bošković, Željko. 2012. Now I'm a Phase, Now I'm not a Phase: On the Variability of Phases with Extraction and Ellipsis. Ms., University of Connecticut. Storrs.
- Campbell, Richard. 1996. Specificity Operators in SpecDP. *Studia Linguistica* 50: 161–188.
- Chomsky, Noam. 2000. Minimalist Inquiries: The Framework. In *Step by Step: Essays on Minimalist Syntax in Honor of Howard Lasnik*, ed. R. Martin, D. Michaels, & J. Uriagereka, 89-115. Cambridge: MIT Press.
- Chomsky, Noam. 2001. Derivation by Phase. In *Ken Hale: A Life in Language*, ed. M. Kenstowicz, 1-52. Cambridge: MIT Press.
- de Cuba, Carlos. 2007. On (Non)Factivity, Clausal Complementation and the CP-Field. Doctoral dissertation, Stony Brook University.
- Downing, Pamela. 1986. The Anaphoric Use of Classifiers in Japanese. In *Noun Classes and Categorization*, ed. C. Craig, 345-376. Amsterdam / Philadelphia: John Benjamins Publishing Company.
- Fox, Danny, and David Pesetsky. 2005. Cyclic Linearization of Syntactic Structure. *Theoretical Linguistics: Object Shift*, ed. Katalin É. Kiss, 31(1-2): 1-46.
- Furuya, Kaori. 2008. DP Hypothesis for Japanese "Bare" Noun Phrases. *University of Pennsylvania Working Papers in Linguistics* 14(1): 149-162.
- Huang, C.-T. James. 1998. *Logical Relations in Chinese and the Theory of Grammar*. Taylor & Francis Publications.

- Jackendoff, Ray. 1971. Gapping and Related Rules. *Linguistic Inquiry* 2: 21–35.
- Kaplan, Tamar I. and John B. Whitman. 1995. The Category of Relative Clauses in Japanese, with reference to Korean. *Journal of East Asian Linguistics* 4(1): 29–58.
- Kayne, Richard S. 1994. *The Antisymmetry of Syntax*, Linguistic Inquiry Monograph 25. Cambridge: MIT Press.
- Kiparsky, Paul, and Carol Kiparsky. 1971. Fact. In *Semantics: An Interdisciplinary Reader in Philosophy, Linguistics and Psychology*, ed. D. D. Steinberg and L. A. Jakobovits, 345–369. Cambridge: Cambridge University Press.
- Kitagawa, Chisato, and Claudia Ross. 1982. Prenominal Modification in Chinese and Japanese. *Linguistic Analysis* 9: 19–53.
- Kitahara, Hisatsugu. 1993. Numeral Classifier Phrases inside DP and the Specificity Effect. *Japanese/Korean Linguistics* 3: 171–186.
- Ko, Heejeong. 2005. Syntactic Edges and Linearization. Doctoral dissertation. MIT, Cambridge, Mass.
- Lin, T.-H. Jonah, Keiko Murasugi, and Mamoru Saito. 2001. Modification and Specification: An Investigation of *no* and *de*. Paper presented at the 10th annual meeting of the International Association of Chinese Linguistics, June 22–24, at the University of California, Irvine.
- Lobeck, Anne. 1990. Functional Heads as Proper Governors. In *Proceedings of the North East Linguistic Society* 20, 348–362. Amherst: GLSA, University of Massachusetts.
- McCloskey, James. 2006. Questions and Questioning in a Local English. In *Crosslinguistic Research in Syntax and Semantics: Negation, Tense, and Clausal Architecture*, ed. Raffaella Zanuttini, Héctor Campos, Elena Herburger, Paul H. Portner, 87–126. Georgetown University Press: Washington, DC.
- Nichols, Lynn. 2001. The Syntax and Morphosyntax of Propositional Attitude Complementations. Ms. Harvard University, Cambridge, MA.
- Ono, Hajime. 2006. An Investigation of Exclamatives in English and Japanese: Syntax and Sentence Processing. Doctoral Dissertation. University of Maryland, College Park.
- Park, So-Young. 2008. Functional Categories: The Syntax of DP and DegP. Doctoral dissertation, University of Southern California.
- Rackowski, Andrea, and Norvin Richards. 2005. Phase Edge and Extraction: A Tagalog Case Study. *Linguistic Inquiry* 36(4): 565–599.
- Saito, Mamoru, T.-H. Jonah Lin, and Keiko Murasugi. 2008. N'-ellipsis and the Structure of Noun Phrases in Chinese and Japanese. *Journal of East Asian Linguistics* 17: 247–271.

- Seo, Saetbyol. 2009. Constraints on NP-ellipsis and DP-internal Movement. Unpublished Master's thesis. Seoul National University.
- Simpson, Andrew. 2003. On the Status of Modifying DE and the Syntax of the Chinese DP. In *On the Formal Way to Chinese Languages*, ed. S.-W. Tang, and C.-S. Liu. CSLI Publications, Stanford.
- Takahashi, Masahiko. 2011. Some Theoretical Consequences of Case-marking in Japanese. Doctoral dissertation, University of Connecticut, Storrs.
- Takahashi, Naoko. 2010. Three Types of NP Modifications in Korean and Japanese. *Journal of School of Foreign Languages, Nagoya University of Foreign Studies* 38: 147-168.
- Tang, Chih-Chen Jane. 2007. Modifier Licensing and Chinese DP: A Feature Analysis. *Language and Linguistics* 8(4): 967-1024.
- Tsai, Wei-Tien Dylan. 1995. Visibility, Complement Selection and the Case Requirement of CP. *Journal of East Asian Linguistics* 4(4): 281-312.
- Watanabe, Akira. 2010. Notes on Nominal Ellipsis and the Nature of *no* and Classifiers in Japanese. *Journal of East Asian Linguistics* 19: 61-74.
- Zhang, Niina. 2008. Gapless Relative Clauses as Clausal Licensors of Relational Nouns. *Language and Linguistics* 9(4): 1003-1026.

Heejeong Ko  
Saetbyol Seo  
Department of Linguistics  
Seoul National University  
1 Gwanro Gwangu  
Seoul, Zip: 151-742

Received: Aug 09, 2012

Revised: Oct 31, 2012

Accepted: Nov 26, 2012