

# Scrambling, Edge Effects, and A/A'-Distinction\*

Yeun-Jin Jung

(Donguei University)

**Jung, Yeun-Jin. 2002. Scrambling, Edge Effects, and A/A'-Distinction.** *The Linguistic Association of Korea Journal*, 10(4), 41-64. Scrambling has often been considered to have no direct semantic consequences on interpretation. Recent studies on scrambling, however, have reported that scrambling does have a semantic contribution, especially with respect to the discourse status of the utterance. In this paper, I will explore how surface semantic effects of scrambling and related interpretational options are properly captured within the current minimalist program (Chomsky 1998, 1999, 2001). I will claim that scrambling is strictly speaking not a 'semantically vacuous movement', making a certain semantic effect directly or indirectly. I will argue specifically that scrambling is driven by a lexically-designated formal feature and an optional EPP-feature assigned to  $v$  or T, and that general semantic effects of scrambling are output effects obtained at the edge position of  $vP$  or TP, which are otherwise unavailable in the original positions. Under this view, meaning-altering scrambling is syntactically an obligatory movement, being a feature checking operation. The optional nature of scrambling will be attributed to the optional assignment of EPP feature to  $v$  or T, and its different interpretational options are the results of INT assignment which is parametrized with respect to interpretability. Finally, related to the movement operation of scrambling, I will claim that the A- versus A'-distinction is not an intrinsic property of positions but rather determined by the properties of agreement-inducing feature(s) of a head.

**Key words:** scrambling, phase, edge effects, EPP, agreement features, focus, topic, INT, A/A'-movement

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## 1. Introduction

Since Saito's (1989) seminal work, scrambling has often been conceived of as having no direct semantic consequences on interpretation. In the recent years, however, the view of scrambling as a 'semantically vacuous movement' has been challenged by many authors. According to them, scrambling does have a semantic contribution, especially with respect to the discourse status of the utterance: Obligatory topic-hood in German, but optional topic-hood in Japanese (von Stechow 1994; Sauerland 1996); focus-hood in a certain type of scrambling in Japanese (Miyagawa 1997); topic-hood in Japanese (Bailyn 2001); focus-hood in Persian (Karimi 1999). The distinction in the discourse status of the scrambled and nonscrambled orders has been observed in Korean as well in a discourse-oriented tradition (Choi 1997).

In this paper, I will explore how such semantic effects and related interpretational options are properly captured within the current minimalist program (Chomsky 1998, 1999, 2001). I will claim that scrambling is strictly speaking not a 'semantically vacuous movement', making a certain semantic effect directly or indirectly. If scrambling has a direct semantic effect, the effect is an output effect obtained at the edge position of  $vP$  or  $TP$ . In such cases, scrambling is syntactically an obligatory movement in the sense that it is driven by a lexically-designated formal feature and an optional EPP-feature assigned to  $v$  or  $T$ . On the other hand, if scrambling makes an indirect semantic contribution, it is made not by the scrambled element itself, but by the resulting information structure of the sentence which is changed by a certain PF movement. Finally, related to the movement operation of scrambling, I will argue that the A- versus A'-distinction is not an intrinsic property of positions but rather determined by the properties of agreement-inducing feature(s) of a head.

The organization of this paper is as follows: Section 2 will examine the general semantic effects of scrambling. Section 3 will provide a minimalist analysis of scrambling, characterizing scrambling as a feature

checking operation at *vP* or *TP* and its optional nature attributing to optional assignment of EPP feature to *v* or *T*. In so doing, it will be shown that the ambivalent A- and A'-properties of scrambling are directly associated with the properties of the agreement-inducing features of a head. Section 4 will briefly address vacuous scrambling of subject, which will further support the claim made in the previous section. Section 5 is a brief summary.

## 2. Semantic Effects of Scrambling

Since Saito (1989), it has been widely assumed that the scrambling phenomenon observed in sentence pairs like (1a-b) is invisible to interpretation.

- (1) a. John-i [Mary-ka ku chayk-ul sass-tako] sayngkakhayss-ta.  
 John-Nom Mary-Nom the book-Acc bought-C thought-C  
 'John thinks that Mary bought the book.'  
 b. *Ku chayk-ul* John-i [Mary-ka *t* sass-tako] sayngkakhayss-ta.

As a matter of fact, members of such pairs are identical in truth conditions, morphology, and even in grammatical relations. From this line of observation, Saito (1989) argues that (long-distance) scrambling must undergo reconstruction at LF to base position, where interpretation occurs. An example as in (2) provides a stronger case for the argument. In (2), the interrogative phrase is scrambled to a position across the embedded question, yet takes scope in the embedded question.

- (2) *Enu chayk-ul* Mary-ka [John-i tosekwan-eyse *t*  
 which book-Acc Mary-Nom John-Nom library-at  
 taychulhayss-nunci] al-ki-lul wenhan-ta.  
 checked out-Q know-C-Acc want-C  
 'Mary wants to know which book Mary checked out from the  
 library.'

However, Bailyn (2001) notes from the Japanese counterparts of (1), given in (3), that (3b) differs from (3a) in discourse structure. That is, (3b) is “appropriate in contexts where *the book* is part of the preceding discourse.

- (3) a. John-ga [Mary-ga *sono hon-o* katta to] omotteiru.  
 John-Nom Mary-Nom that book-Acc bought that thinks  
 'John thinks that Mary bought the book.'  
 b. *Sono hon-o* John-ga [Mary-ga t katta to] omotteiru.

More specifically, the comparison of (4) and (5) below shows that the scrambled order is possible when the scrambled phrase *the book* functions as thematic, i.e., a response to a question that introduces *the book* as thematic.

- (4) a. John-wa dou shiteiru no?  
 John-Top how doing Q  
 'How is John doing?'  
 b. John-ga [Mary-ga *sono hon-o* katta to] omotteiru.  
 John-Nom Mary-Nom that book-Acc bought that thinks  
 c. #*Sono hon-o* John-ga [Mary-ga t katta to] omotteiru.
- (5) a. Sono hon ni-kanshite nani-ka atta no?  
 that book about something happened Q  
 'Did anything happen to that book?'  
 b. #John-ga [Mary-ga *sono hon-o* katta to] omotteiru.  
 John-Nom Mary-Nom that book-Acc bought that thinks  
 c. *Sono hon-o* John-ga [Mary-ga t katta to] omotteiru.

From these observations, Bailyn (2001) proposes the following generalization regarding long-distance scrambling:

- (6) *The scrambling generalization*  
 a. A-scrambled and nonscrambled orders are *always* associated with different discourse/informational interpretation.

- b. The movement deriving scrambled orders is *motivated* by discourse/informational considerations.

Bailyn notes that (6a) is limited to A'-scrambling ““because A-scrambling appears to be less discourse-related (if it is discourse-related at all)””(p.654, fn. 28). Although Bailyn's observation regarding Japanese long-distance scrambling can be carried over to Korean scrambling in its essence, his speculation on A-scrambling (local scrambling) cannot be extended to Korean data. Observe the following examples from Choi (1997):

- (7) a. Mary-ka [ecey John-ul manna]-ss-ta.  
Mary-Nom yesterday John-Acc meet-past-C  
'Mary met John yesterday.'
- b. Mary-ka [John-ul ecey manna]-ss-ta.  
Mary-Nom John-Acc yesterday meet-past-C  
'Mary met John yesterday.'
- c. John-ul [Mary-ka ecey manna-ss]-ta.  
John-Acc Mary-Nom yesterday meet-past-C  
'As for John, Mary met him yesterday'

Choi observes that unlike the in-situ object in (7a), the scrambled object *John-ul* in (7b), may get *partial topicality* with respect to the rest of the sentence, though the topic of the entire sentence is the subject *Mary-ka*. In other words, unlike *John-ul* in (7a), *John-ul* in (7b) is sort of old information and it is what the sentence is about with respect to the rest of the predicate. Likewise, in (7c), the scrambled object *John-ul* is the topic of the entire sentence including the subject *Mary-ka*.<sup>1</sup> The discourse-semantic effects of the scrambled elements in (7), therefore, suggest that local scrambling as well as long-distance scrambling be motivated by some discourse considerations in Korean,

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1) Choi (1997) calls this kind of topic a continuing topic, following Herring (1990) and Aissen (1992). A continuing topic differs from a contrastive topic in the sense that it lacks contrastiveness.

contra Bailyn's claim.

Related to (7), it is crucial to note that the scrambled object in (7b) and (7c) may also get a focus reading in appropriate contexts, with or without pitch accent on it. Hence, (7b) and (7c) may have the following interpretation, respectively, as well.

- (8) a. Mary met John (among other people) yesterday.  
 b. It is John (among other people) who Mary met yesterday.

Such focus interpretation is equally possible in the long-distance scrambling as in (1b), just as topic interpretation is possible there.

On the other hand, the scrambled *wh*-phrase *nwukwu-lul* as in (9) may induce focus-hood but not topicality. The same restriction holds for the long-distance scrambling as in (2).

- (9) *Nwukwu-lul* [Mary-ka manna-ss]-ni?  
 Who-Acc Mary-Nom meet-past-Q  
 'Who did Mary meet?'

To examine further instances of scrambling, it is observed that not all the instances of scrambling have a direct semantic contribution. The scrambled verbal adjuncts such as *ttenaki-ceney*, *John-kwahamkkey*, and *kongwen-ey* in (10), for example, may either have a focus interpretation or induces no particular semantic changes on their own.

- (10) a. *Ttena-ki ceney* [Mary-ka John-eykey insa-lul hay-ss]-ta.  
 leave-N before Mary-Nom John-to goodbye-Acc do-past-C  
 'Mary said goodbye to John before leaving.'  
 b. *John-kwahamkkey* [Mary-ka ecey kongwen-ey ka-ss]-ta.  
 John-with Mary-Nom yesterday park-to go-past-C  
 'Mary went to the park with John yesterday.'  
 c. *Mary-ka* [kongwen-ey ecey ka]-ss-ta.  
 Mary-Nom park-to yesterday go-past-C  
 'Mary went to the park yesterday.'

Similar kinds of discourse-semantic effects of scrambling have recently been reported in many studies: Obligatory topic-hood in German, but optional topic-hood in Japanese (von Stechow 1994; Sauerland 1996); focus-hood in a certain type of scrambling in Japanese (Miyagawa 1997); topic-hood in Japanese (Bailyn 2001); focus-hood in Persian (Karimi 1999). Then, the question to be addressed is how such semantic effects and related interpretational options can be properly captured within the current minimalist program. In the following section, I will attempt to answer the question under principles of phase-based derivation (Chomsky 1998, 1999, 2001).

### **3. A Minimalist Analysis of Scrambling**

#### **3.1. Theoretical Assumptions**

Regarding the semantic effects of displacement, Chomsky (1999) claims that in case displacement induces semantic effects, it should occur in the narrow syntax, PF component having little semantic effect:

(11) Surface semantic effects are restricted to narrow syntax.

In particular, Chomsky argues that displacement of object in object shift languages yields some surface-semantic effects (e.g., specificity/definiteness etc.) at the resulting configuration, i.e., at the spec of  $\nu$ P. In Icelandic, for instance, the object may optionally shift to the spec of  $\nu$ P; and when shifted, it gets particular discourse effects of the kind discussed in Holmberg (1999). To account for the optionality and interpretation of such object shift phenomenon, Chomsky proposes the following principles, respectively, which he assumes are special cases of more general principles governing the peripheral non-theta positions including the spec of T.

- (12) a.  $v^*$  is assigned an EPP-feature only if that has an effect on outcome.  
 b. The EPP position of  $v^*$  is assigned INT.

Extending (12) to (13) for the present purposes, I will assume that the principles in (13) apply to the peripheral configurations in general. Additionally, I will assume, following Holmberg (1999), that INT is an interpretive complex referring to new information/focus, specificity/definiteness, topic, etc., which is also an extension of Chomsky (1999).<sup>2</sup>

- (13) a.  $v^*/T$  is assigned an EPP-feature only if that has an effect on outcome.  
 b. The EPP position of  $v^*/T$  is assigned INT.

### 3.2. The Analysis

With the aforementioned theoretical assumptions in mind, let us examine the following data repeated from (7).

- (14) a. Mary-ka [ecey John-ul manna]-ss-ta.  
 Mary-Nom yesterday John-Acc meet-past-C  
 'Mary met John yesterday.'  
 b. Mary-ka [*John-ul* ecey manna]-ss-ta.  
 Mary-Nom John-Acc yesterday meet-past-C  
 'Mary met John yesterday.'

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2) Chomsky (1999) extends the generalization (12) to subject raising as well, although he did not take up specifically what kind of semantic properties are associated with the raised subject. In this paper, however, I will assume that the optional EPP feature in T differs from the lexically assigned EPP feature of T. According to Chomsky (1998), the EPP feature of T is universal. That is, the lexically assigned EPP of T has nothing to do with feature checking in the sense of Chomsky (1995). Rather, it a return to the earliest view of generative grammar (i.e. Extended Projection Principle), it is requirement that T must have a specifier.



- c. *John-ul* [Mary-ka ecey manna-ss]-ta.  
 John-Acc Mary-Nom yesterday meet-past-C  
 'As for John, Mary met him yesterday.'

As noted above, the scrambled object *John-ul* in (14b) and (14c) may have partial topicality and topic-hood, respectively, in contexts where *John-ul* is part of the preceding discourse. Then, how does the regular Accusative Case-marked element end up with such semantic interpretation?

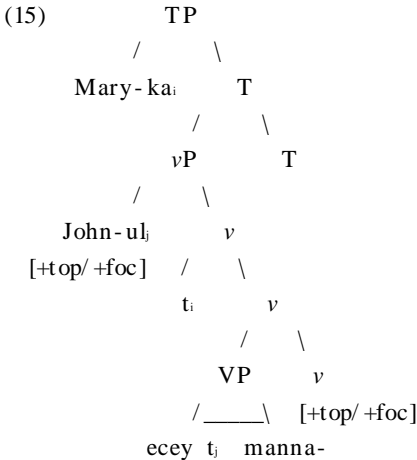
Given the minimalist assumption (Chomsky 1998, 1999, 2001) that Case is licensed through the operation Agree, in (14a) the uninterpretable Case feature of the object *John* is deleted under matching of the  $\bar{A}$ -features with those of the functional head  $\nu$ . Whether the object raises to the spec of  $\nu$  or not is determined by the presence of EPP in the functional category  $\nu$ . In Korean, which I assume is a non-object-shift language, the object stays in situ.

Now, suppose that the same syntactic licensing mechanism applies to the object in (14b-c). Then, we cannot account for their distinct surface-semantic effects in a proper fashion. For this state of affairs, I propose that  $\nu/T$  in (14b-c) is assigned an optional EPP-feature (by (13a)) and its spec is assigned INT (by (13b)). Then, the discourse-semantic effects of the scrambled object in (14b-c) can be viewed as surface effects induced by INT assignment at the peripheral positions of  $\nu P$  and TP, respectively. That is, the discourse-semantic effects observed in (14b-c) are properties of the edge positions ( $\nu P/TP$ ) where the object finally lands.

Given this analysis, two issues immediately arise: First, given the assumption that the operation Move is a complex process of Agree + Pied Piping + Merge (Chomsky 2001), it follows that candidates of Move are not randomly selected but only through the operation Agree, which is standardly assumed to be  $\bar{A}$ -feature agreement in the minimalist program. If so, the movement of the object to the spec of  $\nu/T$  in (14b-c) becomes problematic since the movement is not  $\bar{A}$ -feature-driven. Second, given the fact that the object *John-ul* in

(14b-c) may have a focus interpretation as well in certain contexts, we should explain how such interpretational options as topic and focus are properly determined in the same configurational position.

To solve the problems, I will adopt the view from Romero (1999) and Anagnostopoulou (2001) that Move may occur without  $\bar{A}$ -feature agreement cross-linguistically. Adapting the term agreement in a broader sense, therefore, I suggest that the candidate of the EPP-driven Move in scrambling constructions be determined by the formal features such as [+topic]/[+focus] which are part of lexical information that requires checking for interface visibility. The derivation of (14b) then would look like the following:



In (15), the object *John-ul* first checks its Case feature through agreement with  $\bar{A}$ -features of  $\nu$ . Then, in the presence of [+top/+foc] in  $\nu$ , an optional EPP-feature is assigned to  $\nu$  (by (13a)), forcing the object to move to the spec of  $\nu\text{P}$ , and at the EPP position it gets a topic or focus interpretation (by (13b)). Hence, the distinction between topic and focus interpretation can be narrowed down to what feature comes into play to serve as a proper candidate for the EPP-driven movement.

Given that INT is an interpretive complex that encodes new information, specificity/definiteness, focus, etc., as suggested in Holmberg (1999), it is expected that its interpretability may vary across languages and even within a language. In fact, languages show different interpretability of INT at periphery positions. For example, the EPP position of *v* in Icelandic is typically interpreted as specific or definite (Chomsky 1999), and the EPP position of T in German is obligatorily interpreted as topic (Sauerland 1996). This means that INT must be parametrized with respect to interpretability.

In Korean, the interpretability of INT, I suggest, becomes different according to the feature retained in the moved element and relevant functional categories (i.e., [+topic] vs. [+focus]). For this move, one might argue that the interpretive aspect, then, is simply a function of the specified feature itself. However, it should be emphasized that potential topicality or focushood in (14b-c) is obtained only when the feature holder NP moves to an EPP position where surface semantic-discourse effects are typically induced. If the phrases stay in situ, therefore, they cannot get topic interpretation even with the encoded [+top/+foc] feature. This indicates that such interpretive aspects as topicality or focushood are ultimately properties associated with the configurational position, not those of the feature itself, although the feature plays a role in designating an interpretational option.<sup>3</sup>

Now, let us turn to the derivation of (14c). Basically the same

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3) One thing that need be addressed in this connection is that unlike the [+top] feature holder, the [+foc] feature holder may get a focus interpretation without movement to a periphery position. What is noteworthy here is that such in-situ focus interpretation is attained only if it is accented, as shown in (i).

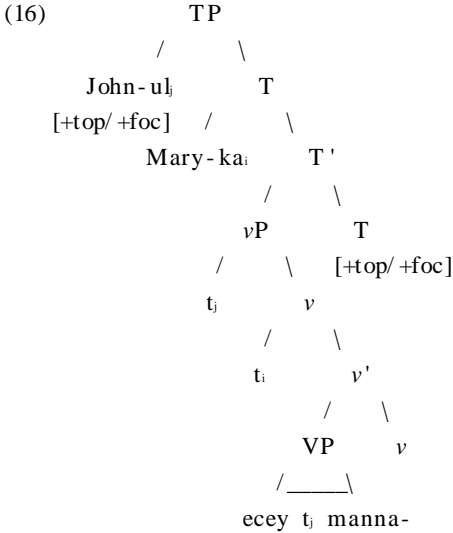
(i) Mary-ka [ecej **John-ul** manna]-ss-ta.

Mary-Nom yesterday John-Acc meet-past-C

'Mary met John (among other people) yesterday.'

Given that stress or pitch accent assignment is basically the work of the PF component (Zubizarreta 1998), the implication is as follows: At LF, the feature [+focus] cannot get a proper focus interpretation unless its host is located at a periphery position, just like the feature [+topic]. However, the in-situ focus may be salvaged by pitch accent assignment at PF, the feature [+focus] being closely related to stress or pitch accent, unlike the feature [+top].

account as the one for (14b) can be provided. The difference is that the feature [+topic/+focus] is in T instead of *v*. With this feature present in T, an optional EPP-feature is assigned to T (by (13a)), forcing the object to move to the spec of TP, and there it gets a topic or focus interpretation (by (13b)).



Under this analysis, two technical questions arise: First, given the minimalist assumption that the derivation proceeds on a phase-by-phase basis, the object *John-ul* must go to the spec of *vP* first. If so, what forces it to move to the periphery position of *vP*? Second, if the final landing site of the object is the spec of TP, how are the two EPP positions of TP secured for the canonical subject and the scrambled object with distinct semantic interpretation?

For the first question, an extension of Chomsky's (1999) suggestion will do that a functional category may be assigned an EPP-feature if it is required *to yield some outcome other than INT-assignment*. More specifically, in successive-cyclic *wh*-movement constructions, movement of a *wh*-phrase to the intermediate landing sites is induced by the

EPP-features assigned by the principle (13a), but such intermediate positions are never assigned INT, thus inducing no related semantic effects.

For the second question, I assume with Pesetsky and Torrego (2000) that EPP is a subfeature of a feature, that is, a property of a *feature* of a head, not a property of the head itself. Under this assumption, each of T's features (i.e., [ ] and [+topic/+focus]) has its own EPP-feature as a subfeature. Notice that in (16), Move of the subject *Mary-ka* is driven by the *universal* EPP feature of T's *-features* (Chomsky 1998), whereas Move of the object *John-ul* is driven by the optional EPP feature of T's topic/focus feature.

The analysis thus far also provides an account for the impossibility of topichood of the scrambled *wh*-phrase *nwukwu-lul* in (17), repeated from (9).

- (17) *N wukwu-lul* [Mary-ka manna-ss]-ni?  
 Who-Acc Mary-Nom meet-past-Q  
 'Who did Mary meet?'

The indefinite and nonspecific interrogative pronoun in (17) cannot get a topic interpretation since the INT (i.e., topic)-assigned peripheral position can interpret entities of a particular semantic type, i.e., definite pronouns.<sup>4</sup> Hence, the presence of such indefinite pronouns in the INT (topic)-assigned position will result in a semantic conflict. Therefore, if the indefinite and nonspecific interrogative pronoun is associated with any discourse-semantic interpretation at an edge position, it is most likely to be associated with focus-hood.

Let us consider further instances of scrambling:

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4) Given that the semantics of a topic 'XP is if I were to speak about XP which I and you are supposed to know (of),' topichood can only be approximated to definite entity or entities in the discourse (Cf. Lee 1994).

- (18) a. *Ttena-ki ceneŷ* [Mary-ka John-eykey insa-lul hay-ss]-ta.  
 leave-N before Mary-Nom John-to goodby-Acc do-past-C  
 'Mary said goodbye to John before leaving.'
- b. John-kwahamkkey [Mary-ka eceŷ kongwen-ey ka-ss]-ta.  
 John-with Mary-Nom yesterday park-to go-past-C  
 'Mary went to the park with John yesterday.'
- c. Mary-ka [kongwen-ey eceŷ ka]-ss-ta.  
 Mary-Nom park-to yesterday go-past-C  
 'Mary went to the park yesterday.'

The scrambled verbal adjuncts such as *ttenaki-ceneŷ*, *John-kwahamkkey*, and *kongwen-ey* in (18) may have either a focus interpretation or induces no particular semantic changes on their own. For the latter phenomenon, one might argue that the lack of surface semantic effects in the scrambled elements in (18) could be attributed to the lack of INT assignment at the relevant spec position, although the movement itself is forced by an optional EPP. However, given the minimalist assumption that Move must be preconditioned by Agree, it is not entirely clear what feature of the probe (*v* or T) is engaged in the agreement operation in order to undergo Move: it is neither a (Case)-feature agreement nor a topic/focus feature agreement.

Therefore, if the scrambled elements do not bring about any particular semantic effects, the movement may well be taken as a PF movement which is forced by a certain PF counterpart of EPP (Chomsky 1998, 1999). What should be noted, however, is that even in case the scrambled elements do not induce any particular semantic consequences on their own, the movement may affect some information structure of the sentence which is directly related with PF component, that is, stress or (phonological) focus assignment (Cf. Zubizarreta 1998; Ishihara 2000). This essentially means that scrambling is strictly speaking not a semantically vacuous movement, making either direct or indirect semantic contributions.

With this hypothesis that scrambling may occur either in narrow syntax or at PF, we are now in a clear stance to account for the

following classical examples of scrambling.

- (19) a. Modun salam-i nwukwunka-lul cohahanta.  
 everyone-Nom someone-Acc likes  
 'Everyone likes someone.'
- b. Nwukwunka-ul modun salam-i cohahanta.  
 someone-Acc everyone-Nom likes  
 'Everyone likes someone.'

As is well known, while *everyone* takes a wide scope over *someone* in (19a), the scrambled order in (19b) induces scopal ambiguity. Such ambiguity, I suggest, has essentially to do with the linguistic level where scrambling occurs. That is, if *someone* moves in narrow syntax, it has a wide scope over *everyone*. On the other hand, if *someone* moves at PF, *everyone* takes a wide scope over it since at LF representation *someone* stays in its original position. What is interesting here is that when *someone* takes a wide scope over *everyone* in (19b), it itself always has a focus interpretation at the peripheral position. On the other hand, when *everyone* takes a wide scope over *someone*, *someone* never has a focus interpretation even if it resides at the peripheral position at surface. This fact clearly indicates that the scrambling of *someone* in narrow syntax is motivated by the feature [+foc] in T, as proposed above. Without such feature in T, the object *someone* would still stay in the original position at LF, thus inducing no direct semantic effects.

Such options, however, are not available in certain constructions. In the so-called locative/existential constructions, for example, scrambling of the locative is never allowed unless it gets a focus interpretation, as shown in (20b). Therefore, when the locative scrambles, as in (20c), it must have a focus reading, and as such it must be assumed to be executed in narrow syntax.

- (20) a. Na-eykey sewul-ey kajok-i issta.  
 I-Dat Seoul-in family-Nom be

'I have a family in Seoul.'

- b. ?\*Sewul-ey na-eykey kajok-i issta.  
 Seoul-in I-Dat family-Nom be
- c. Sewul-ey na-eykey kajok-i issta.  
 Seoul-in I-Dat family-Nom be

### 3.3. Scrambling and A/A'-Distinction

In this section, let us briefly consider the lingering question of the movement type(s) of scrambling and see what kinds of bearings the present analysis of scrambling has on the question.

In defining the movement type(s) of scrambling, Saito (1989) argues that scrambling is more like A'-movement than A-movement, but a third type which requires the scrambled element to be "undone" at LF. Webelhuth (1989) argues for scrambling to positions with mixed A- and A'-properties. Mahajan (1990), on the other hand, counters that local scrambling can be either to an A- or an A'-position, while long-distance scrambling is A'-movement.

As is well known, Korean scrambling data exhibit such ambivalent properties as well. First, with respect to the weak crossover effects, scrambling is more like A-movement than A'-movement. Hence, in (21), movement of *enu atul-ul* across a coindexed element *ku-uy pwumo* is perfectly acceptable.

- (21) Eunu atul-ul ku-uy; pwumo-ka t; sarangha-ni?  
 which son-Acc his parents-Nom love-Q  
 'Which son does his parents love?'

Second, with regard to binding facts, the landing site of scrambling may be either an A- or A'-position. In (22a), for instance, the scrambled element binds the anaphor; and as such the syntactic position where *John-kwa Mary-lul* is located should be an A-position, given the typical binding conditions. The example in (22b), on the other hand, demonstrates the effect of reconstruction, which is typical of A'-chain.



- (22) a. John-kwa Mary<sub>i</sub>-lul sero-uy<sub>i</sub> puwmotul-i coahayssta.  
 John-and Mary-Acc each other's parents-Nom liked  
 (lit.) 'Each other's parents liked John and Mary.'
- b. Sero-uy<sub>i</sub> puwmotul-ul John-kwa Mary<sub>i</sub>-ka coahayssta.  
 each other's parents-Acc John-and Mary-Nom liked  
 'John and Mary liked each other's parents.'

Then, how can the present analysis deal with this state of affairs? In the previous subsection, I proposed that the candidate of the EPP-driven Move in scrambling constructions is determined by the formal features such as [+topic]/[+focus]. Now, if we further assume with Chomsky (1998) that movement to check  $\bar{A}$ -features is A-movement and movement to check any other feature is A'-movement, the meaning-altering scrambling driven by a feature checking independent of (Case)-feature checking can be best viewed as A'-movement.

On the other hand, the dual properties of the landing position of scrambling, I suggest, are the reflex of the properties of agreement-inducing features of a head. In scrambling constructions, the functional head T, for instance, has two sets of features: one is (Case)-features and the other [+topic]/[+focus] features. The former induce A-movement and the latter A'-movement to the spec position of the head T. What is important here is that whatever the operation, the landing position of the operation is the spec position of the SAME head. For this reason, the spec positions of T in scrambling constructions may have mixed properties of A- and A'-position.

Exactly the same account can be extended to  $\nu$ P-internal scrambling. Examine the following:

- (23) a. Bill-un [John-kwa Mary<sub>i</sub>-lul sero-uy<sub>i</sub> chinkwu-eykey t<sub>i</sub>  
 Bill-Top John-and Mary-Acc each other's friend-Dat  
 sokayhayssta.  
 introduced  
 'Bill introduced John and Mary to each other's friend.'

- b. Bill-un [sero-uy<sub>i</sub> chinkwu-lul John-kwa Mary<sub>i</sub>-eykey t<sub>i</sub>  
 Bill-Top each other's friend-Acc John-and Mary-Dat  
 sokayhayssta].  
 introduced  
 (lit.) 'Bill introduced each other's friend to John and Mary.'

Sentences in (23) show the same patterns as those in (22), with respect to binding. Recall our assumption that the functional head *v* in Korean has (Case)-features but do not have their own EPP-feature, thus remaining in-situ. Just as in (22), therefore, the feature involved in the movement to the spec of *v*P is [+topic]/[+focus] plus its EPP; hence, the movement itself is A'-movement in the sense of Chomsky (1998). The landing position of the movement, however, may have dual properties of A- and A'-position since it is a spec of a head which has dual feature sets.

In sum, the A- versus A'-distinction is determined by the properties of agreement-inducing feature(s) of a head. In terms of movement, the A- versus A'-distinction is made by the feature that is directly involved in the agreement operation for the movement. In this sense, scrambling is A'-movement since the relevant agreement feature is non- (Case)-features. Likewise, the A- versus A'-distinction of a syntactic position is also determined by the feature involved. Hence, in sentences with the canonical order, the spec position of T is an A-position, T having only (Case)-features, whereas the spec position of T in scrambling constructions may have mixed properties of A- and A'-position because T has two different features of A and A'-character.

#### 4. Vacuous Scrambling of Subject

In this section, I will discuss briefly the discourse/informational interpretations of the canonical subject, which has been largely ignored in the generative literature on scrambling. Consider the following set of examples:

- (24) a. Mary-ka ecey John-ul manna-ss-e.  
 Mary-Nom yesterday John-Acc meet-past-C  
 'Mary met John yesterday.'
- b. [TP T [vP Mary-ka v [ecey John-ul manna]-ss-ta]]
- (25) A: Mary-ka encey John-ul manna-ss-tay?  
 Mary-Nom when John-Acc meet-past-C  
 'When did Mary meet John?'
- B: Mary-ka ecey John-ul manna-ss-tay  
 Mary-Nom yesterday John-Acc meet-past-C  
 'Mary met John yesterday.'
- (26) A: Mary-ka ttena-ss-ni, John-i ttena-ss-ni?  
 Mary-Nom leave-past-Q John-Nom leave-past-Q  
 'Did Mary leave? Or Did John leave?'
- B: John-i ttena-sse-yo.  
 John-Nom leave-past-C  
 'John left.'

Suppose that (24a) is a discourse-introducing sentence, and hence it bears only a representational interpretation. (25B) is an answer to (25A), and in such context, the subject *Mary-ka* functions as a continuing topic in the sense of Herring (1990) and Aissen (1992). In other words, the subject *Mary-ka* is no longer new information because it is carried over from the preceding discourse. It is also a topic because it is what the whole sentence is about. On the other hand, the subject *John-i* in (26B) gets a (contrastive) focus reading in the given context.

If this is the case, how does the regular Nominative Case-marked element end up with such varying discourse-semantic interpretations? I suggest that such interpretations be the results of vacuous scrambling of the subject. To be more specific, like a regular subject, the subject in (25B) and (26B) first checks its Case feature with  $\bar{A}$ -features of T and then moves to the spec of T due to the universal EPP-feature in T (Chomsky 1998). Now, if we assume that the discourse-related

information in (25B) and (26B) is encoded in the numeration in the form of the feature [+topic/ +focus], as in other scrambling cases, T, in the presence of [+topic/ +focus], is assigned an optional EPP-feature (by (13a) and assigned INT (by (13b)). In addition to the assumption that EPP is a “subfeature of a feature,” each of T's features (i.e., [ ] and [+topic/ +focus]) has its own EPP-feature as a subfeature, if we further assume with Pesetsky and Torrego (2000) that as far as the two features of the probe (T) match the features of the same goal (the subject NP), the EPP property of the two distinct features is satisfied by a single instance of Move to the spec of TP by the economy condition (27).

(27) Economy Condition (Pesetsky and Torrego 2000)

A head H triggers the minimum number of operations necessary to satisfy the properties (including EPP) of its (uninterpretable) features.<sup>5</sup>

Under this view, therefore, what makes the subjects in (25B) and (26B) differentiated from the regular subject is a vacuous scrambling which allows extra semantic effects in the in-situ edge position.<sup>6</sup>

## 5. Conclusion

In this paper, I explored the question of how surface semantic effects

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5) The parenthesis in *uninterpretable* is mine. As discussed in the text, the EPP property, I assume, is not necessarily associated with *uninterpretable* features.

6) The term 'vacuous scrambling' was originally used to refer to a movement which doesn't affect linear order (Saito 1989). In this sense, using the term for the subject NP in (25B) and (26B), which undergoes apparent 'in-situ double checking' rather than movement, might be taken somewhat misleading. (This was pointed out by an anonymous reviewer of this paper.) My assumption here is simple, however: Each EPP-feature is satisfied by a movement operation. But when the economy condition as in (27) forces the two EPP-features to be satisfied by a single operation, the surface effect is exactly like the one resulting from extra vacuous movement.

of scrambling and related interpretational options are properly captured within the current minimalist program (Chomsky 1998, 1999, 2001). I maintained that scrambling is strictly speaking not a 'semantically vacuous movement', making a certain semantic effect directly or indirectly. I argued specifically that scrambling is driven by a lexically-designated formal feature and an optional EPP-feature assigned to  $\nu$  or T, and that general semantic effects of scrambling are surface effects obtained at the edge position of  $\nu$ P or TP, which are otherwise unavailable in the original positions. Under this analysis, meaning-altering scrambling is syntactically an obligatory movement in the sense that it is a feature checking operation. The optional nature of scrambling was attributed to the optional assignment of EPP feature to  $\nu$  or T, and its different interpretational options are the results of INT assignment which is parametrized with respect to interpretability. Finally, related to the movement operation of scrambling, I claimed that the A- and A'-distinction of a movement and a syntactic position is determined by the properties of agreement-inducing feature(s) of a head.

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Yeun-Jin Jung

Dept. of English Language & Literature

Donggeui University

24 Kaya-3 dong, Pusanjin-gu

Pusan 614-714, South Korea

Phone: +82-51-890-1230

E-mail: yjjung@dongeui.ac.kr

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