

On the Real Nature of Scrambling in Korean

Hong-Pin Im *

Abstract: The putative scrambling in Korean has intrinsic difficulties due to the lack of driving force for the movement of constituents. The Case theory, EPP and Focus Feature, etc. does not support the movement of the scrambled constituent. The radical LF-reconstruction or the LF-lowering also raises serious questions about the semantics of the moved constituent. This paper claims that the putative scrambled constituent should be analyzed as a Word Order Topic, based on the Lexicalist Case Hypothesis which says that the case should be defined on the basis of lexical information, and the Hypothesis of Variable Medial Projection which says that the number of medial projections should be matched with the number of arguments of a predicate.

As to the so-called Long Distance Scrambling (LDS), the typical cases considered hitherto to be LDS is not a real LDS, because the object in front of the matrix subject is not a constituent of the embedded clause, but that of the matrix clause. As to the embedded constituent in front of the matrix subject, this paper introduces the principles of Constituent Affiliation Principle which says that a constituent should be in its own clause, or should be construed to be as if it were in its own clause, and Transparent Verb Principle (TVP) which says that a thinking- or saying-verb functions as if it were nonexistent in certain discourse-syntactic contexts. The typical object of the so-called LDS that appears in the thinking- or saying-verb construction is on a par with that of the Short Distance Scrambling (SDS) in virtual structure. In virtual structure, the matrix clause can be seen nonexistent by the TVP and the matrix subject can be seen to function as a parenthetical phrase.

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1. Introduction

This paper intends to make clear the real nature of scrambling and the semantic effects of seemingly scrambling in Korean. In general, scrambling has been taken to be the operation of rearranging the order of constituents placed at given positions in a sentence. However, from the start, scrambling runs into unexpected difficulties. One is concerned with the basic word order. In the Minimalist framework (Chomsky, 1995), the basic order of the constituents in a sentence is not fixed or not in a stable state, because the internal merge can be applied even to a structure which is not full-fledged. The order of constituents is largely dependent on factors like Head parameter and/or Linear Correspondence Axiom by Kayne (1994), and the like. The other is concerned with ‘Last Resort.’ Obviously it is not clear what is the motive or driving force for a constituent to scramble to another position.

In this paper it is claimed that there is no such thing as scrambling in Korean, as a variety of surface syntactic structures are analyzed in terms of the Hypothesis of Variable Medial Projections and Case Lexicalist Hypothesis. There are only word order variations as given, which seemingly look like scrambling or rearrangement of constituents. If so, naturally the question of how the multiple word order variations in surface structures can be explained arises. The answer is not so difficult: The alleged scrambled constituent is given at that position. The semantic and/or pragmatic function of the putative scrambled constituent is that of topic, which is called ‘word order topic’ in this paper.

2. Dichotomy in approaches to scrambling

The current dichotomy in the approaches to the problem of scrambling seems to be that between the movement approach and the base generation (or non-movement) approach. The former sees that a variety of word orders is the result of movements, whereas the latter sees that it is not the result of movements, but that it is given as such (Cf. Bayer and Kornfilt 1994: 17-60, Kiss 1994: 221-256, Neeleman 1994: 387-429, Y.-S. Kim 1997, Bošković & Takahashi 1998, Cho and Kim 2000, 2001; Bošković 2004, etc.). Consider the following:^①

^① In Korean annotations, NK stands for Nominative Case Marker, GK Genitive Case Marker, AK Accusative Case Marker, TK Target Case Marker that comprises Dative Case and Goal or Directive Case, LK Locative Case Marker, SK Source Case Marker, H Modal Particle including the so-called Topic Marker *eun/neun*, PRS Present Tense Marker, PST Past Tense Marker, RPF Respect Prefinal Ending, DF Declarative Final Ending, QF Interrogative Final Ending, CF Connective Final Ending, AF Adnominal Final Ending, and CFP Connective Final Ending Phrase.

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- (1) a. Harry-ga *Mary-eui son-eul* jab-ass-da.^①
NK GK hand-AK hold-PST-DF
'Harry held Mary's hand.'
- b. *Mary-eui son-eul* Harry-ga jab-ass-da. (Scrambled version of (1a))
GK hand-AK NK hold-PST-DF
'Mary's hand, Harry held.'^②
- c. *Mary-eui son-eul* Harry-ga *t* jab-ass-da. (Derivation from (1a) to (1b))
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The example (1a) exhibits the normal, basic, or canonical word order of a typical transitive sentence in Korean. In (1b), it seems that the object of (1a) moves to the sentence initial position. The movement approach to scrambling (or 'derivationalist' hypothesis) sees that the structure of (1b) is derived from the canonical structure like (1a) by way of a movement as postulated by the arrow in (1c). As to the A and/or A-bar distinction of the landing site of scrambling, various proposals are put forth, depending on the grammatical theories and versions (Cf. Saito 1985, 1992; Hoji 1985, Webelhuth 1989, Mahajan 1990, Tada 1993, Yoshimura 1992, etc.).

By contrast, the base generation (or non-movement) approach to scrambling sees that the structure of (1b) is not derived from a structure like (1a). Instead, as postulated in Y.-S. Kim (1997), Bošković & Takahashi (1998), Cho and Kim (2000, 2001) and Bošković (2004), LF lowering is set up. The putative scrambled constituent is lowered into its Θ -role position, so that its Θ -role is checked. Granted that LF lowering can be motivated for the Θ -role checking, there still remains the question of how the putative scrambled structure is to be generated.^③

3. Movement approach and lack of motivation

Derivationalists take it granted that there is a real movement like (1c) between (1a) and (1b). However, the derivationalists should answer the question of what is the driving force involved in the movement as depicted in (1c). It is well known that the derivationalist posits underlying word order for a putative scrambled syntactic surface structure. If the operation of merge in Minimalist Program generates a surface structure similar to the scrambled

^① This paper adopts the Korean Official Romanization System for Korean data.

^② The English annotations in this paper reflect the author's point of view on scrambling.

^③ As to the counter-attack done to LF lowering, see Bailyn (2001) and Miyagawa (2006), M.-K. Lee (2004, 2006).

structure straight from the start, it might be said that there is no basic word order structure to which the operation of scrambling can be applied. In that case, the internal merge as a driving force to derive a scrambling structure is relevant to this problem. The derivation lies between the structures before and after the application of the internal merge. At any rate, a derivational process must become involved in the so-called Minimalist approach.^①

The principle that works in the syntactic derivation is the so-called “last resort”. Without any motivation, a constituent should not be moved from one place to another. If (1b) is derived from (1a), the constituent *Mary-eui son-eul* ‘Mary’s hand-AK’ should have a motivation to move. If not, the move is not legitimate. It goes without saying that (1b) as well as (1a) is perfectly grammatical in Korean, and that it is usually believed that the meaning of (1b) is not so different from that of (1a). Viewed from the basic tenet of generative grammar, this should be captured by transformation. This might be simple: the object *Mary-eui son-eul* ‘Mary’s hand-AK’ moves out of the object position to the sentence initial position. However, what is the motivation? For what reason should the object of (1a) move from the object position?

The Case theory does not apply here, because the object is fully equipped with the accusative case marker *eul/reul*. Contra Y.-S. Lee (1993, 1994), it is obvious that there is no reason for a constituent with a proper Case to move to get the Case, as indicated in Bošković & Takahashi (1998). There is no empty place to be filled by an object NP at the sentence initial position either. Even the bare object NP in situ does not have a reason to move to that position, because that position is not a place where the problem of Case is resolved. In sum, let’s present this as follows:

(C1) *Scrambling and Case Theory* Case theory does not work for scrambling.

A purely formal feature like [+EPP] happened to be postulated in the category of T (tense) of TP (Cf. Miyagawa (2001: 293-388) for Japanese data), or *v* or T as in Jung (2002) to attract the object to Spec of TP or Spec of *v*P, or to check off the relevant uninterpretable feature. However, the [+EPP] feature is originally related with subject. If that feature is assigned to the object for scrambling, the inherent property of [+EPP] must be distorted and perverse. If the [+EPP] feature of T or *v* is checked off by an object or a WH-phrase, then T or *v* intrinsically has nothing to do with a subject. This is undesirable. And once checked off, the [+EPP] feature cannot work any further. However, it is obvious that there must be scrambling involving the dative, locative and/or instrumental constituent, etc. other than the

^① Usually, it is assumed that the alleged scrambling applies at PF after the narrow syntax in Minimalist Program.

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accusative object. Consider the following:

- (2) a. Harry-ga Mary-ege seonmul-eul ju-eoss-da.
NK TK gift-AK give-PST-DF
'Harry gave Mary a gift.'
- b. *Mary-ege* Harry-ga seonmul-eul ju-eoss-da.
TK NK gift-AK give-PST-DF
'[literally] *Harry gave a gift, speaking of Mary.'
- c. *Mary-ege seonmul-eul* Harry-ga ju-eoss-da.
TK gift-AK NK give-PST-DF
'Harry gave Mary a gift, speaking of Mary and a gift.'
- d. *Seonmul-eul Mary-ege* Harry-ga ju-eoss-da.
gift-AK TK NK give-PST-DF
'Harry gave Mary a gift, speaking of a gift and Mary.'

The example (2a) shows the canonical word order of the verb *ju-* 'to give': dative precedes accusative. In (2b), the dative occupies the sentence initial position. Once the [+EPP] feature was used for the scrambling of the dative, there is nothing left to be used for other scrambling as shown in (2c). (2d) is also problematic for the [+EPP] hypothesis. The setting up of a feature like [+EPP] also raises the problem of 'look ahead', as in the case of the [+Focus] movement approach that will be shortly discussed. Thus we can say that:

(C2) Scrambling and [+EPP] Hypothesis EPP hypothesis does not work for scrambling.

The focalist approach to scrambling as proposed in Miyagawa (1997), Choi (1999), M.-K. Lee (2006), Lee and Cho (2003), etc. postulates a feature like [+focus] or a Focus projection i.e. FocP above TP to attract an object. Jung (2002) and Yang & Kim (2005) suggest the INT-move for the topic or focus effect. But crucial questions are raised about the motivation for setting up the arbitrary feature like [+focus] or [+topic] and for setting up the arbitrary projection like FocP. It should be pointed out that the feature like [+focus] or [+topic] raises the 'look ahead' problem, because setting up such features can be thought to be an anticipatory measure for later applications. The same can be said for the focus approach as posited in Lee & Cho (2004) and for the INT-move or the like as stipulated in Jung (2002) and Yang & Kim (2005).

Furthermore, it is obvious that the focus approach is not based on real data. Consider the following:

- (3) a. Speaker A: Harry-ga Mary-ege *mueos-eul* ju-eoss-ni?

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NK TK what-AK give-PST-QF

‘What did Harry give to Mary?’

b. Speaker A: *Mueos-eul* Harry-ga Mary-ege ju-eoss-ni?

what-AK NK TK give-PST-QF

‘What did Harry give to Mary?’

c. Speaker B: *Chaek-eul* Harry-ga Mary-ege ju-eoss-da.

book-AK NK TK give-PST-DF

‘A book, Harry gave to Mary.’

d. Speaker B: Harry-ga Mary-ege *Chaek-eul* ju-eoss-da.

NK TK book-AK give-PST-DF

‘Harry gave a book to Mary.’

(4) a. Speaker A: *Chaek-eul* Harry-ga *nugu-ege* ju-eoss-nunja?

book-AK NK who-TK give-PST-QF

‘The book, to whom did Harry give?’

b. Speaker A: *Chaeg-eul* Harry-ga *Mary-ege* ju-eoss-da.

book-AK NK TK give-PST-DF

‘The book, Harry gave to Mary.’

(3a) is a question about the WH-phrase *mueos-eul* ‘what-AK’. If the WH-word is a focus, then the constituent *mueos-eul* ‘what-AK’ in (3a) must be a focus. Yet, the constituent *mueos-eul* ‘what-AK’ is still in situ. This means that the scrambling has nothing to do with the WH-focus. Is this unmarked focus in the sense of M.-K. Lee (2006)? It is not certain whether or not the WH-phrase is a focus. In reality the WH-phrase is a constituent to be asked for information. If scrambling were focus-driven, then the WH-phrase in (3b) should have moved to get the focus status. But this is not the case, because the WH-phrase is already focus in situ according to the WH-focus hypothesis. (3d) is a neutral answer to the question of (3a). But (3c) is also a possible answer to (3a) with some emphasis on *chaeg* ‘book’. This cannot be seen as a focus-driven movement, because the answer to the WH-word can be given to the WH-word in situ.

Now consider (4a) and (4b). (4a) is a question about the WH-phrase *nugu-ege* ‘who-TK’. Here again if the WH-phrase is a focus, then the constituent *nugu-ege* ‘who-TK’ in (4a) must be a focus. Nevertheless, the constituent *nugu-ege* ‘who-TK’ does not move to the sentence initial position. If the WH-phrase and the alleged scrambled object are foci, then what is the real focus in (4a)? Are both foci? It is conceded that in (4b) *Mary-ege* ‘Mary-TK’ is a focus, because it is newly introduced into the discourse. Then what is the

information status of the alleged scrambled object at the sentence initial position? The alleged scrambled object and the element of new information that occurs in the answer, are they both foci? We can at least say that both cannot be foci. It is evident that the alleged scrambled object is not a focus as new information. Let's present this as follows:

(C3) *Scrambling and Focus Hypothesis* Focus hypothesis does not work for scrambling.

What about the [+topic] hypothesis for providing the driving force for scrambling? This paper considers the putative scrambled phrase as a kind of topic, but not involved in movement.^①

4. Against a movement approach to scrambling

It is already proposed that scrambling is not movement, in Bayer & Kornfilt (1994), Kiss (1994), Neeleman (1994: 387-429), Y.-S. Kim (1997), Bošković & Takahashi (1998), Cho and Kim (2000, 2001), and Bošković (2004), etc. largely based on the scope phenomenon, anaphor binding fact, superiority condition, idiom interpretation, and parasitic gap resolution. Though some evidence is convincing, the grammatical judgments on the relevant examples are too subtle to be established. Some phenomena are not found in Korean, since Korean has nothing to do with the syntactic WH-movement and superiority condition, etc. As for Korean, let's consider the following evidence for a non-movement approach to scrambling.

First, it should be pointed out that the position from which the alleged scrambled constituent is considered to be extracted could be filled with some resumptive lexical elements that are related with the putative scrambled constituent referentially.

(5) a. *Chaeg-eul Suzie-ga e silheoha-n-da.*^②

book AK NK dislike-PRS-DF

'The book, Suzie dislikes.'

b. *Chaeg-eul Suzie-ga gugeos jachae-reul silheoha-n-da.*

book AK NK it self-AK dislike-PRS-DF

^① Song (2004) sees the constituent *chaeg-eul* in the example like *Mary-ga chaeg-eul na-ege ju-eoss-da*. 'Mary, a book, gave to me.' as a topic, and the constituent *na-ege* 'to me' as a focus. This paper in part agrees with Song's interpretation, but it is different from in seeing that the constituent *Chaek-eul* is a topic relative to the rest of the sentence. The rest of the sentence is qualified as a comment relative to the topic. The information status of a constituent is determined with regard to the discourse syntactic contexts.

^② In (5a), the symbol *e* stands for an empty category, not a trace. Derivationalists see this as a trace left by movement.

‘The book, Suzie dislikes it itself.’

c. Chaeg-eul Suzie-ga geu eotteon geos-do silheoha-n-da.

book AK NK that which one even dislike-PRS-DF

‘The book, Suzie dislikes anything like that.’

As indicated with respect to (1c), the derivationalist sees that in (5a) there is a gap between the subject and the predicate. If once a trace always a trace, the gap cannot be filled with other lexical materials. But as shown in (5b) and (5c), the gap can be filled with other materials, like *it itself*, *anything like that*, etc. It cannot be said that scrambling involves movement, since there is no trace in (5b, 5c) from which the putative scrambled phrase is extracted. It is not true that after scrambling the referring lexical elements are inserted. Thus we can say that:

(C4) *Scrambling and Resumptive Lexical Elements* The putative scrambled gap can be filled with other heavy lexical materials. This means that scrambling is not movement.

Second, some reciprocal facts support a non-movement approach to scrambling. It is not without apparent counterexamples.^① Consider the following:

(6) a. Seoro-reul [Mary-wa Suzie]-ga e_i bipanha-yeoss-da.

each other AK and NK criticize-PST-DF

‘Mary and Suzie criticized each other, speaking of each other.’

b. [Mary-wa Suzie]-ga seoro-reul bipanha-yeoss-da

and NK each other-AK criticize-PST-DF

‘Mary and Suzie criticized each other.’

To avoid complications, let’s assume that the Korean reciprocal *seoro* ‘each other’ is an anaphor, which has its antecedent within governing category in terms of Binding Theory (A) of Chomsky (1981).^② In the movement approach, (6a) and (6b) are assumed to have the same meaning. In this approach, the reciprocal in (6a) is reconstructed into the position indicated by e_i in (6a). Though LF structure of (6a) is not distinct from that of (6b), it is not

^① This indicates such examples as (6a). Confer the discussion related to (6a).

^② The reciprocals are not always bound in their governing categories as in the following example:

(a) Harry-wa Mary-ga Suzie-ga seoro-reul miweoha-n-da-go saenggakha-n-da.

NK NK each other-AK hate-PRS-DF-COMP think-PRS-DF

‘Harry and Mary, Suzie thinks that they hate each other.’

It is obvious that the example (a) above is felicitous. In (a), the reciprocal *seoro* ‘each other’ is construed to refer to *Harry-wa Mary* ‘Harry and Mary’ in the matrix clause, violating Binding Theory (A) of Chomsky (1981). Since the reciprocal *seoro* ‘each other’ is in the embedded clause, its antecedent should be in that category, according to Binding Theory (A).

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noticed that (6a) is not good as (6b). Notwithstanding, (6a) and (6b) are taken to support the movement approach by derivationalists. However, counterexamples are found against the movement approach, as given in Y.-S. Kim (1997).

- (7) a. Harry-ga [Mary-wa Suzie]-reul (pati-eseo) seoro-ege e_i sogaeha-yeoss-da
 NK and AK (party-LK) each other-TK introduce-PST-DF
 ‘Harry introduced Mary and Suzie to each other (at the party).’
- b. ?*Harry-ga seoro-ege [Mary-wa Suzie]-reul sogaeha-yeoss-da
 NK each other-TK and AK introduce-PST-DF
 ‘*Harry introduced to each other Mary and Suzie (at the party).’

Although (7b) exhibits canonical structure of the verb *sogaeha-* ‘to introduce’, in which the dative reciprocal precedes the accusative antecedent, the use of the reciprocal in (7b) is infelicitous. In (7b), the reciprocal *seoro* ‘each other’ is not bound in its governing category. By contrast, (7a) is felicitous, in which the accusative antecedent precedes the dative reciprocal. This means that in (7a) the reciprocal is bound in its governing category. If in (7a) the accusative antecedent *Mary-wa Suzie-reul* ‘Mary and Suzie-AK’ were extracted from the canonical object position, and if the anaphor interpretation should be done at the LF reconstructed structure, then the proper interpretation of the reciprocal could not be obtained. In (7a), the antecedent of the reciprocal is not the reconstructed object in the position e_i , but the putative scrambled object in front of the reciprocal. Now we can say that:

(C5) *Scrambling and Construal of Reciprocals* Some reciprocal facts support the non-movement approach to scrambling.

Third, some reflexive facts support the non-movement approach to scrambling. To begin with, consider the following examples that seem to support movement.

- (8) a. Jagi_i-reul Mary_i -ga e_i bipanha-yeoss-da
 self AK NK criticize-PST-DF
 ‘Mary criticized herself, speaking of Mary.’
- b. Mary_i -ga jagi_i -reul bipanha-yeoss-da
 NK self AK criticize-PST-DF
 ‘Mary criticized herself.’

(8a) and (8b) are both felicitous; this seemingly satisfies movement approach. According to that approach, in (8a) the reflexive *jagi* ‘self’ should be interpreted at the LF reconstructed structure. Derivationalists claim that the meanings of (8a) and (8b) are not distinct. However it has not been noticed that (8a) is not as good as (8b). When other lexical materials intervene between the preceding reflexive and the following coreferential NP, the

reversed order like (8a) becomes still worse:

(8') a. ^{??}Jagi_i -reul manheun saramdeul ap-eseo Mary_i -ga e_i bipanha-yeoss-da.

self AK many people front-LK NK criticize-PST-DF

'[literally] *Herself, Mary criticized in front of many people.'

b. ^{??}Jagi_i -reul Younghi-ga jamdeun sai-e Mary_i -ga e_i bipanha-yeoss-da

self AK NK sleep while-LK NK criticize-PST-DF

'[literally] *Herself, Mary criticized while Younghi was sleeping.'

(8'a, 8'b) are not good at the coreferential interpretations of the reflexives *jagi* 'self' with the subjects *Mary*. If the putative scrambled reflexives should be construed at LF reconstructed structures, it is not understandable why such infelicities happen to arise. More serious are the examples (9a, 9b), which seem felicitous but whose reflexives seem to be not bound within governing categories at LF reconstructed structures.

(9) a. [?]Mary-eui geurim-reul byeok-eseo jagi-ga e_i tte-eoss-da

GK picture-AK wall-SK self-NK take off--PST-DF

'Mary's picture, she herself took it off from the wall.'

b. [?]Mary-eui geurim-reul jagi-ga e_i silheoha-n-da

GK picture-AK self-NK dislike-PRS-DF

'Mary's picture, she herself dislikes it.'

(9a) and (9b) exhibit the alleged scrambled structures of the objects *Mary-eui geurim-reul* 'Mary's picture-AK'. It should be noted that (9a) and (9b) are not totally infelicitous, though not perfectly grammatical. If the reflexives in (9a) and (9b) must be construed at the LF reconstructed structure, the proper interpretations could not be obtained. It is recognized that the reflexives in (9a, 9b) should be construed at surface structure. Thus we can say that:

(C6) Scrambling and Reflexive Interpretation Some reflexive facts support the non-movement approach to scrambling.

Fourth, it is undeniable that the fact that conjoined sentences may share one and the same putative scrambled constituent as shown in (10a) undermines the viability of the movement approach to scrambling.

(10) a. Mary-eui geurim-reul Harry-ga e_i geuri-go, Suzie-ga e_i pal-ass-da.

GK picture-AK NK draw-CF NK sell-PST-DF

'Mary's picture, Harry painted and Younghi sold.'

b. Mary-eui geurim-reul Harry-ga e_i geuri-go, Suzie-ga e_i pal-ass-da.



In (10a), the first and the second conjunct share the putative scrambled constituent *Mary-*

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eui geurim-eul ‘Mary’s picture-AK’. If the shared constituent *Mary-eui geurim-eul* ‘Mary’s picture-AK’ in (10a) is moved both from the first conjunct and from the second one to the sentence initial position, it is natural to say that (a) and (b) moves in the fashion of the arrow marked in (10b) are not possible. Some tricky movement like Across The Board (ATB) might be proposed to resolve this difficulty. But it is nothing but a makeshift. Now we can sum this as follows:

(C7) *Scrambling and Shared Constituents* Shared constituents in conjoined structure support the non-movement approach to scrambling.

Fifth, the constituent that has no rigid canonical position like a topic or an adverbial as in (11) must undermine the validity of the movement approach.

(11) a. *Mary-reul* Harry-ga son-eul jab-ass-da.

H NK hand-AK hold-PST-DF

‘As for Mary, Harry held her hands.’

b. Harry-ga *Mary-reul* son-eul jab-ass-da.

NK H hand-AK hold-PST-DF

‘As for Mary, Harry held her hands.’

c. Harry-ga *e_i* son-eul jab-ass-da, *Mary-reul*.

NK hand-AK hold-PST-DF H

‘Harry held Mary’s hands, speaking of Mary.’

In (11a), the sentence initial *reul*-constituent *Mary-reul* is considered *reul*-topic as in Im (1987, 2006a, 2007), etc. We don’t know where the *reul*-topic comes from. The most plausible position for the original *reul*-topic might be before *son-eul* ‘hand-AK’ as in (11b). However, it is not necessary for the *reul*-topic to be placed there. Usually it is believed that the topic occurs in the sentence initial position. However, this is nothing but a fixed idea, because there are many kinds of topic in Korean, which seem to have no rigid canonical positions. In (11c), should the tail or afterthought *Mary-reul* be assumed to come from the *e_i* *marked* position? It should not.

Sentence adverbials are on a par with topic markers in that they also have no rigid canonical positions.

(12) a. *Mary-ga* na-ege *eoje* seonmul-eul ju-eoss-da

NK me-TK yesterday gift-AK give-PST-DF

‘Mary gave me a gift yesterday.’

b. *Mary-ga* *eoje* na-ege seonmul-eul ju-eoss-da

NK yesterday me-TK gift-AK give-PST-DF

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‘Mary gave me a gift yesterday.’

- c. *Eoje* Mary-ga na-ege seonmul-eul ju-eoss-da
yesterday NK me-TK gift-AK give-PST-DF
‘Yesterday Mary gave me a gift.’

(12a-12c) exhibit a variety of positions for the time adverbial *eoje* ‘yesterday’ to occur. It occurs sentence medially as in (12a, 12b), and sentence initially as in (12c). Time adverbials can be considered free constituents. They can occur anywhere between major constituents. Derivationalists might set up a canonical position for time adverbials to occur in. But where is this position? Maybe it might be the sentence initial position, because time is related with the proposition as a whole. Even though it is agreed that the typical position for time adverbials is the sentence initial, other occurrences of time adverbials cannot be derived from that position.

The situation becomes more complicated when other sentential adverbs are introduced as well.

- (13) a. *Dahaenghi* Mary-ga na-ege *eoje* seonmul-eul ju-eoss-da
fortunately NK me-TK yesterday gift-AK give-PST-DF
‘Fortunately, Mary gave me a gift yesterday.’
b. Mary-ga *dahaenghi* *eoje* na-ege seonmul-eul ju-eoss-da
NK fortunately yesterday me-TK gift-AK give-PST-DF
‘[literally] Mary gave me a gift fortunately yesterday.’
c. *Eoje* Mary-ga na-ege *dahaenghi* seonmul-eul ju-eoss-da
yesterday NK me-TK fortunately gift-AK give-PST-DF
‘[literally] Yesterday Mary gave me fortunately a gift.’

(13a-13c) have the modal adverb *dahaenghi* ‘fortunately’ in addition to the time adverbial. Ordinarily, modal adverbs are considered sentential adverbials, so they are positioned sentence initially. It might be said that in each (13a-13c) sentence, the modal adverbial and time adverbial compete for the sentence initial position. There is no resolution for this conflict, because the sentence initial position is limited to one. In this case, how can we say that other occurrences of adverbials are derived from the sentence initial position? Perhaps some stipulation might be put forth, but it is evident that it is not that significant. Thus we can say that:

- (C8) *Scrambling and Free Constituents* Free constituents like topics and adverbials, etc. for which no rigid canonical positions are posited, weaken the movement approach to scrambling.

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Sixth, LF reconstruction that the movement approach often postulates for semantic interpretation makes void the semantic effects brought about by putative scrambling. When reconstructed into its extracted position, the scrambled element loses its semantic effects completely. It is undeniable that the putative scrambled constituent has its own function. One example to show the wrong result of LF reconstruction is the idiom chunk.

- (14) a. Geu gage-ga pari-reul nalli-n-da
 that store NK fly-AK make fly-PRS-DF
 ‘[literally] That store makes flies fly. [paraphrase] That store’s business is slack.’
 b. *Pari-reul_i geu gage-ga e_i nalli-n-da
 fly-AK that store-NK make fly-PRS-DF

Clearly, (14b) is odd, due to the damage from putative scrambling. However, if the undoing reconstruction at LF assumed in the movement approach comes to restore idiom effect, then (14b) should be perfect. But this is not true. Thus we can say that:

(C9) Scrambling and Idiom Chunk The damage done to idiom chunk by scrambling and restored by LF reconstruction gives damage to the movement and reconstruction approach.

Seventh, if the putative scrambled constituents do have semantic effects not prepared in the underlying structure, then the putative scrambling violates the principle of ‘meaning preserving’ of transformation. On the other hand, if scrambling applies in PF as a stylistic rule, then it should be permitted that PF rule is related with meaning changing.

Eighth, scope facts with regard to quantification undermine the merit of the movement approach.

- (15) a. Modeun namhaksaeng-i eotteon yeohaksaeng-eul joaha-n-da.
 every boy student-NK some girl student-AK like-PRS-DF
 ‘Every boy student likes one girl student.’ [$\forall > \exists$, $\exists > \forall$] (for Korean)
 b. Eotteon yeohaksaeng-eul modeun namhaksaeng-i e_i joaha-n-da.
 some girl student-AK every boy student-NK like-PRS-DF
 ‘One girl student, every boy student likes.’ [$\exists > \forall$, $\forall > \exists$] (for Korean)

In (15a), both wide and narrow scope readings on the existential quantifier are available on a par. On the other hand, in (15b) the wide scope reading on the existential quantifier is more available than the narrow one, though not excluding the latter^① LF reconstruction will

^① It is noted that scope phenomenon interacts with various semantic and pragmatic factors. The predicate *joaha*- ‘to like’ in (15b) makes it easy to read the scope of existential quantifier narrowly over the universal quantifier. As for the predicate *geuriweoha*- ‘to miss’, the narrow scope reading is more available than the wide one as in the example below (b). It is because the act of *geuriweoha*-

make void these subtle differences. Let's present this as follows:

(C10) *Scrambling and Scope Interaction between Quantifiers* The fact that LF reconstruction nullifies the subtle superior effects of the preceding quantifier over the following one undermines the movement and reconstruction approach.

Ninth and last, scope facts relative to modal particle (or delimiter) *man* 'only' threaten the existence of scrambling as movement.

- (16) a. Mary-ga na-(ege)-*man* seonmul-eul ju-eoss-da
 NK me-(to)-only gift-AK give-PST-DF
 '[literally] Mary, only to me, gave a gift.'
- b. Mary-ga seonmul-eul na-(ege)-*man* ju-eoss-da
 NK gift-AK me-(to)-only give-PST-DF
 'Mary gave a gift only to me.'
- c. Na-(ege)-*man* Mary-ga seonmul-eul ju-eoss-da
 me-(to)-only NK gift-AK give-PST-DF
 'Only to me, Mary gave a gift.'

The influence of the modal particle *man* 'only' in (16a) ranges over the scope from the constituent *na-(ege)-man* 'only to me' to the sentence final *ju-eoss-da* 'gave'. So (16a) means that Mary 'didn't give a gift' except to me. By contrast, in (16b) the scope ranges over only two constituents, i.e. *na-(ege)-man* 'only to me' and *ju-eoss-da* 'gave'. Thus (16b) means that a gift, Mary 'didn't give' except to me. On the other hand, in (16c) the scope of the particle *man* 'only' ranges over the entire sentence. Thus (16c) means that it is not the case that Mary gave a gift to others but me. It is obvious that there are subtle and important meaning differences among (16a-16c). If LF reconstruction returns the modal particle phrase to its putative original position, these semantic differences among (16a-16c) disappear. Thus we can say that:

(C11) *Scrambling and Scope Interpretation of Modal Particle man 'only'* The fact that LF reconstruction nullifies the scope distinctions with respect to the modal particle *man* 'only' crucially weakens the movement and reconstruction approach.

In summary, though superficially some facts regarding reflexives and reciprocals might

'miss' is more personal or private than that of *joaha*- 'like'

- (a) Modeun namhaksang-i han yeohaksaeng-eul geuriweoha-n-da.
 every boy student-NK one girl student-AK miss-PRS-DF
 'Every boy student misses one girl student.' [$\forall > \exists$, $\exists > \forall$] (for Korean)
- (b) Han yeohaksaeng-eul modeun namhaksang-i e, geuriweoha-n-da.
 one girl student-AK every boy student-NK miss-PRS-DF
 'One girl student, every boy student misses.' [$\exists > \forall$, $\forall > \exists$] (for Korean)

seem to support a movement approach to scrambling, it is obvious that the movement approach must run into counterexamples that cannot be accounted for so easily. It is evident that the movement approach has fatal weaknesses and that it cannot be supported empirically as well as theoretically.

5. Syntactic analysis and remnant constituent

Basically, this paper claims that a syntactic analysis should be based on the lexical information given in the lexicon, which could be called the ‘Case Lexicalist Hypothesis’ (Cf. Im 2006a). Let’s present this as follows:

(C12) *Case Lexicalist Hypothesis* As far as syntactic Cases are concerned, they should be defined on the bases of the lexical information given in the lexicon.

Let’s assume the simple lexical information of the verb *jab-* ‘to hold’ as follows:

(C13) *Some Lexical Information of jab-* ‘to hold’

- a. POS (Part Of Speech): V
- b. Argument Information: <NKP, AKP, _ >
- c. Semantic Information: ‘to hold’

(C13a) shows the part-of-speech (=POS) information of *jab-* ‘to hold’. The word *jab-* is a verb in Korean. (C13b) shows the argument information of the verb *jab-* ‘to hold’. According to (C13b), the verb *jab-* ‘to hold’ is a two-place predicate. It is a transitive verb. (C13c) shows the semantic information of the verb *jab-* ‘to hold’.

The information contained in the angled bracket in (C13b) indicates that the verb *jab-* ‘to hold’ takes AKP (=Accusative Case Phrase) and NKP (=Nominative Case Phrase) as its regular arguments to make a VP (in the VP-internal Subject Hypothesis) category. Consider how the syntactic structure of (1a, 1b) repeated as (17a, 17b) below can be analyzed.

(17) a. Harry-ga *Mary-eui son-eul* jab-ass-da.

NK GK hand-AK hold-PAST-DF

‘Harry held Mary’s hand.’

b. *Mary-eui son-eul*_i Harry-ga *e_i* jab-ass-da.

GK hand-AK NK hold-PST-DF

‘Mary’s hands, Harry held.’

Before carrying out a full syntactic analysis of a sentence, it is necessary to carry out morphological analyses and partial syntactic analyses of the target phrases and elements given in the sentence. In (17a), the constituent *Mary-eui* ‘Mary-GK’ is analyzed into GKP (Genitive Case Phrase), *Mary-eui son* ‘Mary’s hand’ into NP, *Mary-eui son-eul* ‘Mary’s hands-AK’ into

AKP, *Harry* into NP, *Harry-ga* into NKP, the element *-ass-* into PF (Prefinal Ending [denoting tense]), and *-da* into DF (Declarative Final ending) by reference to the lexical information given in the lexicon and to some partial rules of combinations. This is a very simple picture of morphological and partial syntactic analyses. The details of analyses are more complex (Cf. Im & Lee 2002).

Now (17a) is amenable to syntactic analysis under Hypothesis of Variable Medial Projection (HVMP)^① which correlates the number of argument(s) of a head with the number of medial projection(s). By HVMP, we can apply the lexical information to the syntactic analysis. One of the important principles that works here is the ‘Principle of Strict Correspondence’ which indicates that the target constituent can be analyzed as such, only when the order and contents coincide with the information given in the argument information in the lexicon.

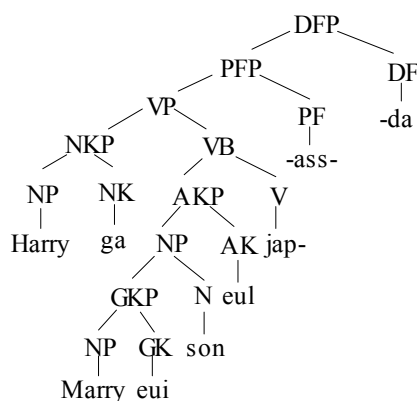
Keeping these principles in mind, we can analyze (17a) in a proper and principled way. In the first place, the verb *jap-* ‘to hold’ takes an AKP *Mary-eui son-eul* ‘Mary’s hand-AK’ to make VB (V’), since AKP in (C13b) is the first argument from the right to be combined with the head. And then the VB in turn takes an NKP *Harry-ga* to make VP (VBB, this is maximal, hence VP), since NKP is next to AKP from the right. The element *-ass-* ‘past tense marker’ analyzed as PF (Prefinal Ending) takes VP to make PFP (Prefinal Ending Phrase, this is usually called TP). And then DF (Declarative Final Ending) *-da* takes PFP to make DFP (Declarative Final Ending Phrase, or this is usually called CP). The tree diagram (18) below reflects the results of the syntactic analyses just described.

By contrast, (17b) is distinct from (17a) in that the putative scrambled constituent is positioned sentence initially and the canonical object position is vacant. In this case, the syntactic analysis based on the principle of HVMP cannot proceed in the same fashion as in (17a). The object cannot be properly analyzed, because it is not in its canonical position. The verb *jap-* ‘to hold’ takes nothing to project VB (V’). In this case, the verb *jap-* ‘to hold’ cannot take the sentence initial AKP to make VB projection, due to the Principle of Strict Correspondence. The sentence initial AKP in (17b) is not the proper argument of the predicate *jap-* ‘to hold’, so the verb V projects to VB without taking AKP. It occurs at the sentence

^① According to HVMP, syntactic analysis for structure building proceeds by setting up bar projections, as many as the number of argument(s) of a verb, based on the lexical information given as in (C13b). On this principle, a two-place predicate has two bar levels: one is V-bar (=VB) and the other V double bar (=VBB, in this case, this is maximal, hence VP). The “double object construction” or three-place predicate has three bar levels; one is V-bar (=VB), a second V double bar (=VBB), and a third V triple bar (=VBBB, in this case, this is maximal, hence VP). The principle is very simple and easy. Cf. Im (2006a, 2007).

initial position for the purpose of discourse strategy. Therefore it is inevitable to apply the Principle of Strict Correspondence to AKP in (17b).

(18)



The VB (17b) in turn takes NKP *Harry-ga* ‘Harry-NK’ to make VP according to HVMP. The next step is to cope with the putative scrambled constituent. The point is that the sentence initial AKP in (17b) is not analyzable with the information given in the lexicon in (C13b), due to the Principle of the Strict Correspondence. The argument information given in (C13b) with respect to AKP is exhausted to analyze the arguments given in (17b), even though AKP in (C13b) is not given at the canonical position. So, (C13b) no longer has the information with which to analyze the sentence initial constituent with the AK *eul/reul*. We cannot help but say that the first constituent *Mary-eui son-eul* ‘Mary’s hand-AK’ in (17b) is a remnant which is left unanalyzed in the syntactic analysis in terms of HVMP. This can be called ‘syntactic remnant’. Let’s present this as follows:

(C14) Syntactic Remnant The constituent that does not occur at a canonical position and cannot be analyzed properly in terms of the ‘Principle of Strict Correspondence’ is called syntactic remnant.

In this paper, it is claimed that the syntactic remnant should be analyzed as a ‘syntactic topic’, because the remnant should be settled syntactically at any rate. It is unthinkable for a constituent in a sentence to remain without a syntactic function. The most appropriate function to be given to the syntactic remnant is that of syntactic topic. This may be called ‘word order topic’ relative to word order. Let’s present this as follows:

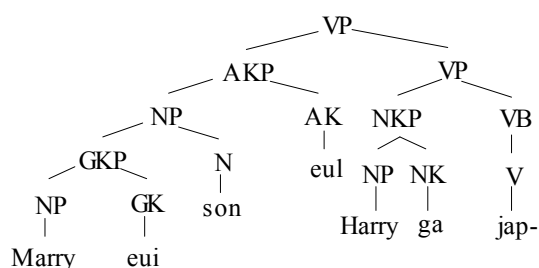
(C15) Syntactic Remnant and Word Order Topic The syntactic remnant of syntactic analysis to which no proper syntactic function can be given, which has no other salient feature except word order, is to be characterized as ‘word order topic’.

(C15) is a statement that presupposes that there are many kinds of topic, in Korean at least. Usually, it is assumed that only the *eun/neun* phrase at the sentence initial position is to be qualified as a topic in Korean. However this is nothing but a fixed idea, because the discourse-pragmatic *aboutness* relation does massively hold between a preceding constituent and a following constituent in a sentence or in a discourse, even between a thing and the calling of it, or even between a thing and the response to it, etc. This extends to the effect that any major constituent in a sentence can be a discourse-pragmatic topic. This may be called ‘Ubiquitous Topic Hypothesis’^①, which is represented as follows:

(C16) *Ubiquitous Topic Hypothesis (UTH)* Strictly speaking, any major constituent can be a topic in a sentence. Here “major constituent” refers to semantically and/or pragmatically important constituents in a sentence or a discourse.

In terms of (C16), the syntactic remnant can be characterized as a syntactic topic, because the sentence initial AKP is talked about in the rest of the sentence. All of the regular constituents of a sentence may be called syntactic topic. It is often said that a subject is an unmarked topic (Cf. Lambrecht (1994) among others). But this is not so significant from the point of view of syntactic analysis. Major constituents in a sentence already have the splendid syntactic function like subject, object, etc. However, when (C16) applies to syntactic remnants, the situation becomes totally different. A functionally naked constituent becomes a stately syntactic constituent. It is inevitable to apply UTH to the syntax of Korean, Japanese and the like, because in these languages syntactic remnants are encountered too often.

(19)



From these considerations, we can get the following tree diagram (19) above for (17b). (19) is the one which only shows VP structure.

In (19), the putative scrambled constituent AKP occurs at VP adjunction structure. The structure is on a par with those of other marked topics in Korean, like *eun/neun* topic, *i/ga*

^① For the justification of Ubiquitous Topic Hypothesis, see Im (2005, 2006a, 2007) and Im & Lee (2002).

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topic, *eul/reul* topic, etc. The shared constituency of the putative scrambled element like (10a) supports the postulation of adjunction structure. The sentence initial AKP is not a simple AKP or object, but a topicalized AKP or object.

6. Evidence for word order topic

Some empirical evidence like the following can be found to support topichood of the putative scrambled constituents.

First, it should be noted that the ‘paraphrase’ relation by topic introducing expressions presumably supports the topic-comment articulation in the putative scrambled structure. Consider the following:

(20) a. Mary-ege(*ro malha-myeon*) Harry-ga *e*; seonmul-eul ju-ass-da.

TK (speaking of) NK gift-AK give-PAST-DF

‘Speaking of Mary, Harry gave a gift.’

b. Seonmul-eul(*ro malha-myeon*) Harry-ga Mary-ege *e*; ju-ass-da.

gift-AK (speaking of) NK TK give-PAST-DF

‘Speaking of a gift, Harry gave to Mary.’

c. Harry-ga seonmul-eul(*ro malha-myeon*) Mary-ege *e*; ju-ass-da.

NK gift-AK (speaking of) TK give-PAST-DF

‘Harry gave to Mary, speaking of a gift.’

(20a) is an example that the dative constituent (Target Case in this paper) is allegedly scrambled to the sentence initial position. The expression in the bracket in (20a) shows that the sentence initially scrambled *Mary-ege* ‘Mary-TK’ can be paraphrased with *Mary-ro malhamyeon* ‘speaking of Mary’ i.e. the topic-introducing expression in the sense of Lambrecht (1994). The same can be said for (20b). The sentence initially scrambled *seonmul-eul* ‘a gift-AK’ can be paraphrased with *seonmul-ro malhamyeon* ‘speaking of a gift’. Nearly the same can be said for (20c). In (20c), the object is allegedly scrambled before the dative. It is also paraphrased with *seonmul-ro malhamyeon* ‘speaking of a gift’. Someone might well say that the paraphrase relation cannot prove anything. However, it is undeniable that it provides some clue to the real nature of the scrambling. It is significant to the discourse-syntactic status of the allegedly scrambled constituent that every scrambled constituent could be paraphrased with a topic-introducing expression. Now we can state the paraphrase relation as follows.

(C17) *Paraphrase Relation with Topic-Introducing Expression* The fact that the allegedly scrambled constituent in a sentence can be paraphrased with topic-

introducing expressions says that the scrambled constituent has the status of a syntactic topic.

According to (C17), in (20a) the putative scrambled TKP given first is a word order topic, and the rest of (20a) can be qualified as a comment. In (20b) the putative scrambled AKP in the sentence initial position is also a word order topic, and in (20c) the AKP put in front of TKP is also a word order topic with respect to the rest of the sentence. This can be summarized as follows:

(C18) Evidence 1 for Word Order Topic As usual, the putatively scrambled constituent shows the paraphrase relation with topic-introducing expressions. This means that the allegedly scrambled constituent in a sentence gets the status of syntactic topic.

Second, this paper's approach, just sketched as in (19) which sees the putative, scrambled constituent as a word order topic (henceforth, 'topic approach') can perfectly catch the non-directionality of topic structure. With the movement approach, scrambling is always a leftward move as in (21b). The movement is always leftward in the generative approach. However there is no theory-external reason to see scrambling as a leftward move. Even the rightward move could describe the whole picture of scrambling, positing some arbitrary feature on the right side. The movement can be shown symbolically as in (21b, c) below.

- (21) a. Subject – Object – Verb
b. Object – Subject – [t] – Verb (On leftward move)
c. [t] – Object – Subject – Verb (On rightward move)
d. Object – Subject – \varnothing – Verb (On topic approach)
[Word Order Topic]

(21a) shows canonical basic word order for transitive structure in Korean, the content of which is same as (1c) above. (21b) schematically shows the leftward move assumed in the movement approach. However the same structure as (21b) can be the result of a rightward movement, which is shown in (21c). The surface effects cannot be mutually distinct in the two movements, except the trace position. However, in the topic approach as shown in (21d), this kind of directionality conflict of movement does not arise. In (21d), the object in the sentence initial position is nothing but a word order topic in our term. Is it moved from the canonical object position? Such a question does not arise in (21d). Only the given surface structure is the object of syntactic analysis. Thus it can be said that the word order topic approach is superior to the movement approaches in coping with the arbitrary directionality problems. Let's

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present this as follows:

(C19) *Evidence 2 for Word Order Topic* Since the topic approach to scrambling has no directionality problem, it is superior to the movement approaches.

Third, the word order topic is on a par with the particle topic like *eun/neun* topic, *i/ga* topic and *eul/reul* topic, in Korean, in not occurring in the discourse initial sentence as in (22a).

(22) a. *Yesnal yesnal goryeojjeog-e *gonju-reul*_i han imgeumnim-i *e*_i sarangha-yeoss-seupni-da.

once upon a time-LK princess-AK one king-NK love- PST-RPF-DF

‘Once upon a time, a princess, a king loved.’

b. Yesnal yesnal goryeojjeog-e han imgeumnim-i *gonju-reul* sarangha-yeoss-seupni-da.

once upon a time-LK one king-NK princess-AK love- PST-RPF-DF

‘Once upon a time, a king loved a princess.’

c. *Yesnal yesnal goryeojjeog-e han imgeumnim-i *gonju-neun* sarangha-yeoss-seupni-da.

once upon a time-LK one king-NK princess-H love-PST-RP-DF

‘Once upon a time, a king loved her, speaking of a princess.’

(22b) is a typical example of the discourse initial sentence, which in general introduces brand-new entities. It is agreed that the brand new entity does not occur as a marked topic, and it is obvious that (22a) is not felicitous. This means that the putative scrambled constituent performs a function of word order topic. (22c) is also infelicitous, with the *eun/neun* topic related with the object. In this respect, the word order topic is on a par with *eun/neun* topic. Thus we can say that:

(C20) *Evidence 3 for Word Order Topic* The fact that the putative scrambled constituent does not occur in discourse initial sentences, on a par with particle topic, supports the word order topic.

Fourth, the putative scrambled constituent can hardly be used in on-the-spot description of an event as in (23).

(23) a. ??As! *Kkoch-eul*_i Mary-ga *e*_i tta-ass-da

alas flower-AK NK pick-PST-DF

‘Look! Flower, Mary picked.’

b. *Eomeona! *Eolgul-eul*_i Mary-ga *e*_i ssis-eoss-da.

oh face-AK NK wash-PST-DF

‘Oh dear! Speaking of the face, Mary washed.’

(23a) and (23b) are not felicitous. This is due to the conflict between the exclamation and the putative scrambling. Exclamation is suitable to represent the on-the-spot description of an

event^①, whereas the putative scrambled constituent represents the marked topic that presupposes some previous situation. Thus we can say that:

(C21) *Evidence 4 for Word Order Topic* The fact that the putative scrambled constituent does not occur in the on-the-spot description of an event supports the word order topic.

Fifth, by the same token, the putative scrambled constituent can hardly be used in a new announcement of a fact or a first declaration of laws or regulations, and the like.

- (24) a. *ilban sangdaeseong wolli-reul*_i Ainshutain-i 1916 nyeon-e *e*_i balpyoha-yeoss-da
general relativity principle-AK Einstein NK year-LK present-PST-DF
‘[literally] The Principle of the General Relativity, Einstein presented in 1916.’ (as a first announcement of the fact)
- b. *gingeupjochi 9ho-reul*_i, neo-neun *e*_i eogyeoss-eumeuro, chepoha-n-da.
Emergency measure 9-AK you H violate because arrest-PRS-DF
‘[literally]’Emergency Measure 9, because you violate, you are under arrest.’

(24a) and (24b) both are not felicitous as a first announcement of a fact. This is due to the indefiniteness of the putatively scrambled object. The firstly announced object should be in its own position. Then the exact meaning involved in the newly introduced objects can be communicated. Otherwise, the purport of the intention of the speaker might be distorted. Thus we can say that:

(C22) *Evidence 5 for Word Order Topic* The fact that the putative scrambled constituent does not occur in a first announcement of a fact supports the word order topic.

Sixth, the putative scrambled constituent can hardly be used in a sentence involved in describing an entity that has a consciousness problem, especially in introducing contexts. Consider the following:

- (25) a. Jamja-neu-n ai-ga *mom-eul* duicheogi-n-da
sleep-PRS-AF child-NK body-AK twist and turn-PRS-DF
‘The sleeping child twists and turns its body.’
- b. **Mom-eul* Jamja-neu-n ai-ga *e*_i duicheogi-n-da. (in introducing contexts)
body-AK sleep-PRS-AF child-NK twist and turn-PRS-DF
‘The sleeping child twists and turns its body.’
- (26) a. Bihaenggi-ga *bakui-reul* naery-eoss-da.
airplane-NK wheel-AK lower-PST-DF

^① The ‘on-the-spot description of an event’ might be similar to the *thematic judgement* introduced in Kuroda (1972). But the former is more immediate response to the event than the latter.

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‘The airplane lowered the wheel.’

b. **Bakui-reul*_i bihaenggi-ga *e*_i naery-eoss-da. (in introducing contexts)

wheel-AK airplane-NK lower-PST-DF

‘The wheel, the airplane lowered.’

It is noted that in (25a) *jamjaneun ai* ‘the sleeping child’ has no consciousness. The expressions related with the action of such an entity cannot be scrambled as shown in (25b), especially in introducing contexts. The same can be said for (26b), since an airplane has no consciousness. What is the reason for this fact? As to the unconscious entity, its action or motion is not related with the consciousness, so the body parts or the related things involved in action are not salient independently. The fact that body parts or the related things involved in action receive special attention of the speaker means that the entity does have a consciousness, especially in introducing contexts. But if they are definite, the consciousness constraint disappears, because the body parts or the related things involved action can be treated as afore-mentioned, i.e. having the experience to be the target of a consciousness once. This means that the alleged scrambled constituent shares the topichood with other particle topics introduced by *eun/neun*, *i/ga*, *eul/reul*, etc. Now we can say that:

(C23) *Evidence 6 for Word Order Topic* The fact that the putative scrambled constituent has Consciousness Constraint supports the word order topic.

Seventh, as explicated in (19) and hinted with respect to (10), the shared constituent not only supports the postulation of adjunction structure, but also lends the support for the word order topic syntactically. The shared constituent should be posited at VP or PFP (Prefinal Ending Phrase, usually IP) adjunction position, so that the resulting structure is equivalent to topic-comment structure. Let’s present this as follows:

(C24) *Evidence 7 for Word Order Topic* The shared constituent lends the support for the word order topic syntactically.

Though the proof of the topichood of the putative scrambled constituent is sufficient, the word order topic is a very weak topic, in contradistinction with the particle topics, etc., because there is no strong marking of topichood except the mere trait that appears in the order of constituents.

7. Transparent verbs and long distance scrambling

Recently generative syntacticians have taken for granted that the long distance scrambling (LDS) or Clause External Scrambling (CES) does exist in Korean, Japanese and Hindi, etc. However, it is highly counter-intuitive that a constituent moves out of a clause and goes into

another. It seems that the thesis that the scrambling is clause-bounded comes from this intuitive idea. It could be said that this idea is intuitively correct, since it is unthinkable that a constituent in a coordinate conjunct moves to another, or a constituent in a full sentence moves to another at random. What matters in LDS is the movement from a lower embedded clause to a higher matrix clause. First of all, let's present a principle relative to the former like the following:

(C25) *Constituent Affiliation Principle (CAP)* A constituent should be in its own clause, or should be construed to be as if it were in its own clause.

In principle, (C25) recognizes the clause-boundedness of scrambling, but there are some exceptions as described in the second clause in (C25). In this connection, let's see the typical examples of the alleged long distance scrambling.

(27) a. Harry-ga [Mary-ga *geu chaeg-eul* sa-ss-da-go] saenggakha-n-da.^①
 NK NK that book-AK buy-PST-DF COMP think-PRS-DF
 'Harry thinks that Mary bought the book.'

b. *Geu chaeg-eul*_i Harry-ga [Mary-ga *e_i* sa-ss-da-go] saenggakha-n-da
 that book-AK NK NK buy-PST-DF COMP think-PRS-DF
 'The book, Harry thinks that Mary bought.'

(28) a. Harry-ga [Mary-ga *sagwa-reul* meog-eoss-da-go] malha-yeoss-da.^②
 NK NK apple-AK eat-PST-DF-COMP say-PST-DF
 'Harry said that Mary ate the apple.'

b. *Sagwa-reul*_i Harry-ga [Mary-ga *e_i* meog-eoss-da-go] malha-yeoss-da.
 apple-AK NK NK eat-PST-DF-COMP say-PST-DF
 'An apple, Harry said that Mary ate.'

(27b) is claimed and generally accepted to be a long distance scrambled version of (27a) and the same can be said for (28b) and (28a). According to the movement approach to scrambling, it is believed that the constituent *geu chaeg-eul* 'that book-AK' in the embedded clause of (27a) and *sagwa-reul* 'an apple-AK' in the embedded clause of (28a) move to the sentence-initial positions of the matrix clauses of (27a) and (28a), thus result (27b) and (28b).

First of all, however, it should be noted that the predicates of (27a, b) and (28a, b) are *saenggakha-* 'think' and *malha-* 'say' in Korean, which have the traditional sentence pattern like 'Subject (S) + Verb (V) + Object (O) + Object Complement (OC)' in addition to the

^① This example is very popular in LDS papers. We can see its Japanese version in Saito (1985) and Bošković (2004).

^② This example is from M.-K. Lee (2006), but grammatical annotations are mine.

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traditional ‘Subject (S) + Verb (V) + Object (O)’. In the case of *saying*-verb, the addressee argument is needed besides such arguments as needed for *thinking*-verb. Let’s show the relevant argument information of the *thinking*- and *saying*-verb in Korean as follows:

(C26) Lexical Information of *saenggakha*- ‘think’ (partial)

a. *saenggakha*-¹: <NKP, CFP (Connective Final Ending Phrase),^⓪ _>

b. *saenggakha*-²: <NKP, AKP(Accusative Case Phrase), CFP, _>

(C27) Lexical Information of *malha*- ‘say’ (partial)

a. *malha*-¹: <NKP, TKP, CFP, _>

b. *malha*-²: <NKP, TKP, AKP, CFP, _>

In analyzing (27b) and (28b), if we apply the argument structure (C26b) and (C27b), the alleged LDS can be characterized not as LDS or CES, but as SDS or CIS. This is due to the fact that the matrix verbs in (C26b) and (C27b) do have the object argument AKP (Accusative Case Phrase) in addition to the complement clause, so that the sentence initial constituents in (27b) and (28b) can be analyzed as pertaining to the matrix clause. (27b) and (28b) can be reanalyzed like the following:

(27’) b. *Geu chaeg-eul*_i Harry-ga *e*_i [Mary-ga *e*_i sa-ss-da-go] saenggakha-n-da
 that book-AK NK NK buy-PST-DF COMP think-PRS-DF
 ‘The book, Harry thinks that Mary bought.’

(28’) b. *Sagwa-reul*_i Harry-ga *e*_i [Mary-ga *e*_i meog-eoss-da-go] malha-yeoss-da.
 apple-AK NK NK eat-PST-DF-COMP say-PST-DF
 ‘An apple, Harry said that Mary ate.’

In (27’b), the sentence initial constituent *geu chaeg-eul* ‘that book-AK’ can be construed related with the matrix object empty category *e*_i and the same can be said for the sentence initial constituent *sagwa-reul* ‘an apple-AK’ in (28’). It is not necessary to relate the sentence initial constituents to the empty categories in the embedded clauses. But the relatedness between the constituent in the matrix clause (Call this ‘a higher constituent’) and the constituent in the embedded clause (Call this ‘a lower constituent’) cannot be totally excluded. Consider the following:

(29) a. Na-neun [Harry-ga Mary-ege seonmul-eul ju-eoss-da-go] saenggakha-n-da.
 I H NK TK gift AK give-PST-DF COMP think-PRS-DF
 ‘I think that Harry gave a gift to Mary.’

b. *Mary-ege*_i Na-neun [Harry-ga *e*_i seonmul-eul ju-eoss-da-go] saenggakha-n-da.
 TK I CM NK gift AK give-PST-DF-COMP Think-PRS-DF

^⓪ Here ‘Connective Final Ending’ indicates the so-called COMP morpheme in Korean.

‘To Mary, I think that Harry gave a gift.’

The ditransitive verb construction is embedded in (29a). And (29b) is an instance of the putative LDS of the embedded dative constituent in (29a), which is considered felicitous, unlike the case of LDS of an adjunct that is considered blocked. In (29b) structures like (27’) or (28’) postulated for the putative LDS of an embedded object are not available, due to the fact that the dative position cannot be allowed in the matrix clause. How can the constituent *Mary-ee* ‘to Mary’ in the matrix clause of (29b) be accounted for? Does it directly move from the embedded to the matrix? However, at least for us, the movement is not allowed, due to the CAP of (C25).

We must find another way to justify the intrusion of the constituent of the embedded into the matrix. In this connection, it is very important to note that the matrix verbs like *think* or *say* etc. can be characterized as *transparent verbs*, which can be seen to function as non-existent in the matrix clause. Let’s present this as follows:

(C28) Transparent Verb and Transparent Verb Principle (TVP) A *thinking-* or *saying-* verb can be called a *transparent verb*, which functions as if it were non-existent in a certain discourse-syntactic context. Hence the Transparent Verb Principle (TVP) results that in a certain discourse-syntactic context, the transparent verb can be treated as if it were not present.

Some examples are given below to motivate the setting up of the transparent verb and TVP.

(30) a. Do you think he is a liar?

b. He is a liar?

(31) a. I say I am honest.

b. I am honest.

Semantically and/or pragmatically, it is not difficult to agree that in large the semantics of the expression of (30a) is equal to that of (30b). Intuitively, however, it is highly plausible to say that to ask someone about something is to ask his/her thinking about something. The same is true in the case of (31a) and (31b). To say a proposition is equal to present a proposition.

It is remembered that some generative semanticists once attempted to apply the performative analysis to every sentence. It is well known that it was not successful. This paper is not involved in any attempt to introduce the performative analysis into every sentence. However, some discourse-syntactic contexts allow a *thinking* or *saying* verb to be inserted in the virtual matrix clause semantically and/or pragmatically. By the same token, the *thinking* or *saying* verb can be extracted from the matrix clause in some discourse-syntactic contexts semantically and/or pragmatically.

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Now let's apply TVP to (29b). Then the first result will be as in (32a), where the *thinking* verb and related elements are in the shadow.^① If the next step is applied to make the remnant materials of the matrix clause *na-neun* 'as for me' to be wrapped with the angled bracket, then the second result will be as in (32b). (32c) shows the ultimate result, stripping away the shadow parts and the bracketed part.

- (32) a. *Mary-ege_i na-neun* [Harry-ga *e_i* seonmul-eul ju-eoss-da-go] saenggakha-n-da.
 TK I H^② NK gift AK give-PST-DF-COMP Think-PRS-DF
 '[literally]To Mary, I think that Harry gave a gift.'
- b. *Mary-ege_i <na-neun>* [Harry-ga *e_i* seonmul-eul ju-eoss-da-go] saenggakha-n-da.
 TK I H NK gift AK give-PST-DF-COMP Think-PRS-DF
 'To Mary, <to my view>, think that Harry gave a gift.'
- c. *Mary-ege_i Harry-ga e_i seonmul-eul ju-eoss-da.*
 TK NK gift AK give-PST-DF

In (32b), the constituent in the angled bracket *na-neun* 'as for me' functions as a parenthetical phrase as in the following examples:

- (33) a. *Jib-i <na-eui saenggak-e-neun> keu-da.*
 house-SM I GK thinking-LM-H big-DF
 'The house, to my thinking, is big.'
- b. *Jib-i <nae-ga bo-gi-e> keu-da.*
 house-SM I NK see-NOM-LK big-DF
 'The house, to my view, is big.'
- c. *Jib-i <na-ege-neun> keu-da.*
 house-SM I-TK-H big-DF
 'The house, as to me, is big.'
- d. *?Jib-i <nae-ga> keu-da.*
 house-SM I - NK big-DF
 'The house, to me, is big.'

The parenthetical phrases represented in the angled bracket in (33a-33d) have the function to introduce the viewpoint of the relevant person, e.g. the speaker's viewpoint or evaluation towards the proposition expressed in the object sentence or the following

^① The complementizer '-go' are also in the shadow, because it is inserted or present owing to the matrix verb.

^② *Eun/neun* is a typical topic marker in Korean syntax. But it is one of the modal particles. Here H stands for the modal particle.

object(s) of concern after the parenthetical phrase. In (32b), the parenthetical phrase consists of the pronoun indicating the speaker and the alleged typical topic marker *eun/neun*, which is compatible with the full expressions denoting the viewpoint or thinking. From this perspective, the weakest one to introduce the viewpoint of relevant person is the nominative case phrase (proper subject form) given as in (33d). The nominative case form as a parenthetical phrase is apt to combine with the predicate, so that it is hard to get an independent status more or less detached from the syntactic context. However, though it is weak to fulfill the parenthetical function, it is not impossible to carry it out.

Consider (27'b) retaken as (34a) in the following. If the *thinking* predicate is to be in the shadow as in (32a, 32b), and the matrix subject is to be in the parenthetical bracket, the result will be (34b).

- (34) a. *Geu chaeg-eul_i* Harry-ga *e_i* [Mary-ga *e_i* sa-ss-da-go] saenggakha-n-da
 that book-AK NK NK buy-PST-DF COMP think-PRS-DF
 ‘The book, Harry thinks that Mary bought.’
- b. *Geu chaeg-eul_i* <Harry-ga> [Mary-ga *e_i* sa-ss-da-go] saenggakha-n-da
 that book-AK NK NK buy-PST-DF COMP think-PRS-DF
 ‘The book, (as for) Harry, thinks that Mary bought.’
- c. *Geu chaeg-eul_i* Mary-ga *e_i* sa-ss-da.
 that book-AK NK buy-PST-DF
 ‘The book, Mary bought.’

(34a) shows that the sentence initial constituent *geu chaeg-eul* ‘that book-AK’ is to be construed with the matrix object, which is again construed with the embedded object. In this case, (34a) is not an example of LDS, but of SDS. In contrast, (34b) shows that the sentence initial constituent *geu chaeg-eul* ‘that book-AK’ is directly construed with the embedded object. In this case, as shown in (34b), the Transparent Verb Principle (TVP) can be applied to the shadowed part *-go saenggakha-n-da* ‘think that ~’ to the effect that it can be treated as nonexistent. The remnant matrix subject ‘Harry-ga’ is endowed with the function of parenthetical phrase. Both the transparent part and the parenthetical part made abstracted away, the result will be (34c). If the so-called scrambling occurred in (34c), it would be same as that of SDS or CES. Now consider the following:

- (35) a. **Geu chaeg-eul_i* Harry-ga [Mary-ga *e_i* ilk-ki jeon-e] bab-eul meog-eoss-da.
 that book-AK NK NK read-NOM before-LK rice-AK eat-PST-DF
 ‘*The book, Harry ate the rice, before Mary read.’

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- b. **Geu chaeg-eul_i* Harry-ga [Mary-ga *e_i* ilk-eoss-ki ttaemun-e] jib-euro ga-ss-da.
 that book-AK NK NK read-PST-NOM because-LK home-TK go-PST-DF
 ‘*The book, Harry went to home, because Mary read.’

(36a) and (36b) are totally ruled out. The reason is simple. The reason is that the constituent *geu chaeg-eul* ‘that book-AK’ which originally belongs to the lower clause happens to be in the higher matrix clause. It violates the CAP. What matters in (36a) and (36b) is that the predicates of the matrix clauses are not transparent. They cannot be seen as nonexistent, since they involve semantics that cannot be negligible. Let’s consider some other examples:

- (36) a. Harry-ga [*e_i* mueos-eul sa-n saram_i -eul] chaj-neu-nya?
 NK what-AK bought-AF man-AK look for-PRS-QF
 ‘[literally] *What does Harry look for a man who bought.’
- b. ?*Mueos-eul_i* Harry-ga [*e_ie_j* sa-n saram_i -eul] chaj-neu-nya?
 what-AK NK bought-AF man-AK look for-PRS-QF
 ‘[literally] *As for what, does Harry look for a man who bought.’
- c. ?*Mueos-eul_i* Harry-ga [*e_ie_j* ilheu-n saram_i -eul] chaj-neu-nya?
 what-AK NK lost-AF man-AK look for-PRS-QF
 ‘[literally] *As for what, does Harry look for a man who lost.’

(36a) is grammatical in Korean. According to Huang (1982) and Suh (1987), the WH-word *mueos* ‘what’ should move to SPEC-CP of the matrix clause at LF. In this case, the relative CP with the head noun does not work as a barrier. However, the real move of long distance scrambling of WH-word *mueos* ‘what’ to the matrix clause is infelicitous, as shown in (36b). It is suggested in M.-K. Lee (2006) that this is due to the Strong Island violation. However, it is strange that the real movement of the WH-word to its scope domain results in unacceptability. On the contrary, (36c) is a little better than (36b), because it holds a semantic relation ‘losing and finding’ between the embedded predicate *ilh-* ‘lose’ and the matrix predicate *chaj-* ‘find’. In reality, in (36c), the WH-word *mueos* ‘what’ must be construed as a matrix constituent, forming the so-called double object construction with the following relative construction *ilheu-n saram -eul* ‘the man who lost’. Now consider the following:

- (37) a. Harry-ga [Mary-ga *geu chaeg-eul* ilk-eoss-neunji] gunggeumha-da.
 NK NK that book-AK read-PST-whether be-at-wonder-DF
 ‘[literally] *Harry is at wonder whether Mary read the book.’
- b. *Geu chaeg-eul_i* Harry-ga [Mary-ga *e_i* ilk-eoss-neunji] gunggeumha-da.
 that book-AK NK NK read-PST-whether be-at-wonder-DF
 ‘[literally] *The book, Harry is at wonder whether Mary read.’

- c. *Geu chaeg-eul*_i <Harry-ga> [Mary-ga *e*_i ilk-eoss-neunji] gunggeumha-da.
 that book-AK NK NK read-PST-whether be-at-wonder-DF
 ‘[literally]*The book, Harry is at wonder whether Mary read.’

(37b) is a scrambled version of (37a). The sentence initial constituent in (37b) is the embedded object in (37a). Obviously, the constituent *geu chaeg-eul* ‘that book-AK’ does not belong to the matrix clause, because the matrix clause is an adjectival clause, and an adjectival clause cannot have an *eul/reul*-marked object. Since the predicate *gunggeumha-* ‘be at wonder’ is a kind of transparent predicates, it can be treated as nonexistent. In this case, the matrix subject can be treated as a parenthetical phrase. In (37c), the sentence initial constituent *geu chaeg-eul* ‘that book-AK’ could be construed as an embedded object in virtual structure.

- (38) a. Harry-ga [Mary-ga *jaju* jib-e ga-n-da-go] malhae-ss-da.
 NK NK often home-TK go-PRS-DF-COMP say-PST-DF
 ‘Harry said that Mary often went to home.’
 b. *Jaju* Harry-ga [Mary-ga jib-e ga-n-da-go] malhae-ss-da.
 often NK NK home-TK go-PRS-DF-COMP say-PST-DF
 ‘Often, Harry said that Mary went to home.’ ‘Harry said that often, Mary went to home.’

In (38a), the adjunct *jaju* ‘often’ only matches with the embedded predicate, but in (38b), the adjunct *jaju* ‘often’ can be matched not only with the embedded predicate *ga-* ‘go’, but also with the matrix predicate *malha-* ‘say’. The matrix interpretation observes CAP. It raises no other problem. In (38b), the matrix verb is a transparent verb, so TVP applies to the verb. At this interpretation only, the adverb *jaju* ‘often’ can be construed as an embedded adjunct.

The alleged LDS shows heavy constraints in contrast with SDS. This does not mean that LDS is different from SDS in kind. This is due to the fact that the so-called LDS occurs in the virtual structure related with the TVP. Intrinsically, the putative LDS shows the same characteristics as the putative SDS with respect to the word order topic. The alleged long distance scrambled constituent shows the same definiteness constraint that stems from the marked topichood of the relevant constituent. Thus, they cannot be used in a discourse-introducing sentence, nor in on-the-spot descriptions of an event, nor in a sentence announcing a brand-new news, etc. This suggests that the alleged long distance scrambled constituent is a ‘word order topic’ like the short distance scrambled constituent in a clause.

8. Conclusion

As it is well known, various hypotheses have been put forth concerning the motivation of so-called scrambling. However, it is evident that Case theory, EPP feature, and Focus Feature,

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etc. do not support the movement approach of the scrambled constituent. The radical LF-reconstruction or the LF-lowering raises serious questions about the movement at S-structure or at LF, due to the infelicitous results that the operations bring about. Thus it is reasonable to claim that the word order of the surface structure should be seen as given, and the semantic interpretation should be formed on the given structure. To do this, it is necessary to analyze the syntactic structure as given. Otherwise the subtle differences between the original structure and the alleged scrambled structure will be lost.

For this purpose, this paper takes much of the syntactic analysis in terms of the Lexicalist Case Hypothesis (LCH) that says that as far as syntactic case is concerned, the case should be defined on the basis of lexical information given in the lexicon, and the Hypothesis of Variable Medial Projection (HVMP) that says that the number of medial projections should be matched with the number of arguments of a predicate. On this syntactic analysis, the putative scrambled constituent should be analyzed as a syntactic remnant, without any syntactic function. With the Ubiquitous Topic Hypothesis (UTH) applied, the syntactic remnant could be given a syntactic topic function. We will call the putative scrambled constituent 'word order topic'.

The facts that the word order topic cannot be used in a discourse-introducing sentence, nor in on-the-spot descriptions of events, nor in a sentence announcing a brand-new news, etc. suggest that the scrambled constituents have the definiteness effect, one of the important and remarkable features of marked topics in Korean.

As to the so-called long distance scrambling, this paper introduces the principles of the CAP (Constituent Affiliation Principle) which says that a constituent should be in its own clause, or should be construed to be as if it were in its own clause, and the TVP (Transparent Verb Principle) which says that the transparent *thinking-* or *saying-*verb functions as if it were nonexistent in certain discourse-syntactic contexts. The typical object of the so-called LDS that appears in the *thinking-* or *saying-* verb construction is on a par with that of SDS, because the so-called long distance scrambled object can be seen as construed with the object of the embedded. In other cases, the matrix clause can be seen nonexistent by the TVP and the matrix subject can be seen to function as a parenthetical phrase. The so-called long distance scrambling will be an example of short distance scrambling in virtual structure.

In sum, there is no such thing as scrambling as a real movement, but there is a structure as given. The constituent that occurs in the so-called scrambled position is to be characterized as a word order topic. Compared with the particle topic introduced by *eun/neun*, *i/ga*, or *eul/reul* etc., the word order topic is a very weak topic, because it carries

no special marking. Though weak, its topicality should not be underestimated or nullified.

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