

Scrambling and Interpretive Complex*

Dong-Whee Yang & Sung-Hun Kim
(MIT & MIT/Dankook University)

Yang, Dong-Whee & Kim, Sung-Hun. 2005. Scrambling and Interpretive Complex. *The Linguistic Association of Korea Journal*, 13(2), 169-193. This paper is to propose a new analysis of scrambling in terms of the notion of interpretive complex (INC) (Chomsky, 2001a). Along with an extended theory of interpretive complex, the notion of INT-Move as opposed to Agree Move is proposed and motivated. Recently Chomsky (2004) has proposed that A'-movements are not Agree-feature-driven but driven only by the edge feature (or the EPP feature in our terms) of a phase head inducing proper INT-effects, which supports our notion of INT-Move. It is shown that focus as a strong interpretive complex is systematically correlated with reconstruction property of scrambling across languages. Various problems with the analysis of scrambling as Agree-feature-driven movements are pointed out and alternative analyses are proposed, which particularly motivates the new analysis of scrambling in terms of interpretive complex, which leads to some desirable consequences for the theory of grammar.

Key words: Scrambling, Interpretive Complex (INT), Agree Move, INT-Move, Edge, Phase

1. An Extended Theory of Interpretive Complex

We propose that there are two types of interpretive complex (INT): the weak INT (new-old information, theme, specificity-definiteness, etc.) and the strong INT (focus, topic, specialized semantic function, etc.) (Chomsky 2001a). The strong INT is interpreted at the edge of a phase (=Spec-C/ ν^*) whereas weak INT is interpreted at non-phase-edge Specs, though the specific realizations of the strong and weak INTs may vary depending on languages and types of structures (Diesing 1992; Steedman 1996; Rizzi 1999; Zubizarreta 1998).

Note that interpretive complex is to be “structurally interpreted,” i.e., not a cause but a consequence of a Move (Chomsky 2001a), and that all the interpretive complex

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is semantic in nature to be relevant to LF interface. Hence, we consider the INT-effect of focus to be essentially a semantic notion though we may define it phonologically. Initially, for example, we define it semantically as the phrase providing information asked for by the *wh*-phrase in a *wh*-question-answer pair.

The above proposal for an extended theory of interpretive complex will be motivated by showing how it contributes to the better-motivated analysis of scrambling and some other phenomena in Korean.

2. The Notion of INT-Move

We propose there are two types of Move: Agree Move and INT-Move. The Agree Move is the regular Move, which is due to Agree match and the EPP-feature, like Subject-Raising, *Wh*-Movement, etc., whereas the INT-Move is a Move that is not due to Agree match but motivated by INT-effects. We claim that not only scrambling but also rules like English Heavy (NP) Shift belong to INT-Move. The notion of INT-Move as opposed to Agree Move is motivated with respect to the interpretive complex along with proper movement constraints.

INT-Move is always motivated by some INT-effects, whereas Agree Move is always motivated by some Agree match though the latter may also induce some INT-effects. So, we claim that the primary motivations of the two Moves are quite different though both of them may induce some INT-effects. We may identify some INT-effect for every INT-Move, given proper discourse contexts, whereas we cannot do so for every Agree Move since no INT-effect may be identified for some Agree Moves like the movement of an expletive, e.g., *there* in English. Thus, the INT-effect is a characterizing property of INT-Move.

Another characterizing property of INT-Move is the non-observance of movement constraints that crucially refer to Agree features since INT-Move itself is irrelevant to Agree features. In other words, INT-Move, unlike Agree Move, disobeys locality constraints, i.e., constraints that crucially refer to Agree features, like Relativized Minimality, Superiority, MLC, etc., though it obeys Barrier-type Constraints, i.e., constraints that do not crucially refer to Agree features, like island constraints including Complex NP Constraints, Adjunct Constraints, PIC, etc. One issue here would be how to deal with the fact that an INT-Move like Scandinavian stylistic fronting seems to be sensitive to some kind of locality (Hiraiwa 2001b) or how to deal with Pesetsky and Torrego's (2001) Attract Closest Category, which would remain as a future research topic.

The adoption of the notion of INT-Move allows us to more readily see scrambling phenomena in a cross-linguistic perspective and readily discuss the possibility of

scrambling-type phenomena in non-scrambling languages. For example, English Heavy (NP) Shift and Topicalization may be INT-Moves like Korean/Japanese scrambling. We may also aptly discuss the typology of languages with respect to scrambling-type phenomena, e.g., it would depend on how extensively the language allows INT-Move; e.g., T may acquire an extra EPP-feature for INT-Moves of clause-internal scrambling in Japanese or Korean but not in English.

Given the notion of INT-Move, the clause-internal and long-distance scramblings are characterized as follows. As for the clause-internal scrambling, since it would be a INT-Move applying within a minimal clause (=TP)¹, creating additional (multiple) Spec positions of v^* and T due to the additional EPP-features of the heads.

Now the question would be how to capture the additional constraints on apparent INT-Moves applying within a minimal clause, such as the constraints on movements of Q-floating datives and idiom chunks as discussed by McGinnis (1999). We will argue that they are accounted for by some independently-motivated principles or general principles of grammar, as will be discussed later, which would eventually contribute to the motivation of the INT-Move itself.²

As for the long-distance scrambling, since it would be an INT-Move applying beyond a minimal clause, it would necessarily start out by moving to the Spec-C (edge of CP phase) of the minimal clause and may continue to move further but only to the next higher edge of a phase (=Spec-C/ v^*) due to the PIC.³ Such an INT-Move applying beyond a minimal clause would be constrained by the Barrier-type constraints like the Complex NP Constraint or the Adjunct Constraint, since INT-Move should obey the Barrier-type constraints that do not crucially refer to Agree features and the domain of long-distance scrambling is susceptible to such constraints. Hence, long-distance scrambling is essentially constrained by such general movement constraints like strong islands and the PIC.

1) In the sense that an A-movement like passive may move over an vP under the assumption that the vP is a weak phase or it does not project at all when rules like passive or clause-internal scrambling apply.

2) One might object to the notion of non-Agree-driven INT-Move on the ground that such INT-Move would move anything to the Spec of the head. Our arguments later for the claim that INT-Move is constrained by some independently-motivated principles or general principles of grammar would weaken such objection to the notion of INT-Move.

3) The PIC implies that an edge of a phase may only see an edge of another adjacent phase; hence, once INT-Move reaches an edge of a phase, it may continue to apply only stopping at another edge of a phase. The fact that long-distance scrambling does not move to the edge of the v^*P phase once it moves out of the edge of the minimal CP phase in Korean/Japanese may be accounted for by the assumption made in the footnote 1, i.e., the strong v^*P phase may be optional in such languages. In languages like Dutch and German, however, scrambling may move to the edge of the v^*P phase after it moves out of the edge of the minimal CP phase.

Given the fact that INT-Move should obey Barrier-type constraints including the PIC and that INT-Move should induce some INT-effects, our proposal that strong INT-effects like focus is interpreted at the edge of a phase (=Spec-C/v*) leads to a natural account for the correlation between focality and reconstruction effects in scrambling across languages (Bayer & Kornfilt 1994; Neeleman 1994; Finer 1994; Miyagawa 1997-2001; Choi 2001, etc.), as we discuss in detail later. In other words, given the facts about INT-Move and our proposal about strong INT, only the INT-Moves that reach the edge of a phase for strong INT-effects of focus may induce reconstruction effects, since only they induce a cyclic spell-out/transfer of the complement of the phase head so that the copy traces (due to the INT-Moves) within the cyclically spelled-out complement domain may be used for the semantic interpretation, which amounts to reconstruction effects without physical reconstruction. Our mechanism of reconstruction effects due to cyclic spell-out allows us to eliminate various conditions on reconstruction effects, as discussed later.

Given that scramblings are INT-Moves, we may also readily capture some peculiar properties of scrambling. For example, unlike A-movement, clause-internal scrambling may move not only DPs but also non-DPs like PPs or adjuncts.

To conclude, scrambling is an INT-Move, though not every INT-Move is a scrambling; hence, constraints on scrambling should be constraints on INT-Move, which should best be shown to be constraints governed by some independently-motivated principles or general principles of grammar, which would come to motivate the INT-Move itself.

3. The Motivation of INT-Move

As suggested in the footnote 2, one potential serious problem with INT-Move is its too much power due to its lack of Agree match. One way to motivate such a powerful rule like INT-Move is to show that some principles of grammar always govern or constrain it.⁴

Specifically, since it is now claimed that scrambling is an INT-Move, the immediate problem that our INT-Move theory has to face is to show that the constraints on scrambling may be justified as constraints on INT-Move and that the constraints should be explained away by some independently-motivated principles or general principles of grammar, so that the integrity of INT-Move may be motivated despite its inherent great power. As specific examples, we will consider constraints on the

4) The motivation of our INT-Move would be comparable to that of Move- α in the Government-Binding Theory (Chomsky 1981) in a sense.

movements of Q-floating datives and idiom chunks in Japanese, which McGinnis (1999) used for her claim that some scramblings in Japanese are feature-driven A-movements.

As for the constraints on idiom chunk movements in Japanese, she considers (1a, b, c, d, e, f) and (2a, b, c):

- (1) a. Taroo-ga hi-ni abura-o sosoida.
 T.-NOM fire-DAT oil-ACC poured
 ‘Taroo made things worse.’
- b. hi-ni_i Taroo-ga t_i abura-o sosoida.
 fire-DAT T.-NOM oil-ACC poured
- c. hi-ni_i abura-o_j Taroo-ga t_i t_j sosoida.
 fire-DAT oil-ACC T.-NOM poured
- d. *Taroo-ga abura-o_i hi-ni t_i sosoida.
 T.-NOM oil-ACC fire-DAT poured
- e. *abura-o_i Taroo-ga hi-ni t_i sosoida.
 oil-ACC T.-NOM fire-DAT poured
- f. *abura-o_i hi-ni_j Taroo-ga t_j t_i sosoida.
 oil-ACC fire-DAT T.-NOM poured
- (2) a. John-ga hoteru-gyoo-ni te-o nobasita.
 J.-NOM hotel biz-DAT hand-ACC extended
 ‘John became involved in the hotel business.’
- b. John-ga te-o_i hoteru-gyoo-ni t_i nobasita.
 J.-NOM hand-ACC hotel biz-DAT extended
- c. te-o_i John-ga t_i hoteru-gyoo-ni t_i nobasita.
 hand-ACC J.-NOM hotel biz-DAT extended

According to the data (1)-(2), McGinnis (1999) claims that idiom chunks are Agree-feature-sensitive, hence sensitive to Superiority. For example, the dative phrase *hi-ni* in (1) is an idiom chunk so that it blocks the raising of the accusative phrase *abura-o* according to Superiority as shown in (1d, e, f), whereas the dative phrase *hoteru-gyoo-ni* in (2) is not an idiom chunk so that it does not block the raising of the accusative phrase *te-o* according to Superiority as shown in (2b, c). In order for this claim to be well-motivated, she has to present some motivation for the assumption that idiomaticity induces Agree-feature-sensitivity, since as soon as the idiom chunk phrases lose their idiomaticity they should lose Agree-feature-sensitivity, according to her claim, and (1d, e, f) become perfectly grammatical. Given that Agree-features have not been semantically motivated, the assumption that idiomaticity induces

Agree-feature-sensitivity is not very convincing.

Furthermore, there are some idiolectal and lexical variations in idiom-splitting; some speakers never allow idiom-splitting and some idioms like *twithongswu-lul chita* ‘deceive’ in Korean never allow splitting (Ko 2003). Hence, it seems that idiomaticity is not the kind of phenomena that should be dealt with in terms of Agree-feature-sensitivity. In fact, the Superiority phenomena in idiom chunk movements we see in (1)-(2) may be more naturally captured by some extension of Fox and Pesetsky’s (2003) Linearization Principle for the interpretation of idioms like (3) under the assumption that the base structures of idioms are somehow preserved in the lexicon:

(3) The lexical structures of idioms are linearly preserved.

In fact, (3) captures all the Superiority facts in (1)-(2), given our notion of INT-Move. In order to capture the idiolectal and lexical variation mentioned above to the effect that no idiom-splitting is allowed for some idioms, as well as the variation shown in (1)-(2), we may minimally modify (3) as (4):

(4) The lexical structures of idioms are (linearly) preserved.

There would be no way to capture the phenomena discussed above in such a natural and economical way as (4) in terms of Agree-feature-sensitivity. At the same time, (4) contributes to the motivation or integrity of INT-Move despite its inherent great power.

On the other hand, other properties concerning idiom chunks, which McGinnis does not discuss, may be best captured by some similar general principles of grammar rather than in terms of Agree-feature-sensitivity. For example, idiom chunks resist not only long-distance scrambling but also Topicalization or Focalization as we see in (5a, b, c), whose ungrammaticality contrasts with the grammaticality of (2c):

- (5) a. **te-wa_i* John-ga *t_i* hoteru-gyoo-ni *t_i* nobasita.
 hand-TOC J.-NOM hotel biz-DAT extended
- b. ****te-o_i*** John-ga *t_i* hoteru-gyoo-ni *t_i* nobasita.
 hand-ACC J.-NOM hotel biz-DAT extended
- c. *John-ga hoteru-gyoo-ni ***te-o*** nobasita.
 J.-NOM hotel biz-DAT hand-ACC extended
 (Boldfaced letters indicate focused elements.)

An idiom chunk may not be a topic as in (5a) nor a focus as in (5b, c). Note that (5c)

does not involve the idiom chunk movement, which clearly cannot be dealt with in terms of Agree-feature-sensitivity. Since long-distance scrambling is also a kind of Focalization as we discuss later, and topic and focus are INT-effects in our theory, we may capture these facts as (6):

(6) The lexical structures of idioms are preserved from strong INT-effects.

(6) predicts that the idiom chunk movement may not induce strong INT-effects like topic or focus effects, which is correct; hence, it indirectly supports our INT-oriented theory of scrambling. There would be no way to capture all these facts above in such a natural and economical way as (6) in terms of Agree-feature-sensitivity. Note that it follows from (6) in our INT-oriented theory of scrambling that the idiom chunk may not undergo long-distance scrambling.

(6) also contributes to the motivation or integrity of INT-Move despite its inherent great power. Of course, we should further work for a deeper generalization from which (6) would follow.

As for the constraints on movements of Q-floating datives in Japanese, McGinnis considers (7a, b, c, d) and (8a, b):

- (7) a. Taroo-ga gakusei-o_i otagai-no sensei-ni t_i syookaisita.
 T.-NOM student-ACC e.o.-GEN teacher-DAT introduced
 ‘Taroo introduced the students_i to each other’s_i teachers.’
- b. gakusei-o_i otagai-no adobaizaa-ga t_i sensei-ni t_i syookaisita.
 student-ACC e.o.-GEN advisor-NOM teacher-DAT introduced
 ‘Each other’s_i advisors introduced the students_i to teachers.’
- c. *Taroo-ga gakusei-o_i otagai-no sensei-ni futari t_i yookaisita.
 T.-NOM student-ACC e.o.-GEN teacher-DAT two introduced
 ‘Taroo introduced the students_i to two of each other’s_i teachers.’
- d. *gakusei-o_i otagai-no adobaizaa-ga sensei-ni futari t_i syookaisita.
 student-ACC e.o.-GEN advisor-NOM teacher-DAT two introduced
 ‘Each other’s_i advisors introduced the students_i to two teachers.’
- (8) a. Mary-ga tomodati-ni futari CD-o okutta.
 M.-NOM friend-DAT two CD-ACC sent
 ‘Mary sent two friends a CD.’
- b. *Mary-ga CD-o_i tomodati-ni futari t_i okutta.
 M.-NOM CD-ACC friend-DAT two sent
 ‘Mary sent a CD to two friends.’

According to the data (7)-(8), McGinnis (1999) claims that dative phrases associated with a floating numeral classifier are Agree-feature-sensitive, hence sensitive to Superiority.⁵ For example, she claims that in (7a, b) the dative phrase *sensei-ni* does not block the raising of the accusative phrase *gakusei-o* since the dative phrase is not associated with a floating numeral classifier, whereas in (7c, d) the dative phrase *sensei-ni* blocks the raising of the accusative phrase *gakusei-o* since the dative phrase is associated with a floating numeral classifier *futari*. The same claim applies to (8a, b); the dative phrase *tomodati-ni* is associated with a floating numeral classifier *futari* and (8a) is grammatical since the accusative phrase *CD-o* did not cross the dative phrase *tomodati-ni* whereas (8b) is ungrammatical since the accusative phrase *CD-o* did cross the dative phrase *tomodati-ni*.

In order for her claim to be motivated, she has to present some motivation for the assumption that the floating numeral classifier induces Agree-feature-sensitivity, since as soon as the floating numeral classifier is dropped the dative phrase should lose the apparent Agree-feature-sensitivity, and indeed (7a, b) are perfectly grammatical. Given that Agree-features have not been motivated by certain lexical categories, the assumption that the floating numeral classifier induces Agree-feature-sensitivity is not very convincing.

A more plausible alternative account for the Superiority phenomena in (7)-(8) is available within our INT-oriented theory of scrambling. Suppose that the floating numeral classifier is a focus marker, which is reasonable since the floating numeral classifier has the semantic function of specifying more explicitly by the number the phrase with which it is associated. Then the dative phrase with the floating numeral classifier has focus effect so that it has to move to the nearest edge of a phase, i.e., to the Spec-*v** in cases like (7c, d)-(8a, b), according to our extended INT-theory. Once the dative phrase with the floating numeral classifier moves to the edge of the phase (Spec-*v**), the PIC blocks anything within the complement of the phase head, i.e., VP, from moving over the edge of the phase, so that the accusative phrase may not cross over the dative phrase; hence, the constraints in (7c, d)-(8b) are accounted for.

According to the PIC, nothing within the complement of the phase head may move over the edge of the phase, but a movement out of the complement to the edge itself of the phase, creating an outer edge (or outer Spec) of the phase, should be possible; indeed, such a case is attested with respect to (8b); that is, McGinnis (1999:370) reports Miyagawa's remark that (8b) is acceptable if the accusative phrase *CD-o* is

5) In Korean, the floating numeral classifier cannot be associated with a dative phrase: the Korean counterpart of *sensei-ni futari* is unacceptable. Hence, the arguments concerning datives with the floating numeral classifier are inapplicable in Korean.

focused and followed by a pause,⁶ which means that apparently the accusative phrase *CD-o* that has moved to the outer edge (or outer Spec) of the phase v^*P induces another focus effect, resulting in a multiple focus for the edge of the phase v^*P .

There would be no way to capture all these facts above in terms of Agree-feature-sensitivity. Thus, our INT-oriented theory of scrambling along with the PIC, which accounts for all these facts, also contributes to the motivation or integrity of INT-Move.

Another way to keep the integrity of INT-Move is to make clear distinctions between INT-Move and Agree Move⁷: firstly, the primary motivation of Agree Move is Agree match whereas that of INT-Move is INT-effects; secondly, Agree Move obeys locality constraints that crucially refer to Agree features whereas INT-Move disobeys them. Takahashi's (1993) *wh*-scrambling as illustrated in (9) is clearly an Agree Move since it is motivated by Agree match with respect to *wh*-feature and obeys locality constraints like Superiority:

- (9) a. [_{CP} John-ga [_{CP} Bill-ga dare-ni [_{CP} Mary-ga nani-o tabeta-to] itta-to] omotteiru-no]?
 J.-NOM B.-NOM who-DAT M.-NOM what-ACC ate-that
 said-that think-Q
 'Whom does John think that Bill told that Mary ate what?'
- b. dare-ni_i [_{CP} John-ga [_{CP} Bill-ga t_i [_{CP} Mary-ga nani-o tabeta-to] itta-to] omotteiru-no]?
 who-DAT J.-NOM B.-NOM M.-NOM what-ACC ate-that
 said-that think-Q
- c. *nani-o_i [_{CP} John-ga [_{CP} Bill-ga dare-ni [_{CP} Mary-ga t_i tabeta-to] itta-to] omotteiru-no]?
 what-ACC J.-NOM B.-NOM who-DAT M.-NOM ate-that
 said-that think-Q

We claim that the movements of *wh*-phrase in (9b, c) both undergo Agree match with the *wh*-feature of the matrix [+Q] C and obey Superiority, as the ungrammaticality of (9c) indicates.

6) Our semantic notion of focus may be phonologically realized as pitch accent/stress and a slight pause right after the focused phrase.

7) There seem to be cases where the distinction is not clear; for example, the raising of the accusative phrase *gakusei-o* over the dative phrase in (7a) seems to be such a case; that is, it might be considered as an INT-Move or an Agree Move, since Superiority is irrelevant in such cases. We claim, however, that such unclear cases should be considered as INT-Moves, unless other requirements of the grammar demand otherwise.

INT-Move is subject to the Barrier-type constraints that do not crucially refer to Agree features; hence, the cases that violate Complex NP Constraint or Adjunct Constraint as in (10a, b) are readily accounted for along with the notion of INT-Move:

- (10) a. *John- u_i Mary-ka [_{CP} t_j t_i cohaha-nun] yeca_j-lul miweha-n-ta.
 J.-ACC M.-NOM like-REL woman-ACC hate-ASP-DEC
 ‘John_i, Mary hates the woman who like t_i .’ (Complex NP Constraint)
- b. ?*John- u_i Mary-ka [_{PP} yeca-ka t_i manna-ki cen-ey] ttena-ess-ta.
 J.-ACC M.-NOM woman-NOM meet before leave-PAST-DEC
 ‘John_i, Mary left before the woman met t_i .’ (Adjunct Constraint)

INT-Move is also subject to the PIC, which does not crucially refer to Agree features; hence, constraints on multiple scrambling are readily accounted for along with the notion of INT-Move even without the notion of Proper Binding Condition (Fiengo 1977). Consider a multiple scrambling where two long-distance scramblings are multiply applied as shown in (11a, b):

- (11) a. [_{CP} haksayng-tul- u_i [_{TP} John-i [_{CP} t_i [_{TP} Mary-ka t_i manna-ess-ta]-ko] student-PL-ACC J.-NOM M.-NOM meet-PAST-DEC-C malha-ess-ta]]. (initial Long-Distance Scrambling)
 say-PAST-DEC
 ‘Students, John said Mary met.’
- b. *[_{CP} t_i [_{TP} Mary-ka t_i manna-ess-ta]-ko]_j [_{CP} haksayng-tul- u_i M.-NOM meet-PAST-DEC-C student-PL-ACC [_{TP} John-i t_j malha-ess-ta]]. (subsequent Long-Distance Scrambling)
 J.-NOM say-PAST-DEC
 ‘*[Mary met t_i], students_i John said.’

Once an element has moved to the edge of a phase by long-distance scrambling, nothing out of the complement domain of the phase head may scramble/move over the initially-scrambled element to the edge of the next higher phase due to the PIC (Hiraiwa 2002).

Since clause-internal scrambling is not a Move to the edge of a phase, any scrambling (clause-internal or long-distance) applying to the output of the initial clause-internal scrambling would not violate the PIC. Indeed, such multiple scramblings are possible, as we see in (12c):

- (12) a. motwu-eykey [_{TP} Mary-ka papo-la-ko] sayngkaktwey-ess-ta.
 everyone-to M.-NOM fool is thought-PAST-DEC
 ‘It was believed by everyone that Mary was a fool.’ (Base Structure)
- b. [_{TP} Mary-ka_i motwu-eykey [_{TP} t_i papo-la-ko] sayngkaktwey-ess-ta].
 M.-NOM everyone-to fool is thought-PAST-DEC
 ‘Mary was believed by everyone to be a fool.’ (initial Clause-internal Scr.)
- c. [_{TP} t_i papo-la-ko]_j [_{TP} Mary-ka_i motwu-eykey t_j sayngkaktwey-ess-ta].
 fool is M.-NOM everyone-to thought-PAST-DEC
 ‘To be a fool, Mary was believed by everyone.’ (subsequent Clause-internal Scr.)

Long-distance scrambling of adjuncts is generally impossible as we see in (13a). In terms of INT-Move, however, long-distance scrambling of adjuncts should also be possible. Hence, we should find some independently-motivated principles governing why and when long-distance scrambling of adjuncts is impossible. There have been recognized three cases where long-distance scrambling of adjuncts are possible: long-distance scrambling of NPI-marked adjuncts as shown (13b), long-distance scrambling of *wh*-adjuncts as shown in (13c), and long-distance scrambling of adjuncts accompanied by an argument as shown in (13d):

- (13) a. [_{TP} kuphi [_{TP} John-i [_{TP} Mary-ka sakwa-lul mek-ess-ta]-ko malha-ess-ta]].
 quickly J.-NOM M.-NOM apple-ACC eat-PAST-dec-C say-PAST-DEC
 ‘John said quickly that Mary ate an apple.’
 ‘*John said that Mary quickly ate an apple.’
- b. [_{CP} cokum-pakkey_i [_{TP} John-i [_{CP} t_i [_{TP} Mary-ka t_i pap-ul mek-ci
 a little-only J.-NOM M.-NOM meal-ACC eat
 ani ha-ess-ta]-ko] malha-ess-ta]].
 not do-PAST-DEC-C say-PAST-DEC
 ‘John said that Mary ate a meal just a little.’
- c. ?[_{CP} wey_i [_{TP} John-i [_{CP} t_i [_{TP} Mary-ka caki-lul silheha-nun]-ci]
 why J.-NOM M.-NOM self-ACC hate-ASP-Q
 an-da]].
 know-DEC
 ‘John knows why Mary hates him.’
- d. [_{CP} [kuphi + ku chayk-ul]_i [_{TP} John-i [_{CP} t_i [_{TP} Mary-ka Bill-eykey
 quickly the book-ACC J.-NOM M.-NOM B.-DAT
 t_i cwu-ess-ta]- ko] malha-ess-ta]].
 give-PAST-DEC-C say-PAST-DEC
 ‘[Quickly the book]_i John said that Mary gave t_i to Bill.’

First of all, the major reason for impossibility of long-distance scrambling of adjuncts in general is the weak selectional property of adjuncts; that is, in case like (13a) the adjunct *kuphi* ‘quickly’ has so little necessary selectional connection with the embedded clause that it is easily construed with the matrix clause in which it is currently located. On the other hand, in those cases where long-distance scrambling of adjuncts is possible as in (13b, c, d), some necessary selectional connections between the adjunct and the embedded clause are set up.

In (13b) the NPI-marked adjunct is selectionally connected to the embedded clause in the sense that it should be licensed by the NEG in the embedded clause; in other words, according to our INT-oriented theory of scrambling, the copy trace of the NPI-marked adjunct in the embedded clause will be used by the NPI-licensing principle within the embedded clause as discussed later, inducing the reconstruction effects; hence, the sentence is interpreted as well-formed.

In (13c) the *wh*-adjunct *vey* ‘why’ may also be assumed to be selectionally connected to the embedded clause in the sense that unlike other *wh*-phrases the *wh*-adjunct *vey* ‘why’ is to be base-generated in Spec-C of the clause it modifies (Jeong 2003; Ko 2003) and the construal mechanism for a *wh*-adjunct modifying the accompanying TP without its trace within the TP may apply to a *wh*-adjunct modifying the non-adjacent accompanying TP; hence, the sentence is interpreted as well-formed.

In (13d), we assume, the adjunct is accompanying an argument undergoing long-distance scrambling; so we have only to motivate a mechanism that an element may adjoin to an adjacent element in a clause so that they may undergo long-distance scrambling or INT-Move together; hence, in a case like (13d) the adjunct is taking a free ride by the long-distance scrambling of the argument, which is possible due to the thematic selection of the argument with the embedded clause. Thus, we may account for the phenomena of long-distance scrambling by some independently-motivated principle, which contributes to the motivation and integrity of INT-Move.

Boskovic (2002) claims that in the so-called multiple *wh*-fronting languages like Bulgarian, as we see in (14a, b), the initial *wh*-fronting is a *wh*-movement attracted by the *wh*-feature of C, hence obeying Superiority, while the subsequent *wh*-frontings are focus-movements which are triggered by the focus-features of the *wh*-phrases themselves, not by the focus head feature, hence need not obey Superiority:

- (14) a. koj kogo kakvo e pital? (Bulgarian)
 who whom what is asked
 ‘Who asked whom what?’
 b. koj kakvo kogo e pital?

who what whom is asked
 ‘Who asked whom what?’

We may eliminate this special type of self-attracting Move by assuming that it is a special case of INT-Move inducing focus effects at the edge of a phase.

4. Clause-External Reconstruction Effects

Our INT-oriented theory of scrambling readily accounts for the correlation between focality and reconstruction effects in scrambling across languages, as mentioned earlier. For example, in (15) the *wh*-phrase *mwues-ul* cannot satisfy the *wh*-scope interpretation condition (16), since it has moved into the matrix clause which does not contain [+Q] C:

- (15) [_{CP} mwues-ul_i [_{TP} John-i [_{CP} t_i [_{TP} Mary-ka t_i mek-ess-nun]-ci] an-ta]].
 what-ACC J.-NOM M.-NOM eat-PAST-Q know-DEC
 ‘John knows [Q what Mary ate].’

- (16) A *wh*-phrase must be contained within a question CP.

The grammar will look for some other way for (15) to satisfy (16); indeed, another way to satisfy (16) is available: (16) can be satisfied in the embedded clause by letting the copy trace of the *wh*-phrase *mwues-ul* satisfy (16), which amounts to a reconstruction effect.

One might ask why such a reconstruction effect does not occur always. For example, in a case like the Japanese example (17), which was discussed earlier and is repeated below, the reconstruction effect does not occur:

- (17) dare-ni_i [_{CP} John-ga [_{CP} Bill-ga t_i [_{CP} Mary-ga nani-o tabeta-to]
 who-DAT J.-NOM B.-NOM M.-NOM what-ACC ate-that
 itta-to] omotteiru-no]?
 said-that think-Q
 ‘To whom does John think that Bill said that Mary ate what?’

In (17) only the matrix clause contains [+Q] C; so, the proposed *wh*-phrase has to satisfy (16) at the moved position; hence, the grammar need not, and cannot, use the copy trace of the proposed *wh*-phrase to satisfy (16). Note that the *wh*-phrase *in-situ*, *nani-o*, also satisfies (16) by the matrix clause [+Q] C.

In English no reconstruction effect need to be activated for principles like (16)

since English does not allow INT-Move for movement of *wh*-phrases. For example, in (18a, b) all the *wh*-movements are attracted by some [+Q] C; so, all the moved *wh*-phrases satisfy (16) by the respective attractor [+Q] C:

- (18) a. [_{CP} Who knows [_{CP} [which picture of whom]_i Bill bought t_i]]?
 b. ^{??}[_{CP} [Which picture of whom]_i do you wonder [_{CP} who bought t_i]]?⁸

For some other kind of interpretation operations, there can be reconstruction effects in English. Consider (19):

- (19) [_{CP} Which picture of himself_{i/j} did [_{TP} John_i think [_{CP} t [_{TP} Bill_j saw t]]]]?

As discussed above, there would no reconstruction effect for (19) to satisfy (16); but for (19) to satisfy the binding condition (A) under the assumption that the binding conditions apply at LF interface, some reconstruction effect is necessary.⁹ But it is not the case that the satisfaction of the binding condition (A) always requires some reconstruction effects in English. Consider (20):

- (20) John_i wonders [_{CP} which picture of himself_i [_{TP} Mary bought t]].

For the binding condition (A) to properly apply in (20), there cannot be any reconstruction effect since the anaphor *himself* is bound by the matrix clause *John* in (20).

Thus, the reconstruction effect of a movement to the edge of a phase should not be a fixed property of a certain process or interpretation but a phenomenon that naturally follows from the optimal derivation of the grammar; hence, essentially the nature or properties of the interpretation or process involved will determine whether or not any reconstruction effect should obtain. Hence, stipulating notions like “radical reconstruction” (Saito 1992) as a characteristic property of scrambling is not desirable. In fact, we will show below that reconstruction is not to be a stipulative property of scrambling or any related processes or operations but a natural outcome of the optimal operation of grammar.

In our theory, reconstruction is only possible through the use of the copy trace left

8) (18b) is slightly awkward since it violates the *wh*-island condition.

9) If we assume that the binding conditions apply phase by phase, then no reconstruction effect would be necessary. But then we have to assume that in order for the binding conditions to obtain at the later phase the application of binding conditions must be somehow stopped or delayed at the earlier phase.

in the cyclically spelled-out domain when an element moves to the edge of a phase; hence, no reconstruction occurs in clause-internal scrambling as we see in Korean anaphor-binding examples (21a, b); hence, clause-internal scrambling may induce the effect of remedying an ill-formed anaphor-binding relation as we see (21b):

- (21) a. *_{[TP selo-uy sensayng-i ku-tul-ul piphanha-ess-ta].}
 each other-GEN teacher-NOM they-ACC criticize-PAST-DEC.
 ‘Each other’s teacher criticized them.’
- b. _{[TP ku-tul-ul_i [TP selo-uy sensayng-i t_i piphanha-ess-ta]].}
 they-ACC each other-GEN teacher-NOM criticize-PAST-DEC.
 ‘Them each other’s teacher criticized.’ (Clause-internal Scrambling)

On the other hand, long-distance scrambling does not induce reconstruction necessarily since reconstruction effects show up only when the optimal derivation of the grammar has to make use of the copy trace left in the spelled-out complement domain; in fact, in cases like (22b) where long-distance scrambling has applied, the copy trace left in the spelled-out complement domain is not used by any principles of the grammar; hence, the grammaticality of the sentence (22b) has to be determined without considering reconstruction effects:

- (22) a. *_{[TP selo-uy sensayng-i [CP [TP John-i ku-tul-ul piphanha-ess-ta]-ko]}
 e. o.-GEN teacher-NOM J.-NOM they-ACC criticize-PAST-DEC-C
 malha-ess-ta].
 say-PAST-DEC
 ‘Each other’s teacher said that John criticized them.’
- b. ^{*/??}_{[CP ku-tul-ul_i [TP selo-uy sensayng-i [CP t_i [TP John-i t_i}
 they-ACC e. o.-GEN teacher-NOM J.-NOM
 piphanha-ess-ta]-ko] malha-ess-ta]].
 criticize-PAST-DEC-C say-PAST-DEC
 ‘Them, each other’s teacher said that John criticized.’

Indeed, (22b) is deviant since the anaphor *selo* is not bound since the possible binder *ku-tul-ul* is not in an A-position but in Spec-C.¹⁰ But there are some people who

10) The theory of scrambling that assumes the obligatory reconstruction for long-distance scrambling (Saito 1992) claims that cases like (22b) are deviant due to the obligatory reconstruction of the scrambled element. Note, however, that (22b) is already deviant before the reconstruction occurs, unless it is assumed that the binding theory applies to A'-positions; hence, it is not clear whether obligatory reconstruction has anything to do the deviancy of (22b).

consider sentences like (22b) marginally acceptable; for those people we can say that their binding conditions are parameterized so that the binding positions include an edge of a phase.

The NPI Licensing Condition (23) also may apply without referring to the copy trace of the element that has moved to an edge of a phase by long-distance scrambling, as we see in the Korean NPI constructions like (24a, b):

(23) An NPI element and NEG have to be clausemates.

(24) a. *John-i [_{CP} [_{TP} Mary-ka amwukesto hwumchi-ess-ta]-ko] mit-ci ani han-ta.
 J.-NOM M.-NOM anything steal-PAST-DEC-C believe not do-DEC
 ‘John does not believe that Mary stole anything.’

b. [_{CP} amwukesto_i [_{TP} John-i [_{CP} t_i [_{TP} Mary-ka t_i hwumchi-ess-ta]-ko]
 anything J.-NOM M.-NOM steal-PAST-DEC-C
 mit-ci ani han-ta]].
 believe not do-DEC
 ‘Anything, John does not believe that Mary stole.’

In fact, for (24b) reconstruction should not be induced so that (23) may be satisfied.

On the other hand, the element that has moved to an edge of a phase by long-distance scrambling may induce reconstruction effect for one interpretation principle and may not induce reconstruction effect for another interpretation principle at the same time. Consider the INT-Move of the *wh*-phrase *nwukwu-lul* to the matrix Spec-C as shown in (25b):

(25) a. *[_{TP} John-i [_{CP} [_{TP} amwuto nwukwu-lul manna-ci
 J.-NOM everyone who-ACC meet
 ani ha-ess-nun]-ci] an-ta].
 not do-PAST-C know-DEC
 ‘John knows everyone did not meet who.’

b. [_{CP} nwukwu-lul_i [_{TP} John-i [_{CP} t_i [_{TP} amwuto t_i manna-ci
 who-ACC J.-NOM everyone meet
 ani ha-ess-nun]-ci] an-ta].
 not do-PAST-Q know-DEC
 ‘Who John knows everyone did not meet.’

(25b) is interpreted as well-formed since the scrambled *wh*-phrase *nwukwu-lul* to the

matrix Spec-C satisfies both interpretation principles (16) and (26); but reconstruction effect is necessary for (16) but not for (26).

(16) A *wh*-phrase must be contained within a question CP.

(26) Nothing may move over the negation-induced barrier at LF.
(Beck & Kim 1997)

Thus, reconstruction effect should not be stipulated for particular operations or structures but should naturally follow from the optimal operation of the grammar, which is possible in our INT-oriented theory of scrambling.

The principle of quantifier interpretation (27) also induces reconstruction effect as we see in the Korean examples (28a, b):

(27) QR or quantifier scope interpretation is clause-bound.

(28) a. $[_{TP}$ nwukwunka-ka $[_{CP}$ $[_{TP}$ Mary-ka motun salam-ul
 someone-NOM M.-NOM every person-ACC
 piphanha-ess-ta]-ko] malha-ess-ta]. (some>every, *every>some)
 criticize-PAST-DEC-C say-PAST-DEC
 ‘Someone said that Mary criticized everyone.’

b. $[_{CP}$ motun salam-ul_i $[_{TP}$ nwukwunka-ka $[_{CP}$ t_i $[_{TP}$ Mary-ka t_i
 every person-ACC someone-NOM M.-NOM
 piphanha-ess-ta]-ko] malha-ess-ta]]. (some>every, *every>some)
 criticize-PAST-DEC-C say-PAST-DEC
 ‘Everyone, someone said that Mary criticized.’

5. Clause-Internal Reconstruction Effects

Movements to the edge of a phase for the strong INT-effect of focus may induce reconstruction effects. Hence, the traditional clause-internal scramblings, if focused, may also induce reconstruction effects; that is, even movements to Spec-*v* and Spec-C of the minimal clause, which have been assumed to be clause-internal scramblings, may also induce reconstruction effects since according to our analysis they are also movements to the edge of a phase for the strong INT-effect of focus.

Consider (29a, b, c, d):

(29) a. $[_{CP}$ caki-lul_i $[_{TP}$ t_i $[_{TP}$ John-i $[_{VP}$ t_i piphanha]-ess-ta]]].
 self-ACC J.-NOM criticize-PAST-DEC

- ‘Self John criticized.’ (Boldfaced letters indicate being focused.)
- b. [_{CP} *caki-casin-**ul***_i [_{TP} *t_i* [_{TP} *John-i* [_{VP} *t_i* *piphanha*]-*ess-ta*]]].
 himself-ACC J.-NOM criticize-PAST-DEC
 ‘Himself John criticized.’
- c. ?[_{CP} *caki-uy hyeng-**ul***_i [_{TP} *t_i* [_{TP} *John-i* [_{VP} *t_i* *piphanha*]-*ess-ta*]]].
 self’s brother-ACC J.-NOM criticize-PAST-DEC
 ‘Self’s brother John criticized.’
- d. Q: *kutul-cwung nwu-ka Mary-eykey chayk-ul cwu-ess-ni?*
 they-among who-NOM J.-DAT book-ACC give-PAST-Q
 ‘Among them who gave Mary a book?’
- A: [_{CP} *John-**i***_i [_{TP} *t_i* *Mary-eykey chayk-ul cwu-ess-ta*]].
 ‘John gave Mary the book.’
- A’: * [_{CP} *chayk-**ul***_i [_{TP} *John-**i***_i *Mary-eykey t_i* *cwu-ess-ta*]].
 ‘The book John gave to Mary.’

If the preposed anaphor is focused as in (29a) the sentence becomes quite acceptable; hence, we claim that in (29a) the anaphor moves to Spec-C for the strong INT effect of focus, which leads to reconstruction effect. If the preposed anaphor is a compound one like *caki-casin* as in (29b) the sentence also becomes quite acceptable; hence, we claim that the compound anaphor functions as a focused element and moves to Spec-C, which leads to reconstruction effect. If the preposed anaphor is a part of a larger phrase, the sentence becomes marginally acceptable; hence, we assume that a larger and more complex structure also somehow contributes to the focality of the structure, which contributes to reconstruction effects. (29d) shows that only the phrase providing information for the *wh*-phrase should be preposed to the focus-licensing position, Spec-C, even in a simplex sentence, as we see in (29dA) answering a *wh*-question like (29dQ). Note that (29dA’) is not a proper answer to (29dQ).

Consider (30a, b, c, d):

- (30) a. ? [_{CP} *caki-kkaci/man-**i***_i [_{TP} *t_i* [_{TP} *John-i* [_{VP} *t_i* *piphanha*]-*ess-ta*]]].
 self-even/only J.-NOM criticize-PAST-DEC
 ‘Even/only self John criticized.’ (Long-distance Scrambling)
- b. [_{TP} *motun salam-i John-man-**ul** salanghan-ta*].
 every person-NOM J.-only-ACC love-DEC
 ‘Everyone loves only John. (**every>only**; ***only>every**)’
- c. [_{CP} *John-man-**ul***_i [_{TP} *motun salam-i* [_{VP} *t_i* *salanghan-ta*]]].
 J.-only-ACC every person-NOM love-DEC
 ‘Everyone loves only John.’ (**every>only**; ***only>every**)

- d. [_{CP/TP} John-man_i [_{TP} motun salam-i [_{VP} t_i salanghan-ta]]].
 J.-only every person-NOM love-DEC
 ‘Everyone loves only John.’ (every>only; only>every)

In (30a) the preposed anaphor has a focus marker *-kkaci* or *-man* attached to it and the sentence becomes quite acceptable; hence, we claim that in (30a) the anaphor moves to Spec-C for the strong INT-effect of focus, which leads to the reconstruction effect. In (30b) the scope relation is unambiguous; that is, the *every*-phrase has scope over the *only*-phrase. In (30c) also the scope relation is unambiguous; that is, the *every*-phrase has scope over the *only*-phrase, even though the *only*-phrase is preposed, which may be accounted for by assuming that the preposed *only*-phrase functions as a focused phrase, inducing reconstruction effect. In (30d), however, the scope relation is ambiguous even though the only difference between (30c) and (30d) is that in the latter the preposed *only*-phrase lacks the Case-marker *-ul*, which we may account for by assuming that the preposed *only*-phrase that lacks the Case-marker may or may not function as a focused element.¹¹

There is some evidence that Spec-*v** is a focus position. Consider (31a, b, c) (cf. Miyagawa 1997):

- (31) a. John-i [_{VP} chayk-ul ilk]-ess-ta.
 J.-NOM book-ACC read-PAST-DEC
 ‘John read the book.’
 b. ??John-i ppalli [_{VP} chayk-un ilk]-ess-ta.
 J.-NOM quickly book-FOC read-PAST-DEC
 ‘John read the BOOK.’
 c. John-i [_{v*P} chayk-un_i ppalli [_{VP} t_i ilk]]-ess-ta.
 J.-NOM book-FOC quickly read-PAST-DEC
 ‘John read the BOOK.’

(31b, c) show that the object with the contrastive topic marker *-nun* should move to Spec-*v**.

There is also some evidence in German that a focused phrase should move to Spec-*v**; that is, a clause-internal focused phrase moves to the edge of the phase *v*P*, inducing focus effects, which leads to reconstruction effects as we see in (32a), as opposed to non-focus A-movement as in (32b):

11) The data (30b, c, d) are due to Lee (2003), though the analysis of the data in Lee (2003) is a little different.

- (32) a. daß [TP [v*P **seine_i Mutter_j** jeder_i [VP t_j mag]]]]
 that his mother(ACC) everybody(NOM) likes
 ‘that everybody_i likes his_i mother’
 (Boldfaced letters indicate being focused.)
- b. ^{???}daß [TP [v*P seine_i Mutter_j jeder_i [VP t_j mag]]]]
 that his mother(ACC) everybody(NOM) likes
 ‘that everybody_i likes his_i mother’

Note that the bound pronoun condition is violated in (32b), leading to an deviant sentence, whereas it is not violated in (32a) due to the reconstruction effect of the focused object.

6. Further Motivation of the Extended INT Theory

The extended INT-theory accounts for constraints on case alternation in Korean. The case alternation results in the ‘multiple identical case construction’ as we see in the locative-nominative case alternation as shown in (33a). For the resulting multiple case construction, the following constraint obtains: the final nominative DP in the resulting multiple nominative construction may not undergo Scrambling as in (33b), nor Topicalization as in (33c), nor Relativization as in (33d) nor *Wh*-Question as in (33e), whereas the first nominative DP may undergo Scrambling, Topicalization, Relativization or *Wh*-Question,¹² which can be accounted for by the extended INT theory, since the first nominative DP in the multiple case construction carries focus and may be assumed to undergo INT-Move to the edge of the closest phase; hence, the above-mentioned constraints follow due to the PIC:

- (33) a. i mau-ey/-i kim kyoswunim-i sa-si-n-ta.
 this village-LOC/-NOM Kim professor-NOM live-HON-T-DEC
 ‘Prof. Kim lives in this village.’ / ‘It is this village that Prof. Kim lives in.’
- b. kim kyoswunim-i_i i mau-ey/*-i t_i sa-si-n-ta.
 Kim professor-NOM this village-LOC/-NOM live-HON-T-DEC
 ‘Prof. Kim, he lives in this village.’
- c. kim kyoswunim-un_i i mau-ey/*-i pro_i sa-si-n-ta.
 Kim professor-TOP this village-LOC/-NOM live-HON-T-DEC
 ‘As for Prof. Kim, he lives in this village.’

12) Note that an element that has reached an edge of a phase may move on to the edge of the next higher phase as discussed in the footnote 3.

- d. i maul-ey/*-i t_i sa-si-nun kim kyoswunim,_i
 this village-LOC/-NOM live-HON-REL Kim professor
 ‘Prof. Kim, who lives in this village.’
- e. i maul-ey/*-i nwu-ka sa-si-ni?
 this village-LOC/-NOM who-NOM live-HON-Q
 ‘Who lives in this village?’

The extended INT theory accounts for some specialized semantic functions of the elements scrambled to the edge of a phase. In (34a, b) the movement of the ECMed subject to the edge of the phase *vP* of the matrix clause in the causative construction induces the strong INT that includes the specialized semantic effect of coercive causation along with focus effects, as the English glosses of (34a, b) indicate:

- (34) a. wuli-ka [_{CP} sensayngnim-i o-si-key] ha-ess-ta.
 we-NOM teacher-NOM come-HON-C do-PAST-DEC
 ‘We let the teacher come.’
- b. wuli-ka [_{vP} sensayngnim-ul_i [_{CP} t_i o-si-key] ha]-ess-ta.
 we-NOM teacher-ACC come-HON-C do-PAST-DEC
 ‘We made the teacher come.’

Consider (35a, b), which show that, in the multiple nominative case construction resulting from the locative-nominative case alternation discussed above, the first nominative DP that moves to the edge of the closest phase *CP* for focus effects induces the strong INT that includes the specialized semantic effect of ‘proper characterization’ along with the focus effects.

- (35) a. pusan-eyse/*-i nay tongsayng-i thayena-ess-ta.
 Pusan-in/-NOM my bother-NOM be born-PAST DEC
 ‘My brother was born in Pusan.’
- b. pusan-eyse/-i Kim taythonglyeng-i thayena-si-ess-ta.
 Pusan-in/-NOM President Kim-NOM be born-HON-PAST DEC
 ‘President Kim was born in Pusan.’

By ‘proper characterization’ we mean that the element that has moved to the edge of the phase should be ‘properly characterized’ by the complement of the phase head; for example, in (35b) the locative phrase with the nominative case *pusan-i* is licensed in the Spec-C since it is ‘properly characterized’ by the rest of the sentence, TP, whereas in (35a) it is not, hence it cannot be licensed. In other word, a local city like *pusan* in

Korea, can be properly characterized as the city where the president Kim was born as in (35b), but not as a city where my brother was born.

7. Conclusion

In this paper it is claimed that there are two types of Moves: Agree Move and INT-Move. Agree Move is a Move that is motivated by Agree like *wh*-movement in English, whereas INT-Move is a Move that is motivated not by Agree but by interpretive complex, hence a pure-EPP-feature Move, like scrambling in Korean/Japanese. Since INT-Move does not involve Agree features, it is insensitive to movement constraints that crucially refer to Agree features, like Superiority, Relativized Minimality, MLC, etc., though it is sensitive to movement constraints that do not crucially refer to Agree features, like strong island constraints, PIC, etc.

It is also claimed that there are two types of interpretive complex (INT): the weak INT (new-old information, theme, specificity-definiteness, etc.) and the strong INT (focus, topic, specialized semantic function, etc.) (Chomsky, 2001), and that the strong INT is interpreted at the edge of a phase (=Spec-C/ v^*) whereas weak INT is interpreted at non-phase-edge Specs. Under the assumption that true scrambling is all INT-Move, clause-internal scrambling is motivated by weak INT within a minimal TP, moving to non-phase-edge Specs within the minimal TP (whenever the vP is a weak phase), whereas long-distance scrambling is motivated by the strong INT, moving only to the next higher edge of a phase due to the PIC.

According to our theory of scrambling, long-distance scrambling is necessarily a movement to a phase edge for its strong INT-effects of focus/topic, whereas clause-internal scrambling is not. Now whenever long-distance scrambling reaches Spec-C/ v^* , the complement TP/VP is cyclically spelled-out/transferred for phonetic/semantic interpretation, being separated from the long-distance-scrambled element positioned in the edge of the phase. Thus, the copy trace left within the cyclically-spelled-out complement is to be used in place of the scrambled element, if necessary, for the semantic interpretation, which amounts to reconstruction effects.

Specifically, our theory of scrambling makes the following three contributions with respect to reconstruction effects. First, it naturally solves the puzzle of reconstruction with respect to long-distance scrambling. Second, it naturally accounts for the correlation between focality and reconstruction effects in scrambling across languages. Third, it eliminates various constraints on reconstruction by letting the property of the interpretation being applied decide whether the copy trace left within the cyclically-spelled-out complement of the phase head is to be used or not for the interpretation.

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Dong-Whee Yang

Department of Linguistics and Philosophy, MIT
32-D808, 77 Mass Ave., Cambridge MA 02139, USA

Phone: +1-617-331-5343

Email: dwy@mit.edu / dwy@chol.com

Sung-Hun Kim

Department of Linguistics and Philosophy, MIT
32-D808, 77 Mass Ave., Cambridge MA 02139, USA

Phone: +1-508-887-3598

Department of English Language and Literature, Dankook University
San 8, Hannam-dong, Yongsan-ku, Seoul 140-714, Korea

Phone: +82-2-709-2356

Email: shkim44@mit.edu / shkim@dankook.ac.kr

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