On Binding Asymmetries in Fragments*

Hee-Don Ahn**, Sungeun Cho***

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1. Introduction

Subject-object asymmetry in anaphoric binding, as in (1-3), is well-known.

(1) *Chelswu-and Yenghi-Nom each other-Acc criticized 'Chelswu and Yenghi criticized each other.'

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** 건국대학교 영어영문학과 (hdahn@konkuk.ac.kr)
*** 이화여자대학교 영어영문학과 (scho1007@yahoo.com)
   each other-Nom Chelswu-and Yenghi-Acc criticized
   *Lit. Each other criticized Chelswu and Yenghi.'

(2) a. Chelswu-wa Yenghi-ka, kakca-lul, piphanhaysssta.
    Chelswu-and Yenghi-Nom each-Acc criticized
    'Chelswu and Yenghi each criticized themselves.'

   each-Nom Chelswu-and Yenghi-Acc criticized
   'Lit. Each themselves criticized Chelswu and Yenghi.'

(3) a. Chelswu-ka, caki-lul, piphanhaysssta.
    Chelswu-Nom self-Acc criticized
    'Chelswu criticized himself.'

   self-Nom Chelswu-Acc criticized
   'Lit. Himself criticized Chelswu.'

The standard Binding Principle A and C may rule out (1-3)b examples. Interestingly, however, subject-object asymmetry in Binding is absent in fragment answers. First, let us look at an object anaphor in a fragment answer.

(4) a. Chelswu-wa Yenghi-ka, nwukwu-lul piphanhayss-ni?
   Chelswu-and Yenghi-Nom who-Acc criticized-Q
   'Who did Chelswu and Yeunghi criticize?'

b. Selo-lul,
   each other-Acc
   'Each other.'

c. Chelswu-wa Yenghi-ka, selo-lul, piphanhaysssta.
   Chelswu-and Yenghi-Nom each other-Acc criticized
   'Chelswu and Yenghi criticized each other.'

In (4), the fragment which consists of non-sentential NP in (4b) conveys the same propositional content as the full sentential answer in (4c). Following Merchant (2004), the fragmentary utterance (4b) can be
analyzed as involving movement of the remnant fragment selo-lul 'each other' out of the sentential constituent equivalent to (4c), followed by deletion of that node (IP or TP). The derivation is roughly schematized in (5):\(^1\)

\[
\begin{array}{c}
\text{FP} \\
\text{F} \\
\text{Ellipsis} \\
\text{TP} \\
\text{Chelswu-wa Yenghi-ka} \\
\text{vP} \\
\text{t} \\
\text{VP} \\
\text{t}_2 \text{ piphanhayssta}
\end{array}
\]

In (5), selo-lul in Spec of F c-commands Chelswu-wa Yenghi-ka. However, it doesn't result in Binding Principle C violation because the Spec of F is an A'-position.

Now, consider a subject anaphor in a fragment answer, as shown in (6):\(^2\)

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1) It is not our direct concern here to determine the exact nature of FP. It can be either FocusP or ForceP (cf. Rizzi 1997, Kim 1997). Note, however, that unlike Focus, Force displays a root clause property; that is, Force seems to be absent in certain embedded clauses, while the distribution of Focus is not restricted. Thus, we speculate that FP in (5) would be more close to ForceP. See Ahn & Cho (2005) for further discussion.

2) These judgments are somewhat idealized and vary among some speakers. For example, the judgement reported in B.Park (2004) rules out similar examples like (6b); e.g., selo-uy emma-ka 'each other's mom' as a fragment answer to (6a). However, most speakers that we have consulted so far share our
(6) a. *Nwu-ka Chelswu-wa Yenghi-lul, piphanhayss-ni?*
   Who-Nom Chelswu-and Yenghi-Acc criticized-Q
   ‘Who criticized Chelswu and Yenghi?’

b. *Selo-ka,*
   each other-Nom
   ‘Each other.’

c. *Selo-ka, Chelswu-wa Yenghi-lul, piphanhayssta.*
   each other-Nom Chelswu-and Yenghi-Acc criticized
   ‘Lit. Each other criticized Chelswu and Yenghi.’

Although the full sentential answer including the subject anaphor in
(6c) is ruled out, the fragment answer is fully acceptable in the similar
environment.

A similar phenomenon is observed in the following examples.

(7) a. *Nwu-ka Chelswu-wa Yenghi-lul, piphanhayss-ni?*
   Who-Nom Chelswu-and Yenghi-Acc criticized-Q
   ‘Who criticized Chelswu and Yenghi?’

b. *Kakca-ka,*
   each-Nom
   ‘Each (themselves)’

c. *Kakca-ka, Chelswu-wa Yenghi-lul, piphanhayssta.*
   each-Nom Chelswu-and Yenghi-Acc criticized
   ‘Lit. Each themselves criticized Chelswu and Yenghi.’

(8) a. *Nwu-ka Chelswu-lul, piphanhayss-ni?*
   Who-Nom Chelswu-Acc criticized-Q
   ‘Who criticized Chelswu and Yenghi?’

b. *Caki-ka,*
   Self-Nom
   ‘Himself.’

c. *Caki-ka, Chelswu-lul, piphanhayssta.*
   self-Nom Chelswu-Acc criticized
   ‘Lit. Himself criticized Chelswu.’

judgments, and our analysis concerns only those speakers who accept (6).
Unlike full sentential correlates (7c) and (8c), their fragment answers (7b) and (8b) permit anaphors to occur in subject positions.

The binding discrepancy seems to be problematic for Move and Delete analysis of fragments because DPs in fragments are predicted to pattern with their correlates in non-fragmentary sentential equivalents under this approach. However, in this paper we propose that Move and Delete analysis of fragments can be maintained in Korean fragments, and that reinterpretation of binding principles in conjunction with interface conditions in ellipsis context provides an elegant account for the apparent puzzles that may otherwise be problematic for syntactic treatments, in particular, Move-and-Delete approach to fragments in Korean.

2. Vehicle Change Effects in Elliptical Contexts

As Merchant (2004) points out, the analysis in which fragment is generated as usual and the rest of the sentence in which it occurs is deleted has the conceptual advantage of adhering to the usual syntax-semantics mapping mechanism. Specifically, the analysis easily accounts for the fact that fragment answers have the same propositional meaning that the full sentential counterpart has. For this reason, despite binding asymmetry, we assume that the Move and Delete analysis is on the right track. We propose that the asymmetry results from Vehicle Change effects which are characteristics of one of ellipsis phenomena. Our analysis of binding phenomenon is based on the following assumptions: (i) Binding Principle A can be satisfied at any point of derivation (Lebeaux 1994, Saito 2003), (ii) Binding Principle C is an LF condition.

3) Saito (2003:495-496) claims that the only way to explain (i-iii) is to make Principle A an anywhere condition.

(i) Pictures of himself, worry John, (Belletti & Rizzi 1988)
(ii) a. [Each other's mothers seems [t to please the two boys]]
   b. *John, seemed to each other's mothers [t to please the two boys]
(iii) a. [His first performance] seems[tobe expected [t to please every

Let us look at (6b) and (6c) repeated as (9a) and (9b), respectively.

(9) a. Selo-ka.
   each other-Nom

   b. *Selo-ka₁ Chelswu-wa Yenghi-lul, piphanhayasta.
   each other-Nom Chelswu-and Yenghi-Acc criticized
   ‘Lit. Each other criticized Chelswu and Yenghi.’

We suggest that the full sentence in (9b) has the structure like (10).
In (10), Binding Principle A is not satisfied and Binding Principle C is violated because *selo-ka and its trace bind the R-expression Chelswu-wa Yenghi-lul.

4) According to Fox (2000:8-10), correlation between Binding Principle C and scope reconstruction indicates that Principle C applies at the interface with the semantic component (and perhaps beyond). Consider (i).

(i) [XP ...R-expression₁ ...pronoun₁ ...t]
   In the configuration like (i), scope reconstruction is not allowed because it violates Principle C. This is observed in (ii).

(ii) [A student of David’s] seems to him₁ [t to be in the other room].
   (;++>seem, ??seem>>++)
The fragment answer (9a), on the other hand, may have the structure like (11), which is derived by (PF-vacuous) object scrambling followed by subject movement. Object scrambling alters Binding Principle A possibility.  

5) We assume without further discussion that outer Spec position of vP for Obj-scrambling site is A-position, following Lee & Cho (2003, 2004).

6) Note that in contrast to (11), (i) is at best marginal since Binding principle A and C may be violated.

(i) ??Chelswu-wa-Yenghi-lul sero-ka piphanhayasta
Chelswu-and-Yenghi-Acc each other-Nom criticized
Lit. Chelswu and Yenghi, each other criticized.'

We assume that (i) has the structure like (ii).

(ii) [\textcolor{red}{[\textcolor{red}{Chelswu-wa Yenghi-lul} \textcolor{red}{[\textcolor{red}{\textcolor{red}{s}er-o-ka} [\textcolor{red}{\textcolor{red}{t}r} \textcolor{red}{\textcolor{red}{t}z} [\textcolor{red}{\textcolor{red}{v}P \textcolor{red}{t}1...]]]]}}]

In (ii) the reciprocal sero is not bound by an appropriate antecedent in A-position (although it is A'-bound). Furthermore, the trace of the R-expression t₁ is bound by sero, which may violate Binding Principle C unless t₁ is invisible for Binding/Scope (see Ahn & Cho 2005 for a claim that the trace left by movement to Spec-F is invisible for scoping relations). Note that Chelswu-wa Yenghi-lul in (11) occupies Spec-v, an A-position. Hence it can alter Principle A relations contra (i).
The $E$ feature on $F$ triggers non-pronunciation of the TP. Since *Chelswu-wa Yenghi-lul c-commands $t_2$, Binding Principle A is satisfied. At this point, two problems must be resolved. First, if (11) were a possible derivation for non-elliptical (9b), in other words, if vacuous $vP$-edge scrambling or tucking-in scrambling can take place, (9b) should also satisfy Binding Principle A, contrary to fact. To resolve the problem, we claim that *Chelswu-wa Yenghi-lul cannot undergo "intermediate" movement to $vP$-edge in (9b) since it will be counted as an unnecessary (move) step, and would violate some version of economy principles such as fewest steps and the shortest derivation condition. In fragments context, however, we suggest that such violations can be nullified as a result of the ellipsis at PF. This kind of salvation strategy at PF is reminiscent of repairing

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7) The shortest derivation condition can be defined as follows:

(i) The Shortest Derivation Condition (Kitahara 1997:26)

Minimize the number of elementary operations necessary for convergence.

8) Hoji (1985) also notes that vacuous scrambling must be banned based on scoping facts in Japanese.

9) There are several cases where movement is exceptionally permitted due to the concomitant ellipsis. According to Lasnik (1995), pseudogapping is overt
island violations by ellipsis as widely discussed in Merchant (2001), Fox & Lasnik (2003), and many others. This might imply that like certain island conditions, “fewest steps” is an instance of representational economy (i.e. interface conditions) that can be ameliorated by PF-deletion.\footnote{11}

The second problem arises as to the consequence that \( f_2 \) seems to bind the R-expression Chelswu-wa Yenghi-lul. In other words, our question is how (11) avoids violating Binding Principle C. The amelioration of Binding Principle C in fragments seems to be attributed to the so-called “Vehicle Change effects” in elliptical contexts, as seen in the following.

(12) a. They arrested Alex, though he, thought they wouldn't.
   b. They arrested [the guy who lives over the garage],

\footnote{10} We do not claim that ellipsis happens “because” there is economy violation in the structure and that additional movement happens “because” it can be deleted. We advance that as a result of ellipsis, economy violation which causes PF crash can be nullified. Hence, no look-ahead problems arise under the analysis advanced here. Regarding this issue, see Fox and Lasnik (2003), Merchant (2001), and M. Park (2004).

\footnote{11} According to Lasnik (2001:86), certain locality asymmetries on movement are related to the difference between elliptical and non-elliptical form. He claims that consideration of these problems should help the issue of derivation vs. representation into sharper focus. The locality effects in elliptical constructions seem to demand a hybrid account that is crucially derivational, measuring length of each successive step of movement, but is partly representational as well, inspecting the LF and PF representation for violation markers.
though he thought they wouldn’t.

Fiengo and May (1994) claim that the elided clause contains not a name [-a, -p] but rather a pronominal [-a, +p] (via Vehicle Change) that is equivalent to the non-elided antecedents in (12). Thus, the deleted VPs in (12) and their non-deleted equivalences in (13) have the different status with respect to Condition C violations.

(13) a. He thought they wouldn’t arrest Alex.
    b. He thought they wouldn’t arrest [the guy who lives over the garage].

Merchant (2004:682) further expands the analysis of Vehicle Change effects in ellipsis to fragment answers in English.12)

(14) a. Who did you tell t about Bill’s raise?
    b. Him1.
    c. I told him1 about Bill’s raise.

Thus, the semantic structure of (14b) is like (15) where the correlate possessive “name” is interpreted as a “pronoun,” hence, no Condition C violation occurs.

(15) I told him1 about his1 raise.

Similarly, we claim that the elided clause contains a [+pronominal] empty category (EC), Pro, that corresponds to the R-expression Chelswu-wa Yenghi-bil in the antecedent clause, as shown in (16).13)

(16) FP

13) Huang (1989, 1991) puts forward that the PRO/pro distinction is unnecessary, and he postulates only one pure pronominal EC Pro.
In (16), Binding Principle A is satisfied because Pro binds t₂. Binding Principle C violation doesn't occur because there is no R-expression.\(^{14}\)

\(^{14}\) Myung-Kwan Park (p.c.) raised the question about Binding Principle B violation in (16) because t₂ binds Pro₁ in local domain in some sense. The notion of Pro in text analysis departs essentially from Pro or pro in Huang (1989; 1991) in that it is a [+pronominal] EC but is underspecified for the [anaphoric] feature. Hence, its Binding requirements is neutral for Principle B which we assume is concerned with a property of [anaphoric]. Given the idea that Pro is not a pure pronominal (i.e., [anaphor, +pronominal]), the Principle B is not violated. See Ahn (1985) for further discussion on the status of Pro in Korean.

\(^{15}\) Hong & Park (2005) point out that the ill-formedness of (iB) in the following cannot be accounted for under our analysis.

(i) A: Nwu-ka Chelswu-lul₁ piphanhayss-ni?
   Who-Nom Chelswu-Acc criticized-Q
   ‘Who criticized Chelswu?’

B: *Ku-ka₁ Chelswu-lul₁ piphanhaysta
   he-Nom Chelswu-Acc criticized
   ‘He criticized Chelswu.’

B’: *Ku-ka₁ (\(\Rightarrow\) Structure prior to ellipsis: Ku-ka₁ [Pro₁ piphanhaysta])
   He-Nom          Lit. He.’
3. Extension

3.1 Is there Scrambling in English?

In this section we will look at subject anaphors in fragments in English. According to Merchant (2004:683-684), Principle A amelioration cannot occur in fragment answers in English.16

(17) a. Who will punish Bill if he fails?
   b. Himself.

In B, the coreference between Chelswu and ku violates Binding Principle C. However, in B', where the elided clause contains a [+pronominal] empty category, the coreference between Pro and ku violates neither Binding Principle B nor C. Hence, B' is expected to be well-formed, contrary to fact. Extending Chomsky’s (1981) Avoid Pronoun Principle somewhat, we suggest that in Korean there exists a preference against the use of a pronoun if a reflexive is available in the same environment, as shown in (ii).

(ii) John-un Mary-ka caki/??ku-lul paassata-ko sayngkakhayasta.
   John-Top Mary-Nom self/the-Acc saw-Comp thought
   ‘John thought that Mary saw him.’

In line with this reasoning, a reflexive fragment (iii) below has a preference over a pronoun fragment (iB') as an answer to a question (iA).

(iii) Caki-ka.
    Self-Nom
    ‘Himself.’

Thus, (iB') is excluded via functional strategy. See Huang (1991:74, n.12) for related discussion. Regarding pronouns as a last resort strategy, see Hornstein (2001:184).

16) Merchant (2004) made an experiment on judgments on (17) and (18) with 13 speakers. The speakers were presented with the sentences and asked to rank them on a gradient acceptability like the following. TABLE 1 shows the results.

<table>
<thead>
<tr>
<th></th>
<th>Example (17)</th>
<th>Example (18)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>N</td>
<td>0 2 9 2</td>
<td>0 0 5 8</td>
</tr>
</tbody>
</table>

TABLE 1
On Binding Asymmetries in Fragments

(18) a. What caused the computer to break down?
   b. A power surge?
   c. Perhaps, but the most intriguing answer is: "itself."
   d. "Itself caused the computer to break down.

However, according to Ginzburg & Sag (2000:297), the reflexive/reciprocal fragment answers in (17-18) are judged grammatical.

The analysis advanced here can capture these speakers' variation well. We propose that speakers' judgment variation may correlate with the presence or absence of scrambling-like operation in English, which may alter Binding Principle A possibility. Put another way, for the speakers who don't accept (17b), the fragment answer has the following structure (=Merchant's informants).

(19)

In (19), Principle A is violated because *h*imself* is not bound by any appropriate antecedents. In contrast, for the speakers who accept (17b) (*mutatis mutandis* (18c)), we suggest that object scrambling (optionally) occurs in English. The structure of (17b), then, is represented as follows (=Ginzburg & Sag's informants).17)

17) Some speakers get the following contrasts in English (Anoop Mahajan and Kyle Johnson, p.c.):
In (20), Bill undergoes scrambling, which alters a binding possibility. Bill c-commands $t$. Hence, Binding Principle A doesn't rule out (17b). Binding Principle C violation can further be obviated thanks to the vehicle change effect. Given that the elided clause contains not a name but rather a pronoun or pronominal EC, as shown in (21), another question arises: Isn't Binding Principle B violated in (17b)?

(21)

(i) a. ?Everyone$_2$, his$_2$ mother loves.
   b. ?Everyone$_2$, his$_2$ mother thinks that Mary loves.
(ii) a. John$_2$, his$_2$ mother loves.
   b. ?John$_2$, his$_2$ mother thinks that Mary loves.

That is, local and long-distance topicalizations in English display rather sharp contrasts in that only the former neutralizes Weak Crossover (WCO) effects. This contrast is reminiscent of WCO asymmetries of local vs. long-distance scrambling in Hindi and Korean. Thus, it seems that for some English speakers, topicalization patterns systematically aike scramblings in Korean (and Hindi).
On Binding Asymmetries in Fragments

Parallel to Korean fragments, we might assume that vehicle-changed pronominal in the elided clause is not a full pronoun but a deficit pronominal that is not subject to standard Principle B (recall n.13).18

18) Lasnik (2005) raises an important issue concerning the status of vehicle-changed EC in elided XP. Observe the following contrast noted in Lasnik (2005).

(i) a. Mary thinks John, is a genius and he[1] does too.
    b.?Mary believes John, to be a genius and he[1] does too.

Lasnik points out that Principle C effects may disappear under ellipsis. However, (ib) may induce Principle B violation after vehicle change. Hence, (b) is marginal. If Lasnik’s observation is correct, it seems that EC pronominal in English is invariably [-anaphoric] in contrast to Korean Pro that is neutral for [anaphoric] value. We speculate that this difference may originate from the fact that English doesn’t allow null pronouns (except for PRO that occurs in very limited contexts) contra Korean. For those speakers who accept (ib) and (17b)/(18c) in the text, we further speculate that “pronominal anaphor” PRO can take place as a result of vehicle change. Interestingly, German exhibits similar patterns as English regarding anaphoric fragments (Harald Clahsen, p.c.)

(ii) a. Wer will Bill bestrafen, falls er versagt?
    ‘Who will punish Bill if he fails?’
    b. *Sich selbst
Another type of vehicle change effects is pointed out by Dalrymple (1991), quoted from Fiengo & May (1994:214). She notes the existence of correlated pairs like those in (22a) as voted for him, and in (22b) as voted for himself.

(22) a. Bush voted for himself, but Barbara didn’t.
   b. Barbara voted for him, but Bush didn’t.

If the reconstruction of the second clause in (22b) were invariably a pronoun, the elided material would be voted for him, and the resulting structure would violate Principle B. Fiengo & May suggest that himself and him are non-distinct in vehicle change contexts. Thus, Binding principle B is not violated in (22) if himself/him alternation freely occurs in ellipsis contexts.19)

3.2 Long-distance Scrambling

In this section, we further consider subject anaphor fragments in long distance scrambling contexts.

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'Himself.'

Note that German is a language that has (local) scrambling, but does not employ null pronouns productively in finite contexts. Hence, it appears that (productive) null pronoun possibilities (but not scrambling per se) may be more responsible for allowing subject anaphoric fragments. Recall that (vacuous) scrambling correlates with Principle A, while vehicle change effects correlate with Principle C. Then, the range of vehicle change effects seems to be more crucial for speakers’ variation considering German facts.

19) Vehicle change may not take place twice in the identical ellipsis domain. Put differently, suppose vehicle change doubly occurs in (17b)/(18c) so that R-expression becomes anaphor via intermediate pronominal stage. Then, (17b)/(18c) must be fully acceptable in English (and mutatis mutandis in German), contrary to fact.
(23) a. Nwu-ka John-i Chelswu-wa Yenghi-lul,
   Who-Nom John-Nom Chelswu-and Yenghi-Acc
   piphanhaysta-ko sayngkakhayss-ni?
   criticized-Comp thought-Q
   'Who thought John criticized Chelswu and Yenghi?'
b. ??Selo-ka,
   each other-Nom
c. *Selo-ka, John-i Chelswu-wa Yenghi-lul,
   each other-Nom John-Nom Chelswu-and Yenghi-Acc
   piphanhaysta-ko sayngkakhaysssta.
   criticized-Comp thought
   'Lit. Each other thought John criticized Chelswu and Yenghi.'

Compared with subject anaphors in short scrambling contexts, the acceptability seems to be degraded. However, the similar (although relatively weak) binding discrepancy is observed. Although the full sentential answer including subject anaphora in (23c) is completely ruled out, the fragment answer (23b) seems to be marginally okay.

Similar phenomena are observed in the following examples.

   Who-Nom John-Nom Chelswu-and Yenghi-Acc criticized
   sayngkakhayss-ni?
   thought-Q
   'Who thought John criticized Chelswu and Yenghi?'
b. ??Kakca-ka,
   each-Nom
c. *Kakca-ka, John-i Chelswu-wa Yenghi-lul,
   each-Nom John-Nom Chelswu-and Yenghi-Acc
   piphanhaysta-ko sayngkakhaysssta.
   criticized-Comp thought
   'Lit. Each themselves thought John criticized Chelswu and Yenghi.'
Who-Nom John-Nom Chelswu-Acc criticized
sayngkakhayss-ni?
thought-Q
'Who thought John criticized Chelswu?'

b. ?Caki-ka,
Self-Nom

c. 'Caki-ka, John-i Chelswu-lul, piphanyysta-ko
Self-Nom John-Nom Chelswu-Acc criticized-Comp
sayngkakhysta.
thought
'Lit. Himself thought John criticized Chelswu.'

Let us look at (23). The full clause answer in (23c) has the following structure.20)

20) In topic-prominent languages such as Korean, subjects seem to move to the sites in which discourse information is established (unless they are filled by other elements). Thus, the subject selo-ka in (26) (and in (10)) should move up to Spec-Force in C-domain, sitting above TP. See Ahn & Cho (2005) for scope evidence to support this assumption. Subject movement to Spec-F may be regarded as an instance of scrambling. Saito (1985) and Hoji (1985) argue that subject scrambling doesn’t exist in Japanese. By contrast, Kurata (1991), Lee (1993), Sohn (1995) and Ko (2004) independently argue that subject scrambling exists.
In (26), *Chelswu-wa Yenghi-lul* doesn't bind *selo-ka* and its traces. Hence, Principle A rules this sentence out. Moreover, Principle C may also rule this sentence out because *selo-ka* 'each other' binds *Chelswu-wa Yenghi-lul* 'Chelswu and Yenghi (Accusative)'.

Now, turn to the structure of the fragment answer (23b).
In present analysis the elided clause contains an underspecified pronominal, Pro, and Principle C is satisfied. Hence, (23b) is more acceptable than (23c). Note, however, that although Principle C is satisfied in (23b), Principle A might not be fully met since long-scrambled object Chelswu-wa Yenghi-lul (later turned into Pro) may not A-bind the anaphor selo. 22) Thus, some speakers judge (23b)

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21) It is not implausible to assume that Spec-v in matrix clause in (27) is counted as an A’-position for moved elements from the embedded clause, since in this position, moved elements do not enter into Agree and/or (Case-)Valuation. Note that the relevant Agree/Valuation must take place in embedded Spec-v.

A-property of long distance scrambling, however, is observed for Korean and Japanese (see Lee 1990, 1991, Nemoto 1991, Yoon 1991 among others). Ahn, et al. (1990), in contrast, notes that A/A’ distinction is not clearly observed in short vs. long scrambling in Korean and Japanese as opposed to Hindi. They uniformly analyze short and long scrambling in Korean and Japanese as
marginal.

4. Against Alternative Approaches

As alternatives to the analysis we advance, two analyses can be considered. The one is an emphatic anaphor analysis that is implied in Ginzburg & Sag (2000) where they analyze a reflexive fragment in English parallel to "a nominal + emphatic reflexive," as seen in (28) and (29).

(28) a. Who will punish Bill if he fails?
   b. He himself/Himself.
   c. *Himself will punish Bill if he fails.
   d. *He himself will punish Bill, if he fails.

(29) a. What caused the computer to break down?
   b. A power surge?

--A'-movements, and claim that apparent A-movement properties of short scrambling rely on independent grounds. We, however, assume that only short scrambling can be an A-movement.

22) As pointed out by an anonymous reviewer, if the object undergoes one fell swoop movement from the outer Spec of vP in the embedded clause to the one in matrix clause, it would violate the phase-impenetrability condition. Hence, the object may stop by the Spec of C. This movement doesn't raise improper movement issue (even though Spec-v in matrix clause is treated as an A-position) because according to Bruening (2001) and Tanaka (2002), for example, embedded Spec-C in Korean can be regarded as an A-position. Hirawa (2005:108) claims that the availability of Raising-to-Object (RTO) across a finite CP is predicated to be contingent on the availability of the "dislocation" operation to the edge.

(i) The availability of "Hyper-Raising" correlates with the availability of the dislocation to the articulated CP-edge domain, which correlates with the availability of the articulated CP domain (cf. Rizzi 1999).

Technical details aside, we assume that embedded Spec-C in Korean is an A-position. Hence A-to-A movement is possible through Spec-C in Korean. Thus, the marginality of (23b) cannot hinge on the improper movement of the long-scrambled object Chelswu-wa Yenghi-lul.
c. Perhaps, but the most intriguing answer is: The computer itself/Itself.
d. Itself caused the computer to break down.
e. The computer itself caused the computer to break down.

At first glance, it seems that the emphatic reflexive analysis may be extended to subject anaphors in fragmentary utterances. Let us consider (8) repeated as (30).

(30) a. Nwu-ka Chelswu-lul piphanhayss-ni?
   Who-Nom Chelswu-Acc criticized-Q
   ‘Who criticized Chelswu?’
b. Caki-kai.
   Self-Nom

Under the emphatic anaphor analysis, the structure of (30b) is like (31).

(31) [Pro caK-kai]23)......

According to Bickerton (1987), normally, a potential co-referent such as he himself must be found within the same sentence. Exceptionally, a unique discourse topic can be an antecedent, as shown in (32).

(32) A: How will Mary do in the exam?
   B: I don’t know, but she herself says she’ll pass.

However, if there is a potential binder in the same sentence, the discourse topic cannot antecede the emphatic reflexive, as shown in

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23) Déchaine and Witschko (2002:74-75) claim that emphatic reflexives occur as adjunct nominal predicates. They show that emphatic reflexives have the same distribution as adjunct depictive predicates.

(i) a. I [myself] saw Mary.
    b. I saw Mary [myself]
(ii) a. John, [tired], who wrote the letter.
    b. John wrote the letter [tired].
(33).

(33) A: How will Mary do in the exam?
B: I don’t know, but Susan, says she herself, says she’ll pass.

Since there is no potential binder in (30b) that may block the binding-relation of caki-ka with Chelswu-lul in the antecedent clause (30a), (30b) appears to be explained by the emphatic anaphor analysis of caki-ka.

The other possible analysis is discourse-bound reflexive approach by Hong & Park (2005). This approach is somewhat similar to the emphatic anaphor analysis in that discourse topic functions as an antecedent. In previous literature such as Pollard & Sag (1992), Reinhart & Reuland (1993), and Baker (1995), some reflexives seem to involve violations of the standard Binding Principle A, as shown in (34).\(^{24}\)

(34) a. There were five tourists in the room apart from myself.
   b. Physicists like yourself are a godsend.
   c. Max boasted that the queen, invited Lucie and himself for a drink.

Pollard & Sag (1992:270) suggest that the anaphors in (34) (they call them exempt anaphors) need not enter a binding relation and their interpretation is sensitive to pragmatic factors, which is supported by the following observation.\(^{25}\)

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\(^{24}\) Baker (1995) claims that a locally-free anaphor is a reduced form of an intensive pronoun.

\(^{25}\) Note that the anaphors in (34) are not syntactic arguments of the predicates. Reinhart & Reuland (1993) term this type of anaphors as logophors. They claim that reflexivity is a property of predicates that must be linguistically licensed. The relevant definition is as follows.

(i) A predicate is reflexive iff two of its arguments are coindexed.

Since the anaphors are not syntactic arguments of the predicates, they are not subject to Binding Principle A. An anonymous reviewer raises a question about the grammaticality of the following sentence.

(ii) Selo-\(w_i\) chinkwu-ka John-kwa Mary-lul1 poassta.
(35) a. John was going to get even with Mary. That pictures of himself, in the paper would really annoy her, as would the other stunts he had planned.

b. 'Mary was taken aback by the publicity John was receiving. That picture of himself in the paper had really annoyed her, and there was not much she could do about it.

Note that the exempt anaphor is assigned an antecedent on the basis of Point of View. Since the narrator has taken on John's perspective, or viewpoint in (35a), the anaphor is naturally interpreted as referring to John. By contrast, since Mary's viewpoint is presented in (35b), the exempt anaphor cannot take John as an antecedent.

Although both analyses seem to be attractive, they have a couple of drawbacks. Both analyses predict the possible occurrence of subject anaphor in (36A).²⁶

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²⁶ Bickerton (1987:345) points out that the emphatic anaphor in English, strong contrastive contexts aside, cannot occur with a non-subject pronoun (but it can freely occur with subject noun).

(i) a. John says that he himself saw Mary yesterday.
   b.*John says that Mary saw him himself.

Korean emphatic reflexive patterns similarly in that it cannot occur with non-subject noun:

    'John himself came in person.'
    Bill-Nom John-Acc himself-Acc in-person met
    'Lit. Bill met John himself in person.'

Likewise, according to Huang (1989:70), the reflexive ｚｉ／ｉ in Chinese also
(36) Q. John-i1 cecy nwukwu-lul mawas-s-ni?
   John-Nom yesterday who-Acc sent-Q
   ‘Who did John meet yesterday?’
   A. Caki-to1 an wasse.
      Self-also not come
      ‘He himself didn’t come, either.’

Under the discourse-bound anaphor analysis, (36A) has the structure like (37a) which is parallel to (37b). The subtle difference is (non)-pronunciation of topic John-un: namely, null Topic in (37a).

(37) a. [Op1 [caki-to1 an wasse]]
      self-also not came
      ‘He himself didn’t come, either.’
b. [John-un1 [caki-to1 an wasse]]
     John-Top self-also not came
     ‘As for John, he himself didn’t come, either.’

The anaphor can be bound by the topic in either case.

Under the emphatic reflexive analysis, (36A) has the structure like (38a) that is parallel to (38b). The (non)-pronunciation of subject John makes the subtle difference.

shows subject-object asymmetry, as shown in (iii).

(iii) a. Zhangsan shuo [ziji hui hui jia]
      Zhangsan say self can return home
      ‘Zhangsan said that he himself can go home.’ (No need for a ride, etc.)
b. Zhangsan shuo [wo zhi pipíng ziji]
      Zhangsan say I only criticize self
      ‘Zhangsan said that I only criticized myself.’
      (Not: ‘Zhangsan said that I only criticized him himself, and no one else.’)

In (iii), the reflexive ziji can be used emphatically in (iii) but not in (iiib). Under the assumption that the emphatic ziji is an adnominal following pro, the form pro + ziji is possible in subject position (as in (iii)), but not in object position (as in (iiib)). Thus, (36A) might be analyzed as an instance of emphatic reflexives in Korean.
(38) a. pro\textsubscript{1} caki-to\textsubscript{1} an wasse.
    self-also not came
    'He himself didn't come, either.'

b. John-i\textsubscript{1} caki-to\textsubscript{1} an wasse.
    John-Top self-also not came
    'John himself didn't come, either.'

The first drawback in these approaches is subject-object asymmetry in what follows. Both analyses incorrectly predict that (39A) parallels (36A), contrary to fact.

(39) Q. Nwu-ka eory John-ul\textsubscript{1} manmass-ni?
    Who-Nom yesterday John-Acc met-Q
    'Who met John yesterday?'

A. 'Caki-to\textsubscript{1} an wasse.
    Self-also not came
    'He himself didn't come, either.'

The reflexive \textit{caki-to} in (39A) cannot refer to the object \textit{John-ul} in (39Q), whereas the reflexive \textit{caki-to} in (36A) can refer to the subject \textit{John-i} in the antecedent clause. This contrast calls for an explanation in both analyses. The discourse-bound reflexive analysis may predict the grammatical contrast between (36A) and (39A). Under the analysis, the hierarchy of grammatical relations is needed to the difference.

(40) SUBJECT \textless PRIMARY OBJ \textless SECOND OBJ \textless OTHER COMPLEMENTS \textless PRIMARY OBJ \textless OTHER COMPLEMENTS
    (cf. Dowty 1982a, b)

Pollard & Sag (1992:266) claim that the restricted reformulation is required, as in (42).

(41) An anaphor must be coindexed with a less oblique coargument, if there is one.
Although the object antecedent is less oblique than the subject antecedent, both of them are not co-arguments of the reflexives. Hence, we cannot apply (41) to the grammatical contrast between (36A) and (39A). One possible way is to reinterpret (40) in the following way.

(42) Silent topic must be the least oblique argument in the discourse.\(^{27}\)

The second drawback in both analyses is overt-covert asymmetry, as indicated in (43). If topic or subject is overtly realized, the sentence improves in contrast to (39):\(^{28}\)

(43) Q. Nwu-ka ee cy John-ul manass-ni?
Who-Nom yesterday John-Acc met-Q

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27) Baker (1995) proposes the following condition of relative discourse prominence.

(i) Condition of Relative Discourse Prominence

Intensives can only be used to mark a character in a sentence or discourse who is relatively more prominent or central than other characters. According to (i), the subject of consciousness stands as a central or prominent referent in its discourse context.

Kuno (1987:237) presents surface structure hierarchy on the use of reflexives in English.

(ii) Surface Structure Hierarchy

Subject > Object > Others

Surface subject is the strongest trigger for reflexivization. Surface object is the second strongest trigger. Other NPs are weaker triggers than either of the two above.

28) The similar phenomenon is observed in English (Zrbi-Hertz 1995:339).

(i) a. Give it to the King himself!
   b.??Give it to himself!

Zrbi-Hertz (1995) reports that the use of himself seems unnatural in (ib), even if pragmatic conditions make its referent the most prominent one in the context. She casts doubt on the premise that locally-free himself is but a reduced form of him himself since (ib) isn't ever attested in British English.
‘Who met John yesterday?’
A. John-un, caki-to an wasse.
   John-Top self-also not came
‘As for John, he himself didn’t come, either.’
A’. John-i caki-to an wasse.
   John-Nom self-also not came.
   ‘John himself didn’t come, either.’

Thus, there’s overt/covert asymmetry for correlated Topic/Subject for the anaphor, which weakens the analyses of (39A) parallel to (43A) (Discourse-bound anaphor analysis) or (43A’) (Emphatic anaphor analysis).

Observe further examples below that confirm the contrast:

(44) Q: John-i, ecey Bill-ul, manmass-ni?
   John-Nom yesterday Bill-Acc met-Q
‘Did John meet Bill?’
A. Ani, caki-to\u20142 an wasse.
   No, self-also not came
   ‘No, he himself didn’t come, either.’

In (44), the putative discourse-bound anaphor/emphatic anaphor can refer only to the subject in the antecedent clause. This subject antecedent requirement (SAR) results from less oblique antecedent preference in the former, and unique property of emphatic anaphor in the latter.\(^\ast\)

Note further that overt/covert asymmetry is also found

\(^\ast\) Because emphatic reflexives are not natural in object positions as shown in (i), the emphatic reflexive analysis cannot apply to the object anaphor fragment.

(i) a. Chelswu-kai mwaiku-lul piphanhayss-ni?
   Chelswu-Nom who-Acc criticized-Q
   ‘Who did Chelswu criticize?’
b. Caki-lul,
   Self-Acc
c. *Chelswu-lul, caki-lul,
   Chelswu-Acc self-Acc
here: namely, the presence of overt topic nullifies the asymmetry, as shown in (45).

(45) Q: John-$_i$ ecey Bill-$_{ul_2}$ manmas-$_ni$?
   John-Nom yesterday Bill-Acc met-Q
   'Did John meet Bill?'
   A: Ani, Bill-un, caki-to$_{1/2}$ an wasse.
      No, Bill-Top, self-also not came
      'No, as for Bill, he himself didn't come, either.'
   A': Ani, Bill-i caki-to$_{1/2}$ an wasse.
      No, Bill-Nom self-also not came
      'No, Bill himself didn't come, either.'

Now turn to the fragment answer:

(46) Q: Nwu-ka John-$_{ul_1}$ piphanhayss-$_{ni}$?
   Who-Nom John-Acc criticize-Q
   'Who criticized John?'
   A: Caki-$_{ka_1}$
      Self-Nom

Note that the fragment anaphor caki-$_{ka}$ in (46A) refers to the object John-$_{ul_1}$ in the antecedent clause (46Q). Hence, following SAR, (46A) is expected to be excluded, contrary to fact. Thus, our analysis of fragment anaphor (46A) can be sustained: namely, vP internal scrambling of the object (and BT-A satisfaction for subject anaphor) followed by subject scrambling to Spec-F prior to TP ellipsis.

Note further contrast between the emphatic anaphor vs. discourse-bound anaphor analysis. The emphatic reflexive analysis is

'Chelswu himself.'

Hence, the emphatic analysis fails to provide a unified analysis of reflexive fragments in Korean. Note also that emphatic reciprocals are not detected cross-linguistically, including Korean. Then, this further weakens the emphatic analysis for reciprocal fragments in Korean, as shown in the text (see (6), for example).
more problematic since emphatic reflexives cannot be stranded alone:

(47) Q: nwu-ka John-ul piphanhayss-ni?
    who-Nom John-Acc criticized-Q
       ‘Who criticized John?’
A: John-i caki-ka caki-lul piphanhayssse.
   John-Nom self-Nom self-Acc criticized
       ‘John himself criticized himself.’
      John-Nom self-Nom
      ‘John himself.’

If (47A) is an instance of emphatic reflexive with pro, we should explain how it is possible to be stranded alone unlike (47A’). Discourse-bound anaphors, by contrast, seem to be able to be stranded alone.

(48) Q: Nwu-ka John-ul piphanhayss-ni?
    Who-Nom John-Acc criticized-Q
       ‘Who criticized John?’
A: John-un caki-ka caki-lul piphanhayssse.
   John-Top himself-Nom himself-Acc criticized
       ‘As for John, himself criticized himself.’
A’: John-un caki-ka.
      John-Top himself-Nom
      ‘As for John, himself.’

(48A’) can be derived by the following structure, which is predicted to be ruled in: 30

30) Note that the following fragment answer is marginally acceptable.

(i) Q: Nwu-ka John-ul piphanhayss-ni?
    Who-Nom John-Acc criticized-Q
       ‘Who criticized John?’
A: John-ul caki-ka.

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(49) John-un, [caki-ka Pro1 piphanyssse]
       (Pro = underspecified null pronoun or null caki following Ahn 1985)

Note, however, (48A') cannot be a source of (46A) due to overt/covert asymmetry, as indicated for the contrast between (39) and (43).

In sum, based on the (subject/object, overt/covert) asymmetries discussed in this section, the alternative analyses are not satisfactory, and hence our ellipsis analysis of fragment anaphors coupled with vacuous vP internal scrambling of the object is on the right track to save BT-A requirement in fragments as a pure structural (syntactic) condition.

5. Conclusion

We have shown that binding asymmetries in Korean fragments are not problematic for the Move-and-Delete analysis of fragmental utterances, as put forward in Merchant (2004). The present analysis unravels the Binding mysteries in Korean fragments based on the following premises: Binding Principle A and Binding Principle C are fundamentally separate; the former is derivational in nature, hence more "computationally evaluated" whereas the second is representational, hence more "interface-dependent." We propose that (invisible) Scrambling operation prior to ellipsis may alternate Principle A possibility, and Vehicle Change effects (or something equivalents as in Merchant 2001) in ellipsis contexts may invalidate Principle C violation in Korean (anaphoric) fragments. These two repair strategies, one is derivational and the other is representational, may be subsumed under more[...]

John-Acc himself-Nom
'John, he himself.'
A'.??John-ul, [caki-ka t: piphanhayssse]

Unlike non-elliptical correlate (iA'), (iA) is immune to Binding Principle-C violation owing to vehicle change in elided sector, hence (iA) is expected to be grammatical. (iA), however, is not perfect. We speculate some version of Least Effort "Do not pronounce, if possible" is involved here; namely, more economical expression (caki-ka) bleeds less economical one (John-ul caki-ka). Thus, (iA) is not ungrammatical but only functionally degraded (recall discussion in n.15).
general saving mechanisms of grammar since they are both operative under the rubric of ellipsis; in other words, violations of Fewest Steps and Binding Principle C are ameliorated by common grounds, i.e. in elliptical contexts. We have further considered two possible analyses for surprising facts of anaphoric fragments in Korean: namely, emphatic anaphor approach and null topic approach. We have shown that neither analysis is tenable as an alternative (although, perhaps, the first approach is worse than the second).

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<Abstract>

On Binding Asymmetries in Fragments

Hee-Don Ahn, Sungeun Cho

Merchant (2004) analyzes fragmentary utterances as movement of remnant fragments followed by PF-deletion of the full-fledged sentential structures. Under this analysis, DPs in fragments are predicted to show a distribution regulated by the Binding Theory parallel to their correlates in non-fragmentary sentential equivalents. In English, binding phenomena in fragments seem to bear out this prediction. In Korean, however, anaphors which cannot occur in subject positions in full sentential answers can occur in the same position in their fragment answers. Hence, binding asymmetries in Korean fragments seem not to fit in his Movement + PF-deletion analysis. In this paper, we propose that Move and Delete analysis of fragments can be maintained in Korean fragments, and that reinterpretation of binding principles in conjunction with interface conditions (like Vehicle Change) in ellipsis context provides an elegant account for the apparent puzzles that may otherwise be problematic for syntactic treatments, in particular, Move-and-Delete approach to fragments in Korean.

Key words: fragments, vehicle change, scrambling, binding theory, PF-deletion, interface conditions