

Embedded verbal complexes in Korean: Towards a unified approach to leftward movement, right dislocation and anaphora*

Myung-Kwan Park · Ui-Jong Shin
(Dongguk University)

Park, Myung-Kwan and Ui-Jong Shin. 2014. Embedded verbal complexes in Korean: Towards a unified approach to leftward movement, right dislocation and anaphora. *Linguistic Research* 31(3), 569-590. This paper examines the leftward movement, right dislocation, and overt/covert anaphora of the embedded verbal complex (excluding the embedded subject) in Korean. Supposing that anaphora is a basic phenomena, and that leftward movement and right dislocation are derivative from the basic phenomenon of anaphora, we propose a unified analysis for the syntactic distributions of embedded verbal complexes that undergo the afore-mentioned three syntactic operations. In ruling out illegal cases of such distributions, we show that a ban on haphazard movement and MaxMove are at work. We also show that the construction-specific requirement for right dislocation is that the clause preceding the right dislocated expression is grammatically correct, though allowing for subsequent syntactic reanalysis/reprojection after the addition of the right dislocated expression. (Dongguk University)

Keywords embedded verbal complex, small clause, leftward movement, right dislocation, overt/covert anaphora, a ban on haphazard movement

1. Introduction

This paper examines leftward movement, right dislocation and overt/covert anaphora in so-called exceptionally Case-marked (ECMed) sentences and seeks a unified analysis for such syntactic operations in those sentences. We especially show by investigating such operations in those sentences that both a ban on haphazard extraction from deletion/anaphora and MaxMove come into play in the phenomena at issue.

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2. Displacement/anaphora of an apparent non-constituent embedded verbal complex in Korean

We first consider the following baseline examples where the three syntactic operations such as leftward movement, right dislocation and overt/covert anaphora can apply to:

- (1) *sensayngnim-un [yenghuy-ka yengliha-ta-ko] sayngkakhanta.*
 teacher-Top Yenghuy-Nom intelligent-Decl-Subord think
 'The teacher thinks Yenghuy to be intelligent.'
- (2) *sensayngnim-un [yenghuy-lul yengliha-ta-ko] sayngkakhanta.*
 teacher-Top Yenghuy-Nom intelligent-Decl-Subord think
 'The teacher thinks Yenghuy to be intelligent.'

As pointed out above, the embedded clause selected by the matrix verb *sayngkakhanta* 'think' allows its subject to be either Nominative or Accusative Case-marked.

When we apply the first operation of leftward movement to the non-constituent string of embedded clause excluding its subject (or the embedded verbal complex¹ excluding the embedded subject), the two versions of sentences in (1) and (2) result in yielding ungrammatical sentences as in (3) and (4), respectively:

leftward movement

- (3) *[[yengliha-tako]_i, [sensayngnim-un [yenghuy-ka []_i] sayngkakhanta]].
- (4) ?*[[yengliha-tako]_i [sensayngnim-un [yenghuy-lul []_i] sayngkakhanta]].²

¹ The term 'verbal complex' is adopted from the title of the book by Koopman and Szabolcsi (2000).

² An anonymous reviewer A notes that the example (4) is reported to be acceptable by scholars like Ahn and Cho (2008), Yoon (2007) (However, Yoon in fact put ?? before (4), whereas he put * before (3)), and Ko (2014), though we report in the text that (4) is a little better in acceptability than the example (3), but has a grammatically marginal status (also see Kuno (1976) and Chung (1991) for the same empirical claim as the one made in the text). It is outside the scope of the paper to resolve the two different claims on the grammatical status of (4).

The same anonymous reviewer A also points out that Yoon (2007) reports a contrast between the exceptionally Accusative Case-marked DP and PP in terms of the fronting of the immediately following verbal complex. Yoon (2007) claims that the sentence with the former allows the embedded verbal complex to undergo fronting more freely than the one with the latter. However, it is not clear whether the improvement in the example without the postposition *-sepwuthe* 'from'

The same situation also arises when we apply the operation of right dislocation, putting at the right edge of sentence the non-constituent string of embedded clause excluding its subject. The resulting sentences are also claimed to be ungrammatical:

right dislocation

- (5) *[[sensayngnim-un [yenghuy-ka []_i] sayngkakhanta], [yengliha-tako₁]].
- (6) *?[[sensayngnim-un [yenghuy-lul []_i] sayngkakhanta], [yengliha-tako₁]].

We now apply the third operation of anaphora to (1) and (2). Since covert anaphora is distinguished from overt anaphora as will be noted shortly, we first apply covert anaphora to them, consequently producing ungrammatical sentences as follows:

covert/invisible anaphora

- (7) A: kim sensayngnim-un [cheli-ka/-lul yengliha-tako] sayngkakhanta.
- B: *haciman pak sensayngnim-un [yenghuy-ka/-lul []_i] sayngkakhanta.

In the dialogue above between the two speakers A and B, the sentence spoken by the speaker B contains the null complement clause anaphora, which is not allowed when the embedded subject is not included inside it.

In contrast to the null complement clause anaphora, however, the overt anaphora *kulehkey* 'so/do so' may substitute for the string of embedded clause without its subject as in (8B') where the embedded subject is Accusative Case-marked, though it cannot do so as in (8B) where the embedded subject is Nominative Case-marked:

overt/visible anaphora

- (8) A: kim sensayngnim-un chelika/lul yengliha-tako sayngkakhanta.
- B: *haciman pak sensayngnim-un yenghuy-ka *kulehkey* sayngkakhanta.

(which Yoon does not report the judgement of) is substantial.

(i) caki ttang-i-lako chelswu-nun {?*/??yeki-lul, *yeki-sepwuthe-lul} sayngkakhanta.
 his own land-Cop-Comp Chelswu-Top here-Acc here-from-Acc think
 'I think (from) here to be his own land.'

To us, the example without the postposition is a little better than the one with, but the former is still unacceptable.

however

B': haciman pak sensayngnim-un **yenghuy-lul kulehkey** sayngkakhanta.³

Distributions of these syntactic operations on the complement of the verb *sayngkakha*- 'think' will be more highlighted, when they are compared with the corresponding ones on the complement of the verb *seltukha*- 'persuade'. The baseline examples of the latter verb are as follows:

- (9) sensayngnim-un **yenghuy-eykey** ttena-tolok seltukhayssta.
 teacher-Top Yenghuy-to leave-Comp persuaded
 'The teacher persuaded Yenghuy to leave.'
- (10) sensayngnim-un **yenghuy-lul** ttena-tolok seltukhayssta.
 teacher-Top Yenghuy-Acc leave-Comp persuaded
 'The teacher persuaded Yenghuy to leave.'

The examples above show that the argument expression preceding the embedded verbal complex in this type of *seltukha*- 'persuade' matrix predicates can be either Dative or Accusative Case-marked .

Note that unlike the one with the Accusative Case-marked embedded subject taken by the *sayngkakha*- 'think' matrix verb, the embedded verbal complex taken by the *seltukha*- 'persuade' matrix verb is allowed to safely undergo displacement or anaphora, as shown in (11) through (15):

³ The following examples where the matrix verb takes a nominalized clause as its complement behaves in the same way as the *sayngkakha*- verb construction. Illustrated below are cases involving covert/invisible anaphora:

- (i) A: chelswu-nun [yenghuy-ka ttenanun kes-ul] poassta.
 Chelwu-Top Yenghuy-Nom leave Nm-Acc saw
 'Chelwu saw Yenghuy leave.'
 B: *yengswu-to **swunhuy-ka** [] poassta.
 -also Swunhuy-Nom
- (ii) A: ?chelswu-nun [yenghuy-lul ttenanun kes-ul] poassta.
 Chelwu-Top Yenghuy-Acc leave Nm-Acc saw
 'Chelwu saw Yenghuy leave.'
 B: ?*yengswu-to **swunhuy-lul** [] poassta.
 -also Swunhuy-Acc

leftward movement

- (11) [[**ttena-tolok**]₁ [sensayngnim-un **yenghuy-eykey** []₁ seltukhayssta].
(12) [[**ttena-tolok**]₁ [sensayngnim-un **yenghuy-lul** []₁ seltukhayssta].

right dislocation

- (13) [[sensayngnim-un **yenghuy-eykey** []₁ seltukhayssta] [**ttena-tolok**]₁].
(14) [[sensayngnim-un **yenghuy-lul** []₁ seltukhayssta] [**ttena-tolok**]₁].

covert/invisible anaphora

- (15) A: kim sensayngnim-un **cheli-eykey/lul ttena-tolok** seltukhayssta.
B: haciman pak sensayngnim-un **yenghuy-eykey/lul** []₁ seltukhayssta.
however

In addition, like the one taken by the *sayngkakha-* 'think' matrix verb with the Accusative Case-marked embedded subject, the embedded verbal complex selected by the *seltukha-* 'persuade' matrix verb is allowed to be substituted for by the anaphoric expression *kulehkey* 'so'.

overt/visible anaphora

- (16) A: kim sensayngnim-un **cheli-eykey/lul ttena-tolok** seltukhayssta.
B: haciman pak sensayngnim-un **yenghuy-eykey kulehkey** seltukhayssta.
however
B': haciman pak sensayngnim-un **yenghuy-lul kulehkey** seltukhayssta.

The two types of matrix verbs that have been examined so far here involve finite or infinitive clauses they take as their complement. Ko (2011: 737-743) notes that the same kind of contrast also holds for small clauses. The following examples serve as baseline cases for several different syntactic operations:

- (17) kim kyoswu-nun **cencik cangkwan-ul** ceyca-lo **samassta**⁴.
Kim professor-Top former minister-Acc student-as took

⁴ Ko (2011) reports that for Korean, the verbs *mantulta* 'make', *khiwuta* 'bring up', *ppopta/chwutayhata* 'select', *chwikuphata* 'treat', *samta* 'take', *yekita* 'consider', etc., select a small clause complement.

'Professor Kim took the former minister as a student.'

- (18) kim kyoswu-nun **cencik cangkwan-ul** ceyca-lo ppopassta.
 Kim professor-Top former minister-Acc student-as selected
 'Professor Kim selected the former minister as a student.'

Ko (2011) propose that the matrix verbs underlined in (17) and (18) involves two different structures, respectively, as shown in (17)' and (18)' below:

- (17)' kim kyoswu-nun [**cencik cangkwan-ul** ceyca-lo] samassta.
 (18)' kim kyoswu-nun [**cencik cangkwan-ul**]₁ [PRO/pro₁ ceyca-lo] t₁ ppopassta.
 _____|

The crucial difference between the two verbs *sam-* 'take' and *ppop-* 'select' is that the former takes a small clause as its complement, but the latter takes an NP/DP as its complement that can optionally move to the front of the descriptive small clause inside the VP domain.

Ko's proposal rightfully distinguishes the two types of matrix verbs in terms of the ability to allow or disallow displacement or anaphora of the small clause predicate excluding its subject. (Ko (2011) reports only the examples involving leftward movement.) The following examples display distributions of displacement or anaphora in the *sam-* 'take' and *ppop-* 'select' constructions.

leftward movement

- (19) *?[[ceyca-lo]₁ [kim kyoswu-nun **cencik cangkwan-ul** []₁ samassta]].
 (20) %[[ceyca-lo]₁ [kim kyoswu-nun **cencik cangkwan-ul** []₁ ppopassta]].⁵

right dislocation

- (21) *?[kim kyoswu-nun **cencik cangkwan-ul** []₁ samassta], [ceyca-lo]₁.
 (22) %[kim kyoswu-nun **cencik cangkwan-ul** []₁ ppopassta], [ceyca-lo]₁.

covert/invisible anaphora

- (23) A: kim kyoswu-nun **cencik cangkwan-ul** ceyca-lo samassta.

⁵ The symbol % used by Ko (2011) means that a major of speakers rate the sentence with the symbol as acceptable, but there are some speakers that do not accept this judgement.

not unreasonable to say that the trace or gap is anaphoric to its antecedent placed either before or after it, just as an overt or covert anaphoric expression (i.e., trace or overt/covert pronoun) is linked to its anaphoric or cataphoric antecedent.

Given this view, the first contrast that needs an explanation is the one between (8B) and (8B'):

overt/visible anaphora

(8) A: kim sensayngnim-un chelika/lul yengliha-tako sayngkakhanta.

B: *haciman pak sensayngnim-un **yenghuy-ka kulehkey** sayngkakhanta.
however

B': haciman pak sensayngnim-un **yenghuy-lul kulehkey** sayngkakhanta.

(8B) and (8B') differ as regards the form of Case that the embedded subject carries: the former has Nominative Case, but the latter has Accusative Case for their embedded subjects.

In Park (2013) (cf. Sohn (2013)) we argue that *kuleh-* 'so/do so' is a TP substitution/replacement anaphora and the embedded subject moves to the [Spec, CP] to be exceptionally Case-marked by the matrix verb (cf. Lee (1992); Kim (1996)).⁸ The following structure in (8B') represents the two syntactic operations such as A-movement followed by *kulehkey* 'so/do so' replacement:

② *kulehkey* replacement $\implies \gg$ _____

(8) B' haciman pak sensayngnim-un [_{CP} **yenghuy-lul**_i [_{TP} **t_i** ...]] sayngkakhanta.

① **A-movement for Case-marking** \uparrow _____

However, if the two syntactic operations applied to the structure in (8B), the resulting representation would be as follows:

⁸ The earlier arguments made by Lee (1992) and Kim (1996) that the embedded subject exceptionally receives an Accusative Case from the matrix verb in Korean without raising to the higher matrix clause can be, using the current theoretical terminologies, translated into the ones that the little *v* in this language has a weak EPP/edge feature.

② *kulehkey* replacement =*==>> _____

(8) B haciman pak sensayngnim-un [_{CP} *yenghuy-ka*₁ [_{TP} *t*₁ ...]] sayngkakhanta.

① **haphazard movement** ↑ _____ |

<== **ruled out**

The problematic aspect of the representation in (8B) is that the embedded subject undergoes haphazard movement. In other words, this movement of the embedded subject is only made to feed the *kulehkey* 'so/do so' replacement. However, this kind of haphazard movement as described in (33) is generally prohibited.

(33) **A ban on haphazard extraction out of deletion: No haphazard extraction is allowed from the phonological deaccenting/deletion/anaphora domain.**

One question that can immediately be raised about the ban in (33) is where it comes from in the general theory of grammar. We propose that (33) may be just an instance of economy condition: Why move if there is no motivation at the first place?⁹

The independent motivation for a ban on haphazard movement that can feed overt/covert anaphora comes from Pseudo-gapping constructions in English:

- (34) a. If you don't believe me, you will [] the weatherman.
 b. I rolled up a newspaper, and Lynn did [] a magazine.
 c. Kathy likes astronomy, but she doesn't [] meteorology.

Levin (1978) notes that as in (34), the direct object can undergo movement out of the VP that in turn undergoes ellipsis, and Lasnik (2003: 56) argues that movement out of the VP can be understood as movement of the direct object to the [Spec,vP] position (which was the [Spec,Agr-oP] position in Lasnik's system) for an EPP requirement that is imposed after it enters into Case-Agree with the position.

Crucially, unlike the direct object, the adjectival complement of a verb cannot survive out of the VP to undergoing ellipsis, as follows:

⁹ See Fox (2000) and Miyagawa (2010), among others, who proposed the similar tenet of ideas that disallows economy-disobeying movement in syntax.

- (35) a. *You probably just feel relieved, but I do [] jubilant.
 b. *Rona sounded annoyed, and Sue did [] frustrated.
 c. A: These leeks taste terrible.
 B: *Your steak will [] better. Levin (1978); Lasnik (2003: 56)

If the AP in the second conjunct clause or sentence of (35a-c) moved out of the VP to be elided, these sentences would be acceptable, contrary to fact. Pseudo-gapping in English provides convincing evidence for the thesis that movement out of ellipsis is made not for the sake of feeding ellipsis, but for an independent reason, like Case-checking followed by an EPP satisfaction. In other words, haphazard movement that will feed ellipsis is not allowed altogether.¹⁰

It seems clear that the ban on haphazard movement is also at work for covert/invisible anaphora, whose instance is repeated below:

covert/invisible anaphora

- (7) A: kim sensayngnim-un [**cheli-ka/-lul** yengliha-tako] sayngkakhanta.
 B: *haciman pak sensayngnim-un [**yenghuy-ka/-lul** []₁] sayngkakhanta.

Recall that in Pseudogapping of English, the direct object in the second conjunct clause is in contrastive relation with the one in the first conjunct clause. In this relation, the direct object in the second conjunct clause moves out of the VP that in turn undergoes ellipsis. In the same way as VP ellipsis that derives Pseudogapping of English, the embedded clause in (7B) is expected to undergo ellipsis, if the embedded subject either Nominative or Accusative Case-marked is extracted out of it. However, this extraction is ruled out by the ban on haphazard movement in (33),¹¹ while the embedded clause is unable to feed ellipsis.

¹⁰ To make the argument here clearer, it is worth pointing out that the little *v* in English is strong in terms of the EPP/edge feature, thus its Spec being able to host the Accusative Case-marked DP but not others. This enables the Accusative Case-marked DP to escape out of the VP to be elided. On the other hand, as noted in footnote 8 (following Lee (1992) and Kim (1996) again), the little *v* in Korean is weak in terms of the EPP/edge feature, thus the movement to its Spec before ellipsis counting as a haphazard movement and being ruled out because of economy.

¹¹ See Park (2009) for the analysis of the following example involving scrambling out of ellipsis:

- (i) A: **cheli-lul**₂ [kim sensayngnim-un [t₂ [yengliha-tako]]₁] sayngkakhanta].
 B: *haciman **yenghuy-lul**₂ [pak sensayngnim-un [t₂ [_{TP} e]]₁] sayngkakhanta].

This paper does not provide a comprehensive analysis of the cases where the embedded subject undergoes not haphazard but obligatory movement prior to other syntactic operations on the embedded clause itself,¹² but one pair of examples of such kind are in order below:

- (36) A: *chelswu-ka₁ [t₁ ol kes-i-lako]₂ kitaytoy-e.*
 Chelswu-Nom come will-Comp is expected-*Informal*
 B: *kuliko minswu-to []₂ kitaytoy-e.*
 and Minswu-also is expected-*Informal*
 'Chelswu is expected to come, and Minswu is, too.'
- (37) A: *chelswu-ka₁ [t₁ ku pay-ey thapsunghaysstako]₂ chwucengtoy-e.*
 Chelswu-Nom that ship-on get on is presumed-*Informal*
 B: *kuliko minswu-to []₂ chwucengtoy-e.*
 and Minswu-also is presumed-*Informal*
 'Chelswu is presumed to have gotten on the ship, and Minswu is, too.'

In (36) and (37), the matrix verb that selects a CP complement is passive, thus requiring the embedded subject to move from the embedded to the matrix subject position. This presumably Case/EPP-motivated obligatory movement of the embedded subject NP/DP out of the embedded clause accounts for the acceptable covert

In this example the embedded Accusative Case-marked subject undergoes scrambling. This example is still unacceptable.

However, as an anonymous reviewer A notes, when the null TP in (B) of (i) is replaced by the overt anaphora *kuleh* 'so', the sentence as in (iB') becomes grammatical.

- (i) B' haciman **yenghuy-lul₂** [pak sensayngnim-un [t₂ [_{TP} **kuleh**] key]₁ sayngkakhanta].

The contrast in acceptability between (iB) and (iB') results in raising a question about why there is a difference between the overt and the covert anaphora.

It is to be noted that, as shown in (iB'), the overt anaphora *kulehkey* replaces not TP but CP, unlike the covert anaphora that replaces CP. In the case of the latter as in (iB), the embedded subject has to undergo illegal haphazard movement before feeding covert CP replacement. However, the movement of the embedded subject to the beginning of the sentence in (iB') is an usual instance of scrambling. This line of analysis can be extended to the contrast between (6) and (8B'), and between (44) and (45B).

¹² This amounts to saying that unlike the little v, T in Korean is strong in terms of the EPP/edge feature.

anaphora that substitutes for the embedded clause in (36B) and (37B).

Meanwhile, an alternative analysis can be proposed for the unacceptability of (7B). Suppose that instead of the whole embedded clause being elided, the underlined string in (7A) undergoes ellipsis. This ellipsis violates the constituenthood condition on ellipsis, because the underlined string excluding the embedded subject either Nominative or Accusative Case-marked counts as a non-constituent (cf. Chung (2009)). We suggest that constituenthood plays an instrumental role in sentence processing. Obviously, when constituenthood is met, sentence processing proceeds successfully. When it is, however, not met, online sentence processing bogs down, the parser being unable to make a progress in comprehending the sentence correctly. In the example above (7B), for example, when the parser reads the embedded Nominative or Accusative Case-marked expression, it expects to find the clause that can potentially contain this expression. Since this expectation is not fulfilled when the parser reads the embedded clause-selecting matrix verb immediately after the embedded subject either Nominative or Accusative Case-marked, the parser confronts a great difficulty in terminating the processing of the sentence concerned.

We have shown that the unacceptability of (7B) involving covert anaphora is ruled out either by haphazard movement or nonconstituent ellipsis. We suggest that the same analysis can be extended to the examples in (3) and (4) that involve leftward movement, repeated below:

leftward movement

- (3) *[[yengliha-tako]_i, [sensayngnim-un [yenghuy-ka []_i] sayngkakhanta]].
- (4) ?*[[yengliha-tako]_i [sensayngnim-un [yenghuy-lul []_i] sayngkakhanta]].

Since the embedded verbal complex fronted to the sentence-initial position carries the embedded clause-final mood marker *-ta* and subordinator *-ko* that have both been analyzed as the finer-grained, enriched forms corresponding to the unitary complementizer in English (Bhatt and Yoon (1989)), its projection is CP. Thus, before it undergoes leftward movement, the sentence-internal embedded subject that is either Nominative or Accusative Case-marked is forced to undergo haphazard movement out of it. But this haphazard movement is prohibited, accounting for the unacceptability of (3) and (4).

In light of sentence processing, meanwhile, after reading the embedded verbal

complex in the sentence-initial position of (3) and (4) the parser infers that the whole CP containing all its constituents has been leftward moved. In other words, a kind of **MaxMove** (following the idea of MaxElide proposed by Merchant (2001)) is at work in this case: **when the higher head as part of the moved element undergoes movement, all the constituents within its domain have to undergo movement.**¹³ However, the parser recognizes that this is not met when it detects the sentence-internal either Nominative or Accusative Case-marked expression. Thus, the parser will abort the sentence processing of these two sentences. Of course, the way-out of resolving the problem with nonconstituent leftward movement in (3) and (4) is to apply syntactic reanalysis to them, discerning that the sentence-internal expression moved out of the embedded clause that would undergo leftward movement. However, this movement of the sentence-internal expression from the embedded clause is again to be dismissed as illegal, since it is made haphazardly.

It is obviously true that the mirror image of leftward movement is right dislocation, as repeated below from (5) and (6):

right dislocation

- (5) *[[sensayngnim-un [**yenghuy-ka** []₁] sayngkakhanta], [**yengliha-tako**]₁].
 (6) *?[[sensayngnim-un [**yenghuy-lul** []₁] sayngkakhanta], [**yengliha-tako**]₁].

Recall that the trace left behind in leftward movement is anaphoric to its antecedent in the sentence-initial position. However, the gap in right dislocation in (5) and (6) (it is controversial whether it is derived from movement or anaphora) is cataphoric to its antecedent in sentence-final position. Though leftward movement and right dislocation differ in directionality between gap/trace and its antecedent, they are both instances of anaphora. The trace or gap in both phenomena is realized instead of the leftward moved or right dislocated antecedent. Since anaphora is sensitive to constituenthood, the verbal complex *yengliha-tako* at the right edge of the sentence in (5) and (6) points to the fact that it is categorially CP and all the constituents within its domain have been displaced. However, since either *yenghuy-ka* or *yenghuy-lul* is stranded from the right displaced CP, the constituenthood requirement

¹³ As an anonymous reviewer A notes, MaxMove is understood as something like the A-over-A principle. If predicate phrase and CP share the same feature, it would be impossible to move or extract predicate phrase instead of CP.

for anaphora is not fulfilled. In the same logic as we applied to the case of leftward movement, the way of insuring constituenthood for the right dislocated CP is to say that the sentence-internal embedded constituent has moved out of that CP before the latter is either right dislocated or changes into a pro-form in cataphoric relation with the right dislocated CP. This movement impinges on the ban on haphazard movement in (33).

We have provided an analysis of the embedded verbal complex after the verb *sayngkakha-* 'think' in Korean. It seems to be instructive to note the behaviors of the embedded verbal complex after the verb *mit-* 'believe', which is often regarded as the same type of verb as *sayngkakha-* 'think'. The following examples are the baseline cases where the embedded subject is either Nominative or Accusative Case-marked.

- (38) *sensayngnim-un [yenghuy-ka yengliha-ta-ko] mitnunta.*
 teacher-Top Yenghuy-Nom intelligent-Decl-Subord believe
 'The teacher thinks Yenghuy to be intelligent.'
- (39) *sensayngnim-un [yenghuy-lul yengliha-ta-ko] mitnunta.*
 teacher-Top Yenghuy-Nom intelligent-Decl-Subord believe
 'The teacher thinks Yenghuy to be intelligent.'

When the embedded verbal complex excluding the embedded subject undergoes the same operations as the one in the *sayngkakha-* 'think' verb, the resulting sentences are as in (40) through (45):

leftward movement

- (40) **[[yengliha-tako]_i, [sensayngnim-un [yenghuy-ka []_i] mitnunta]]*.
 (41) *?*[[yengliha-tako]_i [sensayngnim-un [yenghuy-lul []_i] mitnunta]]*.

right dislocation

- (42) **[[sensayngnim-un [yenghuy-ka []_i] mitnunta], [yengliha-tako]_i]]*.
 (43) *[[sensayngnim-un [yenghuy-lul []_i] mitnunta], [yengliha-tako]_i]]*.

covert/invisible anaphora

- (44) A: *kim sensayngnim-un [cheli-ka/-lul yengliha-tako] mitnunta.*
 B: **haciman pak sensayngnim-un [yenghuy-ka/-lul []_i] mitnunta.*
 however

overt/visible anaphora

- (45) A: kim sensayngnim-un chelika/lul yengliha-tako mitnunta.
 B: *haciman pak sensayngnim-un **yenghuy-ka kulehkey** mitnunta.
 however
 B': haciman pak sensayngnim-un **yenghuy-lul kulehkey** mitnunta.

The embedded verbal complex with the verb *mit-* behaves in the same way with the one with the verb *sayngkakha-* in regard to several operations, but the former crucially differs from the latter in regard to right dislocation, especially when as in (42) the embedded subject is Accusative Case-marked. (42) with the verb *mit-* is acceptable, in contrast to (6) with the verb *sayngkakha-*.

Why is there a contrast in acceptability between (42) and (6)? To understand this contrast further, we consider the following examples noted by Ahn and Cho (2010):

- (46) A: kim sensayngnim-un [yenghuy-ka/lul yengliha-ta-ko]
 Kim teacher-Top Yenghuy-Nom/Acc intelligent-Decl-Subord
 sayngkakha-/mit-(u)si-e.
 think/believe-Hor-Informal
 'Teacher Kim thinks Yenghuy to be intelligent.'
 B: pak sensayngnim-to *(kulehkey) **sayngkakha-si-e.**
 Park -also so
 C: pak sensayngnim-to (kulehkey) **mit-usi-e.**

What these examples (dialogues between speakers A and B or A and C) show is that the matrix verb *mit-* may occur alone with the embedded verbal complex, but the matrix verb *sayngkakha-* may not occur alone without the embedded verbal complex. The independent occurrence of the matrix verb *mit-* is warranted, but that of the matrix verb *sayngkakha-* is not. We argue that the independent occurrence of the matrix verb *mit-*, unlike the matrix verb *sayngkakha-*, is crucial in employing a 'syntactic reanalysis/reprojection'¹⁴ strategy for the grammatical acceptability of (42)

¹⁴ Hornstein and Uriagereka (2002) also employed the concept of syntactic reprojection for an independent reason different from ours.

It is to be noted that to the extent that syntactic reprojection is a right idea for the analysis of right dislocation, it means that the clause before the introduction of the right-dislocated expression does not carry any gap associated with it. Immediately after the introduction of the right-dislocated

involving right dislocation. It seems that one of the construction-specific properties of right dislocation in Korean (which still needs a more principled explanation) is that aside from the right dislocated expression, the preceding clause has to be grammatically correct.¹⁵ This means that (42) differs from (6), in that the clause preceding the right dislocated expression in the former is grammatically correct, unlike the one in the latter. In light of sentence processing, when the parser reads (42), the parser rates as grammatical the clause before the right dislocated expression, presuming that the (matrix) verb is an NP/DP-selecting one. However, when the parser is provided with the immediately ensuing right dislocated expression, it attempts a syntactic reanalysis of the matrix verb as a CP-selecting one. Unlike (42), in contrast, the clause preceding the right dislocated expression in (6) with the matrix verb *sayngkakha-* will be squarely ruled out, regardless of the subsequent addition of the right dislocated expression after it, because it is first of all grammatically incorrect.¹⁶

Leaving this section, a word is in order about the acceptability of the examples containing *seltukha-* 'persuade' as a matrix verb, as noted in (9) through (16). If the proposed analysis for the matrix verb *sayngkakha-* 'think' is correct, the acceptability of the examples containing *seltukha-* 'persuade' as a matrix verb is not surprising at all. This verb selects two internal arguments, and the first NP/DP internal argument

expression, it is reprojected into the clause before it, interpretively being analyzed as part of it.

Meanwhile, it is well known that the theory of sentence processing distinguishes syntactic reanalysis/revision and repair (See Friederici et al. (2002) and Kaan and Swaab (2003)). The former involves the parser's reanalysis of the syntactically well-formed sentence after its initial analysis, which incurs an additional processing cost. In contrast, the latter involves the parser's attempt to repair the syntactically ill-formed, ungrammatical sentence. The sentence with right dislocation in Korean seems to be analyzed effectively using the concept of syntactic reanalysis/revision rather than repair.

¹⁵ In the same connection, some authors like Yoon (2013) (and references therein) proposed the so-called Head Restriction, which states that adnominal modifiers can right-dislocate, but head (or its projections) of NP cannot. If head of NP right-dislocates, the preceding clause is ruled out as unacceptable.

¹⁶ An anonymous reviewer B notes that in (6), the sentence minus the right-dislocated expression is grammatically correct, contrary to the claim in the text. If the reviewer's claim is correct, the sentence in (6) is predicted to be grammatical. We want to point out that during our survey on the grammatical status of this sentence, Korean speakers varied about it, and a majority of them judged them to be ungrammatical, thus finally deciding to report that it is ungrammatical. We leave it for future research to elaborate on the correlation between the grammaticality of the whole sentence and that of the sentence minus the right-dislocated expression in constructions with *sayngkakha-* 'think' and other verbs in Korean.

is generated as separated from the second CP one. Thus, the first NP/DP argument does not need move haphazardly out of the second CP argument, as seen in the case of the verb *sayngkakha-* 'think' construction. As a result, the apparently embedded verbal complex which by itself constitutes CP can safely undergo leftward movement, right dislocation, and overt and covert anaphora.

3.2 Small clause-selecting verbs

The following table summarizes what we have seen concerning the small clause predicates (the embedded verbal complex in the case of Nominative resultatives) when they undergo leftward movement, right dislocation, and covert/invisible anaphora. The symbols \checkmark and \times mean that such operations are allowed or disallowed, respectively:

(47) **Distribution of small clause/embedded predicate:**

	leftward movement	right dislocation	covert/invisible anaphora
sam- 'take'	\times	\times	\times
ppop- 'select'	\checkmark	\checkmark	\checkmark
resultative (Acc)	\times	\checkmark	\times
resultative (Nom)	\times	\times	\times

We argue that the contrast between *sam-* 'take' and *ppop-* 'select' shown in Table (47) roughly mirrors the contrast between *sayngkakha-* 'think' and *seltukha-* 'persuade'. In other words, *sam-* 'take' takes as its complement one single small clause. Thus, to allow only the small clause predicate excluding its subject to undergo a syntactic operation, we also first allow its Accusative Case-marked subject to move of the small clause. As seen in the discussion of *sayngkakha-* 'think', however, this movement is only for the sake of feeding ellipsis, and thus regarded as prohibited haphazard movement. Unlike *sam-* 'take', *ppop-* 'select' basically takes as its complement one NP/DP object, and the small clause within the VP domain projected by the verb *ppop-* is a depictive secondary predicate. Thus, as proposed by Ko (2011), the small clause is independent of the NP/DP complement object, thereby

the former undergoing syntactic operations without implicating the latter.

The resultative small clause with the verb *ttayli-* 'beat' displays different distributions from the ones with *sam-* 'take' and *ppop-* 'select'. The most remarkable feature is that the resultative small clause predicate with an Accusative object allows right dislocation, but it does not allow covert/invisible anaphora. In this regard, it diverges from both *sam-* 'take' and *ppop-* 'select', since the small clause predicate with the verb *sam-* 'take' does not permit right dislocation nor covert anaphora, and the one with the verb *ppop-* permits both of them. We argue that the crucial difference between the resultative small clause predicate with the verb *ttayli-* and the small clause predicate with the verb *ppop-* lies in their ability to undergo covert anaphora. We repeat the relevant examples in (24) and (32) below:

covert/invisible anaphora

- (24) A: kim kyoswu-nun **cencik cangkwan-ul ceyca-lo ppopassta.**
 B: %haciman pak kyoswu-nun **cencik chongli-lul [] ppopassta.**
- (32) A: chelswu-nun **koyangi-lul cwuk-key ttaylyessta.**
 B: ?*haciman yengswu-nun **talamcwi-lul []₁ ttaylyessta.**

We note that the contrast between (24B) and (32B) as regards the availability of covert anaphora mirrors the contrast between (48) and (49) as follows:

- (48) chelswu-nun ku phuluceykthu-ey **inthen-ulo** chamyehayss-ko,
 Chelswu-Top that project-in intern-as participated-Conj
 kuliko yenghuy-to kathi chamyehayssta.
 Coord Yenghuy-also together participated
 'Chelswu participated in the project as an intern, and Yenghuy also participated together.'
- (49) chelswu-nun **yeypu-key** nolayhayss-ko,
 Chelswu-Top beautiful-Adverbializer sayng-Conj
 kuliko yenghuy-to kathi nolayhayssta.
 Coord Yenghuy-also together sang
 'Chelswu sang beautifully, and Yenghuy also sang together.'

The expression attached with the capacity-denoting particle *-(u)lo* 'as' is amenable to

covert anaphora, but the expression attached with the adverbializing suffix *-key* is not. In other words, the former behaves like an argument that undergoes null argument, but the latter simply behaves like an adjunct that cannot do so (See Park (1994) for more discussions).¹⁷

4. Summary and Conclusion

This paper has examined the leftward movement, right dislocation and overt/covert anaphora of the embedded clause excluding its subject in Korean. We have argued that to undergo these three syntactic operations, the embedded clause excluding its subject first allows its subject to move out of it, but its movement is only for the sake of feeding subsequent syntactic operations, thus being dismissed as illegal for the lack of an independent reason for the movement. Meanwhile, we have seen that the construction-specific property of right dislocation requires the clause before the right-dislocated expression to be grammatically correct, though the subsequent addition of the right-dislocated expression lets the preceding clause enter into syntactic reanalysis/reprojection of incorporating the right-dislocated expression into it. In addition, we have noted that the capacity small clause is amenable to covert anaphora, but the resultative small clause is not.

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¹⁷ Like (32B), the following example in (iB) also shows that the covert anaphora of the resultative small clause is not recoverable.

- (i) A: chelswu-ka chencang-ul hayan sayk-ulo chilhayssta.
 Chelswu-Nom ceiling-Acc white color-with painted
- B: ?*yengswu-ka patak-to [] chilhayssta.
 Yengswu-Nom floor-also painted
 'Chelswu painted the ceiling white, and Yengswu, the floor.'

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Myung-Kwan Park

Department of English
Dongguk University
23-1, Pil-dong, Chung-gu, Seoul, Korea
E-mail: parkmk@dgu.edu

Ui-Jong Shin

Department of English
Dongguk University
23-1, Pil-dong, Chung-gu, Seoul, Korea
E-mail: parkmk@dgu.edu

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