

Variations in Predicate Fronting: The Role of Anti-locality and Cyclic Linearization

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1. Introduction

As extensively discussed in Fox and Pesetsky (2005), cyclic Spell-out results in the linearization of syntactic structures, and this linear ordering cannot be altered after Spell-out, in order to be properly pronounceable at PF. In this paper, I discuss how this monotonicity of *Cyclic Linearization* (CL) interacts with *anti-locality*, which blocks local movement of a complement to its own specifier (Abels 2003, Boeckx 2007, Bošković 2005, Doggett 2004, Grohmann 2003, Saito and Murasugi 1999 *inter alia*). I argue that otherwise unexpected variations in predicate fronting out of complementation structures in Korean can be explained by the interaction of CL and anti-locality. By doing so, I provide further evidence for the proposal that predicational structures in general undergo cyclic Spell-out (Ko 2011; cf. Den Dikken 2006). The paper is organized as follows. In Section 2, I introduce initial puzzles concerning two types of small clauses in Korean, which show radically different distribution in syntax. In Section 3, I present a solution to the puzzles. I argue that the two types of small clauses in Korean are projected from different underlying structures (ECM vs. Control type), and that variations in predicate fronting out of small clauses can be explained by independently motivated principles in the grammar - interactions of CL and anti-locality, in particular. In Section 4, I extend the current proposal to predicate fronting out of Raising constructions in Korean. It is shown that predicate fronting is crucially affected by Case-marking on the subject of the complement clause. I argue that variations in predicate fronting out of Raising constructions naturally follow from the conspiracy of CL and anti-locality as well. Section 5 concludes the paper.

2. Two Types of Small Clauses in Korean

The non-verbal (nominal) predicate of small-clauses (SCs) in Korean is marked by *-lo* ‘as’. The representative examples are given in (1) and (2). One type is selected by an epistemic verb such as *yekita* ‘consider’ and *samta* ‘take’, as illustrated in (1). The other type is selected by an episodic verb such as *ppopta* ‘hire’, *immyenghata* ‘appoint’, and *senchwulhata* ‘elect’, as in (2).

- (1) *Small clause under epistemic main verb*
Kim kyoswu-nun [ku cangkwan-ul ceysa-lo] yekiessta.
Kim professor-TOP that minister-ACC student-as considered
‘Prof. Kim considered that minister (as) his student.’
- (2) *Small clause under episodic main verb*
SNU-nun [ku cangkwan-ul kyoswu-lo] ppopassta
SNU-TOP that minister-ACC professor-as hired
‘SNU hired that minister as (its) professor.’

* Heejeong Ko, Seoul National University, hko@snu.ac.kr. This work is a part of a book project that investigates the role of Cyclic Linearization for (re-)ordering in scrambling languages, which will appear as Ko (*in press*). Material presented here is based on Chapter 4 of Ko (*in press*), and preliminary discussion on some data in Section 2 can be found in Ko (2011). Earlier versions of this work have been presented at *Workshop on Japanese-Korean Linguistics* at Nanzan University in 2013, and *16th Seoul International Conference on Generative Grammar* (SICOGG 16). Special thanks go to the audiences at WCCFL 32, Jun Abe, Hiroshi Aoyagi, Michael Barrie, Daeho Chung, Hajime Hoji, Paul Law, Hyeran Lee, Myung-Kwan Park, Jong-Un Park, Ian Roberts, Saetbyol Seo, and Hang-Jin Yoon for their helpful comments. Any remaining errors are my sole responsibility.

The SCs in (1) and (2) share the same canonical ordering: namely, *main subject* < *SC-subject* < *SC-predicate* < *main verb*. Crucially, however, the two constructions show radically different characteristics with respect to various types of displacement tests. First, there is a clear asymmetry between two types of SCs in predicate fronting. As shown in (3), predicate fronting out of epistemic SCs is impossible. By contrast, predicate fronting out of episodic SCs is possible, as illustrated in (4). Moreover, the data in (5) shows that *-lo* predicate may in principle be separated from the epistemic verb when the entire SC is fronted. Given the grammaticality of (5), one cannot simply assume that (3) is ruled out because the SC-predicate *ceyca-lo* is not adjacent to the main verb.

- (3) **Ceyca-lo* Kim kyoswu-nun **ku cangkwan-ul** — yekiessta.
 student-as Kim professor-TOP that minister-ACC considered
 ‘Prof. Kim considered that minister (as) his student.’
- (4) *kyoswu-lo* SNU-nun **ku cangkwan-ul** — ppopassta.
 professor-as SNU-TOP that minister-ACC hired
 ‘SNU hired that minister as (its) professor.’
- (5) [**ku cangkwan-ul ceyca-lo**] Kim kyoswu-nun — yekiessta.
 that minister-ACC student-as Kim professor-TOP considered
 ‘Prof. Kim considered that minister (as) his student.’

There is also an interesting asymmetries between two types of SCs in predicate omission. As illustrated in (6), predicate omission in epistemic SCs is impossible. In (6), if the SC-predicate *ceyca-lo* ‘student-as’ is deleted, the sentence becomes ungrammatical. By contrast, predicate omission in episodic SCs is perfectly grammatical. As in (7), the SC-predicate *kyoswu-lo* ‘professor-as’ can be optionally omitted without affecting the grammaticality of the sentence.

- (6) Kim kyoswu-nun **ku cangkwan-ul** *(*ceyca-lo*) yekiessta.
 Kim professor-TOP that minister-ACC student-as considered
 ‘Prof. Kim considered that minister (as his student).’
- (7) SNU-nun **ku cangkwan-ul** (*kyoswu-lo*) ppopassta
 SNU-Top that minister-ACC professor-as hired
 ‘SNU hired that minister (as its professor).’

The two types of SCs show different behavior in licensing floating Numeral Quantifiers (NQs) as well. Consider first the examples in (8). (8)a represents the base structure for (8)b, where an NQ *sey-myeng* modifies an SC-subject - which is semantically feasible. The example in (8)b, however, shows that quantifier floating out of an epistemic SC (over an SC-predicate) is impossible. This is quite surprising given the well-known fact that object-oriented floating NQs are generally acceptable in Korean, unlike subject-oriented NQs (see Ko 2007, 2011 for examples and detailed discussion). In sharp contrast to (8)b, quantifier floating out of an episodic SC is possible, as shown by (9).

- (8) a. Kim kyoswu-nun **sey-myeng-uy cencik cangkwan-ul ceyca-lo** yekiessta.
 Kim prof-TOP 3-CL-GEN former minister-ACC student-as considered
 ‘Prof. Kim considered three former ministers as (his) students.’
- b. *Kim kyoswu-nun **cencik cangkwan-ul ceyca-lo sey-myeng** yekiessta.
 Kim prof-TOP former minister-ACC student-as 3-CL considered
 ‘Prof. Kim considered three former ministers as (his) students.’
- (9) SNU-nun **cencik cangkwan-ul kyoswu-lo sey-myeng** ppopassta.
 SNU-TOP former minister-ACC professor-as 3-CL hired
 ‘SNU hired three former ministers as (their) professors.’

The puzzles discussed in this section are summarized in (10). The data show that two types of SCs in Korean, represented in (1) and (2), exhibit different syntactic distribution despite their similarities in canonical orderings and morphological make-up. The obvious question to ask is why we observe such asymmetries between the two types of SCs. In the next section, I present a solution to the puzzles.

(10) Two types of small clauses in Korean

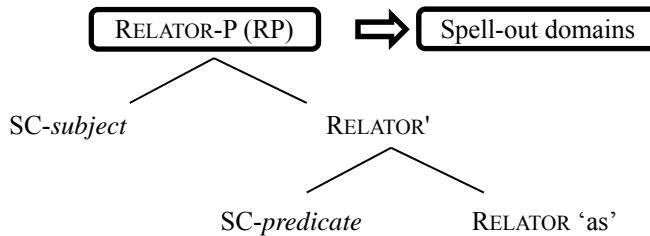
	epistemic main verb 'consider'-class	episodic main verb 'hire'-class
canonical ordering	S<SC-subject<SC-predicate<V	
predicate fronting	impossible	possible
predicate omission	impossible	possible
NQ-floating	impossible	possible
SC-fronting	possible	possible

3. Proposal

3.1. The syntax and semantics of small clauses

I argue that the puzzles discussed in the preceding section can be explained by interactions among independently motivated factors in the grammar: (i) syntax-phonology interface (*i.e.* cyclic linearization of small clauses), (ii) syntax-semantics interface (*i.e.* argument structure of main verbs), and (iii) the syntax proper (*i.e.* anti-locality and probe-goal Agree).

Let us first consider the syntactic structure and linearization of small clauses. Building on the research program advanced by Ko (2011, *in press*), I propose that a predicational structure in general undergoes cyclic Spell-out and linearization regardless of its transitivity (cf. Matushansky 2000, Legate 2003, Den Dikken 2006, Bošković 2014 for similar proposals based on Chomsky's (2000) *phase* system). In particular, I argue that small clauses must undergo cyclic Spell-out and linearization as a predicational unit in syntax. As for the structure of SCs, I adopt Den Dikken's (2006) claim that small clauses are headed by a R(ELATOR) head, and assume that *-lo* 'as' in Korean is a lexicalized RELATOR head (cf. Bowers 1993, Aarts 1992 for English *as* as a functional head, *Pr* or *Infl* respectively). The general structure of SCs is depicted in (11). The semantics of the RELATOR 'as' is given in (12), adopted from the semantics of a copular verb proposed by Adger and Ramchand (2003).

(11) *The Structure of Small Clauses* (adopted from Den Dikken 2006: 3)(12) $[[\mathbf{R}]] = \lambda\pi.\lambda x.[\text{holds}(\pi, x)]$ (=The property denoted by its complement holds of its specifier)

On this proposal, it is assumed that *the entire RP undergoes cyclic Spell-out and linearization*. Thus, the ordering between the SC-subject and the SC-predicate is fixed as soon as the RP undergoes Spell-out. This proposal inherits the insight of Den Dikken (2006) in assuming that small clauses function as a cyclic unit, but crucially departs from the original proposal by Den Dikken (2006) in that the entire small clause (not the complement of RP) undergoes cyclic Spell-out and linearization.

Secondly, I argue that there exist two different types of SCs in Korean, following the extensive work on English SCs by Aarts (1992). The two types of SCs can be diagnosed by the semantics of the main verb. To illustrate this, consider the contrast between (13) and (14) in English. In (13), the epistemic verb *consider* is employed and notably, (13)a does not entail (13)b. By contrast, episodic verbs like *appoint* in (14) show the opposite characteristic in that (14)a does entail (14)b. As Aarts (1992) argues, the semantic contrast between (13) and (14) in English can be explained by assuming that the two main verbs take different types of argument structures. The epistemic verb *consider* takes a propositional SC as its complement. Thus, (13)a does not entail (13)b. In contrast, episodic verbs like *appoint* may take a direct object as its complement (e.g. theme of the event), and the SC may be interpreted as an adjunct which contains a null subject, PRO controlled by the object. Under this proposal, it is expected that (14)a entails (14)b because *that minister* in (14)a is in fact merged as the

object of the main verb, not as the subject of the SC, just as in (14)b. In the next sub-section, I show that the same argument holds in Korean, and this plays a key role in explaining the syntax of two types of SCs seen in Section 2.

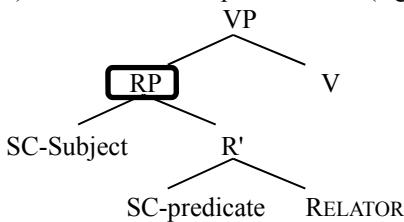
- (13) a. Prof. Kim considered that minister as his student.
 b. Prof. Kim considered that minister.
- (14) a. SNU appointed that minister as (its) professor.
 b. SNU appointed that minister.

Lastly, I assume that scrambling in Korean is regulated by the general computational properties of the syntax proper (Ko 2007, 2011, *in press* for evidence). Specifically, I argue that scrambling in Korean is triggered by *probe-goal Agree* (15) and regulated by *anti-locality* (16) (Abels 2003, Boeckx 2007, Bošković 2005, Doggett 2004, Grohmann 2003, Saito and Murasugi 1999 *inter alia*). In the following, I show that these computational constraints result in extremely rigid ordering in and out of small clause domains even in scrambling languages like Korean.

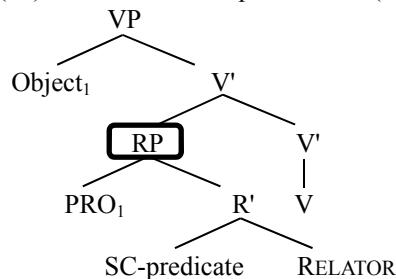
- (15) *probe-goal Agree* (Chomsky 2000, 2001)
 A probe may Search and Agree with a goal under the closest c-command.
- (16) *Anti-locality*
 Complement cannot merge into the specifier of its own head.

Taken together, the syntax of epistemic and episodic SCs can be represented as follows. As shown in (17), epistemic main verbs take an entire propositional SC as its complement and the SC-subject (e.g. *ku cangkwan-ul* ‘that minister-ACC’ in (1)) must be merged as the subject of the SC. Episodic verbs, by contrast, may take a direct object as its complement and the SC may be merged as an adjunct to the main verb, as described in (18). Under the proposal that SCs undergo cyclic Spell-out, the entire RP is assumed to undergo CL both in (17) and (18). Crucially, however, CL results in different ordering restrictions for (17) and (18). In (17), the SC-subject is linearized together with the SC-predicate within RP. Thus, the ordering between the SC-subject and the SC-predicate is fixed once RP is spelled-out. By contrast, in (18), the object (e.g. *ku cangkwan-ul* ‘that minister-ACC’ in (2)) is not linearized at the same domain as the SC-predicate. Thus, no ordering statement is established between the object and SC-predicate when the RP in (18) is spelled out.

(17) Structure of epistemic SCs (e.g. (1))



(18) Structure of episodic SCs (e.g. (2))



3.2. Analysis

With the proposals introduced above, let us revisit the puzzles on two types of SCs in Korean. For ease of understanding, let us first consider the puzzle concerning predicate omission [e.g. (6) vs. (7)], which straightforwardly follows from the argument structure of main verbs.

Recall that predicate omission in epistemic SCs is impossible, as in (6), whereas predicate omission is possible in episodic SCs, as in (7). Since epistemic verbs take a proposition as its complement, SC-subject must be base-generated within RP, as depicted in (17). It cannot stand alone without semantic support of the SC-predicate. In other words, the SC-predicate *ceyca-lo* in (6) must be semantically present to assign a proper theta-role to its subject *ku cangkwan-ul* ‘that minister-ACC’. The

only way to license predicate omission in (6) would be to “phonologically” elide the SC-predicate at PF, stranding the SC-subject. As shown in (19), however, such ellipsis (predicate ellipsis) is independently banned in Korean. Hence, there is no way of constructing examples like (6) with omission of an SC-predicate to the exclusion of the SC-subject.

- (19) Kim kyoswu-nun [Park cangkwan-ul *chinkwu-lo*] yekiess-ko,
 K. prof.-TOP P. minister-ACC friend-as considered-and
 ‘Prof. Kim considered the minister Park his friend, and’
 Nam kyoswu-nun [Kwon cangkwan-ul *(*chinkwu-lo*)] yekiessta.
 N. prof.-TOP K. minister-ACC friend-as considered
 ‘Prof. Nam considered the minister Kwon (his friend).’

Episodic verbs, on the other hand, may allow predicate omission rather freely. The grammaticality of (7) follows from the argument structure of the episodic verb. As depicted in (18), the seemingly SC-subject *ku cangkwan-ul* ‘that minister-ACC’ in (7) is in fact the true object of the main verb *ppopassta* ‘hired’, merged independently of the SC-predicate. Under the structure in (18), the adjunct RP can be omitted when the discourse supports it, without affecting the grammaticality of the sentence. On this view, “predication omission” in (7) can be analyzed as omission of the entire RP, which contains PRO and an SC-predicate. Under the proposals in (17) and (18), we can explain why predicate omission is impossible in (6) and (19), but is perfectly grammatical in (7) - the former involves a genuine case of predicate ellipsis, which is independently banned whereas the latter involves RP-ellipsis.¹

Next, let us turn to predicate fronting asymmetries illustrated in (3) and (4). Predicate fronting out of epistemic SCs is impossible, as in (3), whereas predicate fronting out of episodic SCs is possible, as in (4). I argue that this asymmetries can be derived from the different internal structures of SCs as well.

In the case of epistemic SCs, neither SC-subject nor SC-predicate can move around within RP. More specifically, the SC-subject cannot move under the probe-goal theory of movement (15) (Chomsky 2000). Since the SC-subject is merged at the edge of RP, there is no probe that can search and agree with the SC-subject within the RP domain (see Ko 2007, *in press* for further evidence). Hence, the SC-subject *ku cangkwan-ul* in (3) cannot undergo movement within RP. Furthermore, the SC-predicate in (3), *ceyca-lo* ‘student-as’ cannot move around within the RP, either, due to anti-locality (16). Note that the SC-predicate is merged as the complement of the R head. Under anti-locality, the SC-predicate cannot move into its own specifier - this type of movement is considered too local and there is no reason to merge a complement to its own head again, forming a specifier of the same head (see Pesetsky and Torrego 2001 for discussion). Therefore, if RP undergoes CL, we predict the ordering that the SC-subject precedes the SC-predicate must be fixed and preserved in the higher domains. If predicate fronting occurs in a later stage of derivation, as in (3), it would necessarily yield an ordering contradiction between the RP domain and the higher domain, as illustrated in (20): in the RP domain, the SC-subject precedes the SC-predicate, as stated in (20)a, but in the higher domain, the SC-predicate precedes the SC-subject, as stated in (20)b. Consequently, PF cannot decide a proper ordering between the SC-subject and the SC-predicate, and the derivation is ruled out as being unpronounceable.

- (20) Ordering statements for the derivation in (3)
 a. ordering at RP: *ku cangkwan-ul* < *ceyca-lo*
 b. ordering at matrix vP: *ceyca-lo* < *Kim kyoswu-nun* < *ku cangkwan-ul* < *yekiessta*

Put it more generally, the space within the RP is so limited, neither SC-subject nor SC-predicate moves in RP. The ordering between the SC-subject and the SC-predicate is fixed within the RP so that the SC-subject must precede the SC-predicate in the higher domains as well. Predicate fronting such as (3) is ruled out due to ordering contradiction at PF.

¹ One might reasonably wonder why (bare) predicate ellipsis is impossible while RP-ellipsis is possible (Daeho Chung p.c.). I have no precise answer to this question, but it seems that predicate ellipsis is independently banned because a predicate by itself does not form a proper cyclic unit as an <e,t> type, whereas RP-ellipsis is possible because RP forms a cyclic unit as a closed predication <▷>. A crucial assumption underlying this conjecture is that the domain for Cyclic Linearization should be the same as the domain for PF-ellipsis. It would be an extremely interesting project to investigate possible correlations between CL and ellipsis in this direction, but it is beyond the scope of the paper. I leave it for future research for now.

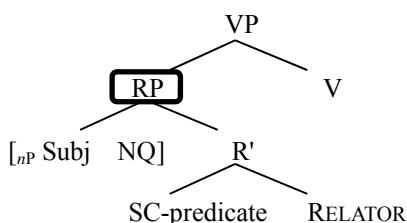
By contrast, predicate fronting out episodic SCs in (4) seems possible because this is in fact an instance of RP-fronting, containing a PRO subject. Recall the internal structure of (4), depicted in (18). Under this structure, we obtain the linear ordering *PRO*<*kyoswu-lo* when RP is spelled out. Crucially, the object *ku cangkwan-ul* in (4) is merged in a separate domain from RP. Since the matrix object is externally merged in a separate predicational domain from RP, RP may be fronted over the object when an RP-external head (say, *v*) triggers such scrambling. The movement of RP adds a new ordering in the matrix domain (RP<O), but it does not contradict any ordering established within the RP domain. This is illustrated in (21). Since there is no ordering contradiction in the derivation of (4), as shown in (21), the grammaticality of (4) follows. Note that on this view, predicate fronting in (4) is analyzed as an instance of RP-fronting.

- (21) Ordering statements for the derivation in (4)
 a. ordering at RP: *PRO*<*kyoswu-lo*
 b. ordering at matrix *v*P: *kyoswu-lo*< *SNU-nun* < *ku cangkwan-ul* < *ppopassta*

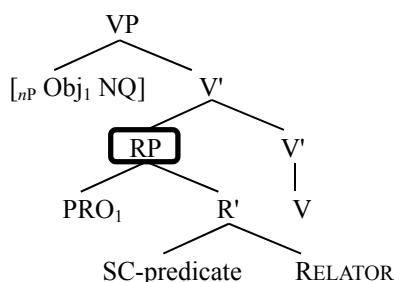
My analysis for (4) can be straightforwardly extended to RP-fronting in (5). RP-fronting is possible even when the RP is embedded under an epistemic verb. This is because the entire RP, not parts of RP, is fronted over the matrix subject. Such movement may add a new ordering (RP<matrix subject), but it does not contradict any ordering established within the RP domain. Put differently, (4) and (5) are grammatical as an instance of RP-fronting, whereas (3) is ungrammatical as an instance of predicate fronting. RP-fronting in (4) and (5) just adds new ordering statements at PF while predicate fronting in (3) necessarily causes an ordering contradiction between the RP domain and a higher domain.

Lastly, consider the asymmetry in floating NQ data, presented in (8)b and (9). This asymmetry can be explained by the current proposal as well. Consider the internal structure of epistemic SCs, given in (22) again. As illustrated in (22), if we assume that NQ in (8)b is adnominal to its host (Ko 2005, *in press* for evidence), the ungrammaticality of (8)b follows from CL. Under the structure in (22), not only the SC-subject but also its NQ must precede the SC-predicate. When the RP domain is spelled out and linearized, the ordering statement that the NQ precedes the SC-predicate is registered at PF. If the SC-predicate precedes the NQ in a later stage, as in (8)b, it causes an ordering contradiction, and the derivation is filtered out as being unpronounceable.

- (22) Epistemic SCs (e.g. (8)b)



- (23) Episodic SCs (e.g. (9))



NQ-floating out of episodic SCs, on the other hand, is possible because an NQ can be floated from the direct object, as illustrated in (23). Both the object and RP may undergo movement when a higher head (say, *v*) triggers such movement, as described in (24). Under this structure, the object-oriented NQ may be stranded to the right of the SC-predicate. This type of movement adds new orderings at a higher domain (RP<NQ), but does not contradict any orderings established within RP - neither the object nor the NQ exists within the RP domain.

- (24) [_{vP} Obj₁ [_{RP} PRO₁ XP-lo]₂ [_{vP} [_t₁ NQ_{Obj}] t₂ V] v]
- a. ordering at RP: *PRO*<*kyoswu-lo*
 b. ordering at *v*P: S<O<RP<NQ_{obj}

My analysis for (8b) and (9) makes a further prediction that NQ-floating would be allowed even in the case of epistemic SCs if floating NQ does not cause any ordering contradiction. The example in (25) shows that this prediction is borne out. As in (25), an NQ *sey-myeng* ‘3-CL’ can be floated away from its SC-subject when such floating does not cause ordering contradiction, as illustrated in (26).

- (25) **Cencik cangkwan-ul** Kim kyoswu-nun [_{RP} **sey-myeng ceyca-lo**] yekiessta
 former minister-ACC Kim prof-TOP 3-CL student-as considered
 ‘Prof. Kim considered three former ministers as (his) students.’
- (26) a. ordering at RP: *cencik cangkwan-ul* < *sey-myeng* < *ceyca-lo*
 b. ordering at vP: *cencik cangkwan-ul* < S < RP < V

In summary, this paper shows that small clauses in Korean is “small enough” to preserve the relative orderings established within the small clause domain even in scrambling languages like Korean. The SC-subject cannot move around within RP under the probe-goal theory of movement. The SC-predicate cannot move around within RP under anti-locality. Therefore, we predict that the initial orderings projected from RP must be preserved if RP undergoes cyclic Spell-out and linearization. In this section, we have seen that this prediction is indeed borne out, with an interesting variation due to the argument structure of main verbs. In the next section, I extend my proposal to two types of Raising constructions in Korean.

4. Extension to Raising Constructions

4.1. Two types of Raising Constructions in Korean

The subject of a complement clause embedded under main verbs like *sayngkakhata* ‘think’ and *mitta* ‘believe’ in Korean can be nominative-marked, as in (27), or accusative-marked as in (28). There is no visible semantic difference between the two constructions in (27) and (28). Previous studies have called the constructions like (28) ECM (Exceptional Case Marking) or Subject-to-Object Raising (SOR) constructions, capitalizing on the fact that the embedded subject can be accusative-marked by the influence of the main verb (see Tanaka 2002, J H-S Yoon 2007 and references therein for reviews). Following Yoon (2007), I use the term SOR to refer to constructions like (28). For convenience, the accusative-marked element in SOR constructions (e.g. *Yenghi-lul* in (28)) is called an *SOR subject*.

- (27) Chelswu-nun **Yenghi-ka** *yeppu-ta-ko* sayngkakha-n-ta.
 Chelswu-TOP Yenghi-NOM pretty-DEC-C think-PRES-DEC
 ‘Chelswu thinks that Yenghi is pretty.’
- (28) Chelswu-nun **Yenghi-lul** *yeppu-ta-ko* sayngkakha-n-ta.
 Chelswu-TOP Yenghi-ACC pretty-DEC-C think-PRES-DEC
 ‘Chelswu thinks that Yenghi is pretty.’

What is interesting is that predicate fronting is affected by the choice of Case-marking in constructions like (27) and (28). As illustrated in (29), predicate fronting out of an embedded clause is impossible when the embedded subject is nominative-marked. By contrast, predicate fronting is allowed (with varying degrees) when the SOR subject is accusative-marked, as in (30).

- (29) **Yeppu-ta-ko* Chelswu-nun **Yenghi-ka** sayngkakha-n-ta.
 Pretty-DEC-C Chelswu-TOP Yenghi-NOM think-PRES-DEC
 ‘Chelswu thinks that Yenghi is pretty.’ (Chung 2007: 2)
- (30) ?*Yeppu-ta-ko* Chelswu-nun **Yenghi-lul** sayngkakha-n-ta.
 Pretty-DEC-C Chelswu-TOP Yenghi-ACC think-PRES-DEC
 ‘Chelswu thinks that Yenghi is pretty.’ (Ahn and Cho 2008: 58)

More puzzling is that not all accusative-marked SOR subjects allow predicate fronting. When a non-animate PP (e.g. *yekise-pwuthe-lul* ‘here-from-ACC’ in (31)) is used as an SOR subject, predicate fronting is banned, as shown in (31b) (cf. grammaticality of (30)).

- (31) a. Na-nun **yekise-pwuthe-lul** *nay ttang-i-lako* mitnun-ta
 I-TOP here-from-ACC my land-COP-C believe
 ‘I believe that my land begins (from) here.’
 b. **Nay ttang-i-lako* na-nun **yekise-pwuthe-lul** mitnun-ta
 my land-COP-C I-TOP here-from-ACC believe
 ‘I believe that my land begins (from) here.’ (Yoon 2007)

If we assume that (27)–(31) share the same syntactic structure based on their semantic similarities, the asymmetries in predicate fronting shown in (29)–(31) would be a mystery. Furthermore, it is not clear why and how Case-marking interacts with predicate fronting in SOR constructions. In the following, I attempt to present a CL analysis for predicate fronting out of SOR constructions by coupling Yoon’s (2007) Major Subject analysis with the CL model (see Ahn and Cho 2008 for a precursor of this analysis with different assumptions from this paper; cf. Chung 2011 for an alternative proposal to Ahn and Cho 2008, and my response to Chung 2007, 2011 in Ko (*in press*)).

4.2. Analysis: Major Subject vs. Proleptic Object in Raising

My proposal for predicate fronting out of SCs presented in Section 3 directly extends to the ban on predicate fronting shown in (29). Recall that the SC-predicate cannot precede its subject in (3). I argued that SC-predicate cannot be fronted to the left of the SC-subject due to anti-locality and this ordering restriction is preserved under CL. The same argument goes for examples like (29), where the embedded subject is nominative-marked. Under anti-locality, the embedded predicate *yeppu-ta-ko* in (29) cannot precede its own subject *Yenghi-ka* within the embedded vP. As described in (32)a, when the embedded vP is spelled out, the ordering that the subject precedes its predicate is registered at PF. If the embedded predicate is fronted later, as in (32)b, this causes an ordering contradiction between the lower and higher domains: namely, that in the embedded vP, the embedded subject precedes the embedded predicate. In the matrix vP domain, however, the embedded predicate precedes the embedded subject. Hence, derivations like (29) cannot be pronounced at PF due to ordering contradiction.

- (32) Ordering statements of the derivation in (29)
 a. ordering at the embedded vP: *Yenghi-ka* < *yeppu-ta-ko*
 b. ordering at the matrix vP: *yeppu-ta-ko* < *Chelswu-nun* < *Yenghi-ka*

Let us now consider predicate fronting in (30) and (31), where the SOR subject is accusative-marked. To properly analyze this construction, it is necessary to understand the syntax of SOR first. For this, I adopt Yoon’s (2007) extensive research on SOR constructions in Korean.

Yoon (2007) argues that SOR constructions in Korean can be derived in two ways. One way is to base-generate the accusative-marked SOR subject in the matrix clause as a proleptic object (see also Hoji 2005 for Major Object in Japanese). The other way is to base-generate the SOR subject in the embedded clause as a Major Subject (which corresponds to *Categorical Subject* in the sense of Kuroda (1972) and Ladusaw (1994)), and then to raise it to the matrix vP. Importantly, the Major Subject and the embedded sentence form *Sentential Predication*, which can be interpreted along the lines of Topic-Comment structure.

Under Yoon’s (2007) analysis, basic SOR examples like (28) are in fact ambiguous between two types of derivations, demonstrated in (33)a and (33)b. In (33)a, a proleptic object is externally merged in the matrix clause. In (33)b, a Major Subject is merged in the embedded clause and undergoes raising to the matrix clause.

- (33) a. [_{CP} S O₁ [_{CP} *pro*₁ *yeppu-ta-ko*] V]: Proleptic Object
 b. [_{CP} S Major Subject₁ [_{CP} t₁ [_{TP} *pro*₁ *yeppu-ta-ko*]] V]: Major Subject

Under the proposal sketched in (33), two types of scenarios need to be considered for the predicate fronting data like (30). Under the derivation like (33)a, we expect that predicate fronting out of SOR clauses would be possible. When the embedded predicational domain is spelled out and linearized, we obtain the ordering that *pro* precedes *yeppu-ta-ko*. Crucially, however, the object is externally-merged

in a separate domain from the embedded clause. Thus, even though the embedded predicate is fronted to the left of the object, it would cause no problem at PF. It just adds a new ordering such that the embedded predicate precedes the object, but predicate fronting does not cause an ordering contradiction.

Under the Major Subject analysis in (33)b, on the other hand, we predict that predicate fronting would be impossible. As argued by Yoon (2007), the Major Subject and following embedded sentence form a predicational unit in that the embedded clause functions as a Sentential Predicate for the Major Subject. Thus, when the embedded CP is spelled out, it would undergo CL as a predicational unit. Once spelled out, the ordering that the Major Subject precedes the embedded predicate is registered at PF and cannot be altered. If predicate fronting occurs out of the structure in (33)b, it would necessarily result in an ordering contradiction at PF.

In short, predicate fronting in (30) is acceptable because the derivation from (33)a is available for (30). Put differently, the grammaticality of (30) can be assimilated to the grammaticality of predicate fronting out of episodic SCs in (4). When a null subject analysis is available for the embedded predicational unit, predicate fronting seems possible. In fact, predicate fronting here is an instance of clausal fronting.

My analysis for (30) makes a further prediction that if the proleptic parse becomes impossible for SOR constructions, predicate fronting would be banned. I argue that this is indeed the case of (31)b. Yoon (2007) argues that a non-animate PP cannot be construed as a proleptic object in Korean. Thus, when a non-animate PP is used as an SOR subject, as in (31), it must be derived from the Major Subject configuration like (33)b. More specifically, unlike *Yenghi-lul* in (30), *nay ttang-i-lako* in (31) must be analyzed as a Major Subject of the embedded clause, as in (33)b. As discussed above, under the derivation in (33)b, predicate fronting is impossible due to ordering contradictions between the embedded domain and higher predicational domain. As described in (34)a, if the SOR subject is merged as a Major Subject, it precedes the embedded predicate in the embedded CP. If predicate fronting occurs as in (34)b, it causes an ordering contradiction at PF, and thus is ruled out.

- (34) a. ordering at CP: *yekise-pwuthe-lul* < *pro* < *nay ttang-i-lako*
 b. ordering at the matrix vP: *nay ttang-i-lako* < *na-nun* < *yekise-pwuthe-lul*

Broadly construed, my arguments imply that there is no genuine case of “predicate fronting” which crosses over its own subject. Such fronting would be ruled out by the interaction of anti-locality and CL. Apparent predicate fronting is in fact an instance of clausal fronting: the fronted predicate contains a null subject (*pro* or PRO) which is co-indexed with a predicate-external noun (e.g. a matrix object or proleptic object). In this vein, my CL approach provides a viable explanation for the so-called Proper Binding Condition (PBC, Fiengo 1977) effects without resorting to the notion of “trace”. Yoon (2007), for instance, suggests that (31)b is ungrammatical because the fronted clause in (31)b contains an unbound trace of the Major Subject. The proposal advanced here explains the ungrammaticality of (31)b without resorting to the PBC. This theoretical move is desirable in that “traces” or an explanation based on the distribution of “traces” has little, if any, grammatical status in the current syntactic theory (see Takita 2010 for further evidence that the current line of analyses is on the right track).

5. Conclusion

In this paper, we have seen various types of predicate fronting out of non-primary predicational domains in Korean. In particular, it was shown that epistemic SCs show rigid ordering restrictions in that they do not allow predicate fronting, predicate omission, or NQ floating (over an SC-predicate). By contrast, episodic SCs do allow such operations quite freely. It was also shown that predicate fronting out of SOR constructions is affected by the choice of Case-marking on the SOR subject. I have argued that the variations in predicate fronting out of non-primary predicational structures in Korean can be explained by independently motivated principles in the grammar. In particular, the syntax regulates the ordering within the RP (i.e. anti-locality and probe-goal theory of movement). The semantics of the verb determines the (im)possibility of a direct object interpreted as the subject of SCs. Cyclic Spell-out preserves the initial orderings projected from SCs in Korean. Overall, the evidence presented in this paper provides further support for the research program that predicational structures in general (including small clauses and Sentential Predication) undergo cyclic Spell-out and linearization.

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