

A Dual Analysis of Verb-less Coordination in Korean*

Hee-Don Ahn and Yongjoon Cho
(Konkuk University and University of Southern California)

Ahn, Hee-Don and Cho, Yongjoon. (2006). A dual analysis of verb-less coordination in Korean. *Language Research* 42(1), 47-68.

This paper explores the nature of verb-less coordination (VLC) in Korean. Various proposals have been made to explain the peculiar properties of VLC: movement analysis, string deletion analysis, and multiple dominance analysis. We show that none of these analyses are fully satisfactory by observing apparent mismatches between elided parts in the first conjunct and the shared parts in the second conjuncts. We claim that ellipsis analysis is basically correct in capturing apparent mismatches which we coin as *vehicle change* effects. However, we further propose that some VLC constructions are instances of multiple fragments. Hence VLC in Korean exhibits the dual nature. We show that multiple fragments analysis of VLC is selectively available only with distributed reading of the shared verb, otherwise ellipsis analysis of it is forced by default.

Key words: string deletion, multiple dominance, ellipsis, multiple fragments, vehicle change

1. Introduction

Korean allows a special type of coordination, in which sharing verbal element is pronounced only in the last conjunct or at the right-edge in more neutral terms.

- (1) John-un Mary-lul, (kuliko) Bill-un Sue-lul mannassta.
John-Top Mary-Acc and Bill-Top Sue-Acc met

* Special gratitude to Sungeun Cho and Ilan Hazout for extensive discussion on this material. Earlier version of this paper was presented at Korean Generative Grammar Circle Conference at Dongguk University (December 2005). We thank Daeho Chung, Hong-Bin Im, and Myung-Kwan Park for their helpful comments and criticisms at the conference. We are also indebted to Hajime Hoji for his insightful lectures and comments at earlier stages of this work. However, all remaining errors and misconceptions are ours.

'John (met) Mary, and Bill met Sue.'

This construction is also observed in other languages such as Japanese (Mukai 2003) and Turkish (Dunan 2003).

- (2) a. John-ga Mary-ni, sosite Bill-ga Susan-ni atta.
 John-Nom Mary-Dat and Bill-Nom Susan-Dat met
 'John (met) Mary, and Bill met Susan.' (Japanese)
- b. Zeynep bavul-u, Hasan mektub-u yolla-di-ø.
 Zeynep luggage-Acc Hasan letter-Acc sent-PST-3.sg.
 'Zeynep (sent) the luggage and Hasan sent the letter' (Turkish)

Various approaches have been put forward as to the syntax of such verb-less coordination (hereafter, VLC): movement analysis, in-situ PF deletion analysis, and multiple dominance analysis. Analyses by Kuno (1978) and later by Saito (1987) regard VLC as an instance of Right Node Raising, and ultimately supporting rightward ATB movement. In opposition, Kim (1997) and Sohn (2001; 2005) propose leftward movement accompanied by PF deletion, and Abe and Hoshi (1999) suggest leftward movement of the remnant in the second conjunct accompanied by LF-copying. They all assume some sorts of movement process. By contrast, non-movement approaches have recently been proposed: in-situ PF-deletion analysis by Mukai (2003) and multiple dominance analysis by Chung (2004).

In the following sections we demonstrate counter-examples to each analysis in turn: evidence against movement analysis in section 2; evidence against string deletion analysis in section 3; evidence against multiple analysis in section 4. Then, in section 5, we suggest that there are two distinct types of VLC in Korean. We advance that one type is derived by ellipsis under s(ematic)-identity (cf. Merchant 2001; 2004), whereas the other type is derived by ellipsis under p(honological)-identity (cf. Mukai 2003). The essential difference between the two types lie in the possibility of *vehicle change* (cf. Fiengo & May 1994): namely, only the ellipsis under s-identity (hereafter, s-ellipsis) exhibits vehicle change effects such as mismatches in honorification and tense/aspect, together with all sorts of sloppy identity. The ellipsis under p-identity (hereafter, p-ellipsis), on the other hand, is blind to semantics, but is only sensitive to surface forms; hence it can target homonyms/polysyms

and only certain p-identical sorts of sloppy identity. We further note that s-ellipsis and p-ellipsis can be disambiguated by vehicle change (cf. Hoji 2002; 2006) and plurality-dependent expressions (cf. Chung 2004). We observe that the presence of plurality-dependent expressions signals the parse of VLC under p-ellipsis, while the elsewhere cases are instances of s-ellipsis, crucially including vehicle change contexts.

2. Against Movement Analysis

Before the advent of Mukai's (2003) string deletion approach, movement approach in various shapes, had been a general trend in the studies of VLC. However, VLC violates all of the traditional diagnostics for movement, as Mukai (2003) observed. Therefore movement-based approaches must be initially discarded.

One of the important properties of VLC is that the first conjunct remnant or shared part can be a non-constituent. This is shown in (3).

- (3) John-un Mary-uy, Tom-un Jane-uy chayk-ul pillyessta.
 John-Top Mary-Gen Tom-Top Jane-Gen book-Acc borrowed
 'John (borrowed) Mary's (book), and Tom borrowed Jane's book.'

Note that neither of these strings, namely, the remnant *John-un Mary-uy* nor shared part *chayk-ul pillyessta*, can be subject to any movement transformation in non-coordinated contexts, as shown in (4).

- (4) a. *John-un₁ Mary-uy₂, Tom-i Jane-eykey [t₁ t₂ chayk-ul
 John-Top Mary-Gen Tom-Nom Jane-Dat book-Acc
 billyessta-ko] malhayssta.
 borrowed-Comp said
 'Tom said to Jane that John borrowed Mary's book.'
- b. *Tom-i Jane-eykey [John-i Mary-uy t₁ t₂] malhayssta,
 Tom-Nom Jane-Dat John-Nom Mary-Gen said
 [chayk-ul₁ pillyessta-ko₂].
 book-Acc borrowed-Comp
 'Tom said to Jane that John borrowed Mary's book.'

Further, VLC doesn't seem to respect the islands condition as in (5).

- (5) John-un Tom-i, Mary-nun [Jane-i ssun kul]-ul ilkessta.
 John-Top Tom-Nom Mary-Top Jane-Nom wrote article-Acc read
 ‘John (read the article that) Tom (wrote), and Mary read the article
 that Jane wrote.’

Movement approaches incorrectly predict (5) to be ill-formed as sub-jacency violation, since movements of the embedded subjects *Tom-i* and *Jane-i* or *ssu-n* ‘wrote-adnominalizer’ may violate CNPC in the leftward or rightward movement analysis, respectively.

In-situ deletion or string deletion (henceforth, SD) analysis was proposed by Mukai (2003) in order to account for these kinds of phenomena in Japanese. We illustrate here with Korean examples, as depicted in (6).

- (6) String Deletion: The struck-through part is deleted provided that it is identical to the underlined part as a phonetic string.
 John-i Mary-lul ~~mannassta~~, kuliko Bill-i Susan-ul mannassta.
 John-Nom Mary-Acc met and Bill-Nom Susan-Acc met
 ‘John (met) Mary, and Bill met Susan.’

SD applies to a phonetic string, regardless of its constituency. Because of this, non-constituent deletion in (3) and no islands effect in (5) of VLCs are directly captured, as shown in (7).

- (7) a. John-un Mary-uy ~~chayk-ul pillyessta~~, Tom-un Jane-uy
 chayk-ul pillyessta.
 b. John-un Tom-i ~~ssun kul-ul ilkessta~~, Mary-nun Jane-i ssun
 kul-ul ilkessta.

Thus, SD analysis seems to be superior to movement analysis for VLC in Korean.

3. Against String Deletion Analysis

SD approach essentially assumes the parallelism between coordinate conjunction and VLC. In other words, VLC is expected to be ruled out when its corresponding conjunction is impossible if Mukai’s (2003) approach is correct. However, Chung (2004) convincingly shows that SD is

untenable based on plurality-dependent expressions (hereafter, PDEs) in Korean: i.e., the dummy plural marker *-tul*, the reciprocal *selo* ‘each other’, and the distributive adverb *kakkak* ‘each’. PDEs should be linked to plural elements, and they are “not licensed in a simple or coordinate sentence when no plural element is available in the local domain” (Chung 2004: 799). Surprisingly however, some instances of VLC feed the licensing of PDE, unlike their counterparts of coordinate sentences.

First, consider dummy plural marker *-tul* that is not licensed in a simple or coordinate sentence when no plural element is available in the local domain, as shown in (8a) and (8b).

- (8) a. John-un nonmwun-ul yelsimhi(*-tul) ilk-ess-ta.
 John-Top article-Acc hard-Plural read-Pst-Dec
 ‘John read articles hard.’
- b. John-un nonmwun-ul yelsimhi(*-tul) ilk-ess-ko
 John-Top article-Acc hard-Plural read-Pst-and
 Mary-nun chayk-ul yelsimhi(*-tul) ilk-ess-ta.
 Mary-Top book-Acc hard-Plural read-Pst-Decl
 ‘John read articles hard and Mary read books hard.’

However, dummy plural marker *-tul* is licensed in VLC constructions as in (9).

- (9) John-un nonmwun-ul, (kuliko) Mary-nun chayk-ul
 John-Top article-Acc and Mary-Top book-Acc
 yelsimhi(-tul) ilk-ess-ta.
 hard- Plural read-Pst-Decl
 ‘John (read) articles (hard) and Mary read books hard.’
 (from Chung 2004: (17))

If (9) is derived from (8b), it must be unacceptable, contrary to fact.

Second, the reciprocal *selo* ‘each other’ and distributive adverb *kakkak* ‘respectively’ show the same contrast; they are not licensed in a simple or coordinate sentence when no plural element is available in the local domain, as in (10a, b) and (11a, b). However, they are licensed in VLC constructions as in (10c) and (11c).

- (10) a. *John-un si-lul selo-eykey ilk-e cwu-ess-ta.
 John-Top poem-Acc each other-Dat read-E give-Pst-Dec
 #‘John read poems to each other.’
- b. *John-un si-lul selo-eykey ilk-e cwu-ess-ko
 John-Top poem-Acc each other-Dat read-E give-Pst-and
 Sue-nun soseul-ul selo-eykey ilk-e cwu-ess-ta.
 Sue-Top story-Acc each other-Dat read-E give-Pst-Dec
 #‘John read poems to each other and Sue read stories to each other.’
- c. John-un si-lul (kuliko) Sue-nun soseul-ul
 John-Top poem-Acc and Sue-Top story-Acc
 selo-eykey ilk-e cwu-ess-ta.
 each other-Dat read-E give-Pst-Dec
 ‘John read poems and Sue read stories to each other.’
 (from Chung 2004: (18))
- (11) a. *Tom-un minyo-lul (*kakkak) pwulu-ess-ta.
 Tom-Top folk song-Acc respectively sing-Pst-Dec
 ‘Tom each sang folk songs.’
- b. *Tom-un minyo-lul (*kakkak) pwulu-ess-ko
 Tom-Top folk song-Acc respectively sing-Pst-and
 Sue-nun phapsong-ul (*kakkak) pwulu-ess-ta.
 Sue-Top pop song-Acc respectively sing-Pst-Dec
 ‘Tom each sang folk songs and Sue each sang pop songs.’
- c. Tom-un minyo-lul (kuliko) Sue-nun phapsong-ul (kakkak)
 Top-Top folk song-Acc and Sue-Top pop song-Acc respectively
 pwulu-ess-ta.
 sing-Pst-Dec
 ‘Tom each sang folk songs and Sue each sang pop songs.’
 (from Chung 2004: (19))

Were (10c) and (11c) derived from (10b) and (11b) respectively, they are expected to be acceptable, contrary to fact. In what follows, we further illustrate two more facts which cannot be captured in SD analysis.

First, consider the presence or absence of sentence-internal reading as discussed in Takano (2002). According to Carlson (1987), sentence-internal reading of *same* or *different* can only be licensed when the sentence denotes a plural (and distributive) eventuality. Sentence-internal reading

is not licensed in a coordinate sentence when no plural element is available in the local domain, as in (12a, b).

- (12) a. John-un Mary-eykey kathun chayk-ul cwuess-ko Tom-un
 John-Top Mary-Dat same book-Acc gave-and Tom-Top
 Jane-eykey kathun chayk-ul cwuessta.
 Jane-Dat same book-Acc gave
 ‘John gave the same book to Mary, and Tom gave the same
 book to Jane.’ (only sentence-external reading)
- b. John-un Mary-eykey talun chayk-ul cwuess-ko Tom-un
 John-Top Mary-Dat different book-Acc gave-and Tom-Top
 Jane-eykey talul chayk-ul cwuessta.
 Jane-Dat different book-Acc gave
 ‘John gave a different book to Mary, and Tom gave a different
 book to Jane.’ (only sentence-external reading)

However, sentence-internal reading is licensed in VLC constructions as in (13a, b).

- (13) a. John-un Mary-eykey, kuliko Tom-un Jane-eykey kathun
 John-Top Mary-Dat and Tom-Top Jane-Dat same
 chayk-ul cwuessta.
 book-Acc gave
 ‘John gave the same book to Mary, and Tom gave the same
 book to Jane.’ (sentence-external and sentence-internal reading)
- b. John-un Mary-eykey, kuliko Tom-un Jane-eykey talun
 John-Top Mary-Dat and Tom-Top Jane-Dat different
 chayk-ul cwuessta.
 book-Acc gave
 ‘John gave a different book to Mary, and Tom gave a different
 book to Jane.’ (sentence-external and sentence-internal reading)

Thus, here too the parallelism between VLC and coordinate conjunction also fails.

Second, observe presence or absence of distributive vs. collective readings in NP coordination (cf. Yoon & Lee 2005). The example in (14) is ambiguous, because NP/PP coordination can have a collective or distributive reading.

- (14) John-i Mary-lul, kuliko Tom-i Jane-ul hakkyo-eyse
 John-Nom Mary-Acc and Tom-Nom Jane-Acc school-at
 kuliko cip-eyse (kakkak) mannassta.
 and home-at respectively met
 ‘John met Mary at school and Tom met Jane at home(, respec-
 tively).’ or
 ‘John met Mary at school and at home, and Tom met Jane at
 school and at home(, respectively).’

Under a collective reading, the adverbial in the shared part, *hakkyo-eyse kuliko cip-eyse* ‘at school and at home’, is interpreted as conjoined locatives for both verbs (i.e., ‘John met Mary at school and at home, and Tom met Jane at school and at home’). Under a distributive reading, each PP in the adverbial is interpreted as an exclusive locative of each verb in the two clauses (i.e., ‘John met Mary at school and Tom met Jane at home’). As pointed out by de Vos and Vicente (2005), crossing dependencies are allowed, but nesting dependences are not. In other words, (14) can only mean (15a), but not (15b).

- (15) a. John met Mary at school and Tom met Jane at home(, respec-
 tively).
 b. John met Mary at home and Tom met Jane at school(, respec-
 tively).

This crossing dependencies of VLC cannot be captured by the SD analysis since the corresponding coordinated conjunction in (16) cannot mean (15a).

- (16) John-i Mary-lul hakkyo-eyse kuliko cip-eyse (kakkak) mannassta,
 kuliko Tom-i Jane-ul hakkyo-eyse kuliko cip-eyse (kakkak)
 mannassta.
 ‘John met Mary at school and at home, and Tom met Jane at
 school and at home(, respectively).’

The parallelism between VLC and coordinate conjunction fails once again.

A way to salvage the SD analysis was suggested by Yoon & Lee (2005)

(They did not, however, exclusively defend the SD analysis in the paper). In their analysis, the PDEs in the shared predicate portion of VLC constructions occur in an unreduced sentential coordination, taking scope over the entire structure.

- (17) John-i cip-ey kassta kuliko Mary-ka hakkyo-ey
 John-Nom home-to went and Mary-Nom school-to
 kassta, **kakkak**
 went respectively
 ‘John and Mary went to the school respectively.’

(Yoon & Lee 2005: (27))

The shared part in the second conjunct is optionally displaced into the PDEs, following ellipsis. They argue that both outputs (with and without displacement) are attested.

- (18) Ellipsis without displacement
 John-i cip-ey-~~kassta~~-kuliko Mary-ka hakkyo-ey kassta **kakkak**.
- (19) Ellipsis with displacement
 John-i cip-ey-~~kassta~~-kuliko Mary-ka hakkyo-ey **kakkak** kassta.

They argue that displacement explains why *kakkak* cannot occur in the first conjunct in VLC constructions (which allows correlates other than the subject NP, yielding VLC).

- (20) a. John-i ecey kuliko Mary-ka onul **kakkak** ttenassta.
 John-Nom yesterday and Mary-Nom today respectively left
- b. *John-i ecey **kakkak** kuliko Mary-ka onul ttenassta.
 John-Nom yesterday respectively and Mary-Nom today left

(Yoon & Lee 2005: (29))

However, the following example cannot be explained under their analysis.

- (21) John-un Tom-i, Mary-nun [Jane-i **kakkak** ssun
 John-Top Tom-Nom Mary-Top Jane-Nom respectively wrote
 nonmwun]-ul ilkkoissta.
 paper-Acc be.reading
 ‘John (is reading the paper) Tom (wrote), and Mary is reading
 the paper Jane wrote.’
 = ‘They are reading the papers they each wrote.’

In (21), the PDE *kakkak* is placed inside the complex noun phrase. In Lee & Yoon’s ellipsis-with-displacement approach, the non-constituent element *ssun nonmul-ul ilkkoissta* must be displaced. If they are on the right track, (22) can have the same interpretation as (21).

- (22) John-un Tom-i ~~ssun nonmwun-ul ilkkoissta~~, kuliko
 John-Top Tom-Nom wrote paper-Acc be.reading and
 Mary-nun Jane-i ssun nonmwun-ul ilkkoissta **kakkak**.
 Mary-TOP Jane-Nom wrote paper-Acc be.reading each
 ‘John is reading the paper Tom wrote, and Mary is reading the
 paper Jane wrote.’
 = ‘They each are reading the papers they wrote.’

However, *kakkak* in (22) can have reading of matrix scope, and this reading is absent in (21).

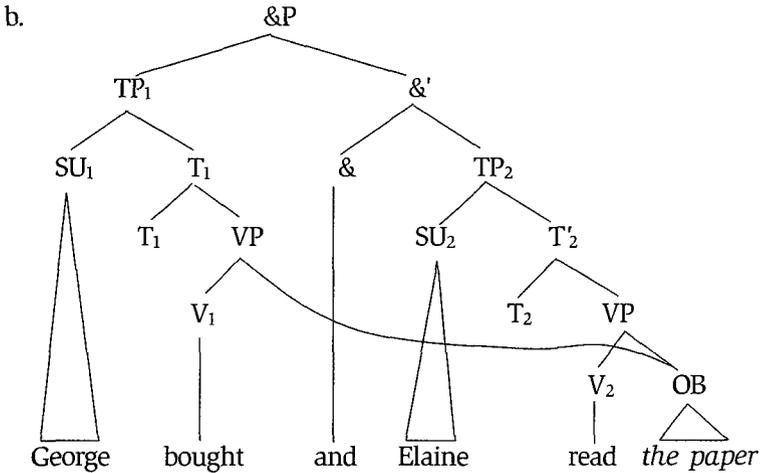
Sentence-internal reading and the distributive reading of NP-coordination cannot be treated properly in SD approach, either, since they cannot be generated by sentence-final position, as Yoon & Lee (2005) suggested.

In sum, PDE licensing, sentence-internal reading and distributive reading of NP-coordination cannot be explained by string deletion approach.

4. Against Multiple Dominance Approach

Chung (2004) adapted multiple dominance (hereafter, MD) analysis of Wilder (1999) to advance that the shared part in VLC is multiply dominated by each conjunct. Wilder (1999) first introduces the notion of MD within the Minimalist framework in order to account for RNR in terms of MD as shown in (23).¹⁾

(23) a. George bought ___ and Elaine read the paper.

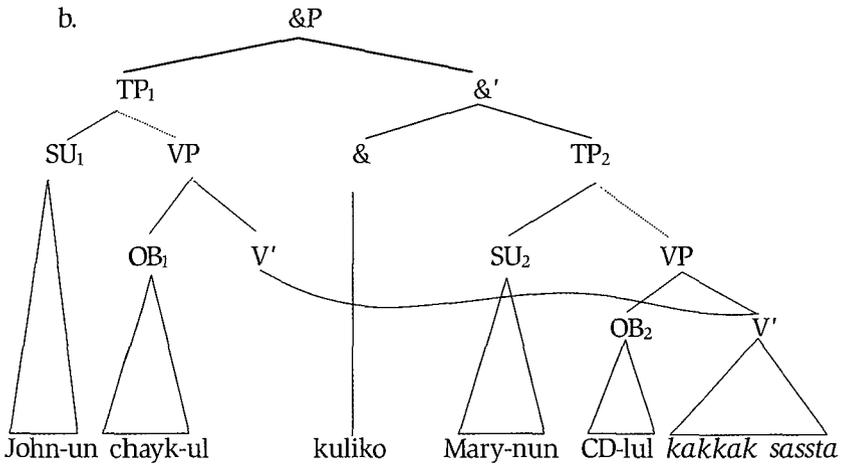


As seen in section 3, the string deletion approach cannot account for PDE licensing in VLC since it assumes that there is parallelism between coordinate conjunction and VLC. The operation of string deletion is merely a PF process, and hence coordinate conjunction and VLC would have exactly the same structure in syntax, despite the difference in PF. Thus, they should be wrongly predicted to behave similarly with respect to the PDE licensing, which is a syntactic process.

Chung (2004) provides the following MD structure for the VLC to account for the licensing of PDE in the shared part (we slightly modify his structure for our purposes).

(24) a. John-un chayk-ul, kuliko Mary-nun CD-lul **kakkak** sassta.
 John-Top book-Acc and Mary-Top CD-Acc respectively bought
 ‘John (bought) a book, and Mary bought a CD, respectively.’

1) Citko (2005) also introduces the notion of MD, which is quite different from Wilder’s (1999). See further discussion of MD analyses in Chung (2004; 2005), Abels (2004), Cable (2005), Kasai (2004), and Vicente & de Vos (2005).



Note that MD analysis intuitively captures the phenomena discussed in section 3. It predicts that the shared part must be necessarily interpreted identically for both conjuncts in VLC. As depicted in (24b), the licensing of PDE *kakkak* ‘respectively’ can be captured directly: the PDE in the shared part is simultaneously c-commanded by the objects in both conjuncts, therefore the PDE *kakkak* can be properly licensed in their local domains under MD analysis.

However, in what follows, we demonstrate some novel data which are problematic for MD analysis. The crucial evidence against MD concerns some mismatches of sharing part in VLC, which may substantially weaken Chung’s MD analysis.

First, coordinate conjunction may produce an asymmetric interpretation for tense and aspect morphemes, as shown in (25) (contra judgments in Chung 2005).

- (25) a. ?apenim-un caknyen-ey, emenim-un cikum pyeng-ulo
 father-Top last;year-in mother-Top now disease-due to
 nwuwekyesi-n-ta.
 lie in bed-Pres-Dec
 ‘My father (was lying in bed) last year and my mother is lying in bed now due to an illness.’
- b. ?John-un pwunmyenghi, Mary-nun ama
 John-Top certainly Mary-Top probably
 chwumchwu-ess-keyss-ta.

dance-Pst-GUESS-Dec

'John certainly (danced) and perhaps Mary may have danced.'

(Chung 2005: (6), (8))

Second, (honorific) agreement mismatch can take place in VLC, as in (26),²⁾

(26) na-nun thayngo-lul, apenim-un disukho-lul chwu-si-ess-ta.

I-Top tango-Acc father-Top disco-Acc dance-HON-Pst-Dec

'I danced (non-HON) tango and Father danced (HON) disco.'

(Chung 2005: (7))

Under MD analysis, VLCs are expected to disallow such an asymmetric interpretation of tense/aspect and honorific agreement as in (25-26), contrary to fact. There is some speakers' variation on the judgments of the data (cf. Lee 2005). Most people that we consulted judged (25) less acceptable than (26). The contrast seems to hinge on the interpretability strength of mismatching morphemes: i.e., (honorific) agreement features is less "interpretable" than tense/aspect features.

Third, VLC allows a different interpretation for homophones in each conjunct as in (27).

2) Russian also shows agreement mismatch.

(i) a. ja vodu **pil**, I Anna vodku **pila**. (coordinate conjunction)

I water drank and Anna vodka drank
'I drank water, and Anna drank vodka.'

b. ja vodu, I Anna vodku **pila**. (VLC)

I water and Anna vodka drank

'I (drank) water, and Anna drank vodka.' (Ross 1970; recited from Duman 2003)

In (i-a), the verb *pil(a)* 'drank' in each conjunct of the coordinate conjunction agrees with its subject. However, in (i-b), the shared verb chooses *Anna* as its subject to agree with, as the verb *pila* indicates.

Agreement mismatch is also found in Brazilian Portuguese, as observed in Hornstein et al. (2005: 326).

(ii) Os gatos são **bonitos** e
the.MASC.PL cat.MASC.PL are[3,PL] beautiful.MASC.PL and
a gata também é **(bonita)**.
The.FEM.SG cat.FEM.SG also is[3.SG] beautiful.FEM.SG

'The tomcats are beautiful and so is the cat.'

Thus, agreement mismatch seems to take place in ellipsis constructions cross-linguistically.

- (27) a. ?John-un phyenci-lul, kuliko Jane-un computer-ul **ssessta**.
 John-Top letter-Acc and Jane-Top poem-Acc wrote/used
 ‘John (wrote) a letter and Jane used a computer.’
- b. ?John-un khal-ul, Mary-nun cenkwu-lul **kalassta**.
 John-Top knife-Acc Mary-Top lightbulb-Acc sharpened/changed
 ‘John (sharpened) a knife, and Mary changed a light bulb.’

If the shared verb-forms *ssessta* and *kalassta* in (27) have the different meaning in VLC, the sentence would be expected to be ruled out under MD analysis since the shared part should not only meet phonological identity (hereafter, p-identity) but should necessarily meet semantic identity (hereafter, s-identity), too. However, the sentences are marginally acceptable, contrary to prediction under MD analysis.

Fourth, VLC is expected to be impossible when the NPs in the first conjunct and the correlates in the second conjunct have different morphological Cases (Case mismatch). However, Case mismatch is tolerable in the emotional constructions below.

- (28) a. John-un Osaka-**ey**, Mary-nun Tokyo-**ka** ka-ko.siph-ess-ta.
 John-Top Osaka-to Mary-Top Tokyo-Nom go-want-Pst-Dec
- b. John-un Osaka-**ka**, Mary-nun Tokyo-**ey** ka-ko.siph-ess-ta.
 John-Top Osaka-Nom Mary-Top Tokyo-to go-want-Pst-Dec
- c. John-un Osaka-**lul**, Mary-nun Tokyo-**ka** ka-ko.siph-ess-ta.
 John-Top Osaka-Acc Mary-Top Tokyo-Nom go-want-Pst-Dec
- d. John-un Osaka-**ka**, Mary-nun Tokyo-**lul** ka-ko.siph-ess-ta.
 John-Top Osaka-Nom Mary-Top Tokyo-Acc go-want-Pst-Dec
- e. John-un Osaka-**ey**, Mary-nun Tokyo-**lul** ka-ko.siph-ess-ta.
 John-Top Osaka-to Mary-Top Tokyo-Acc go-want-Pst-Dec
- f. John-un Osaka-**lul**, Mary-nun Tokyo-**ey** ka-ko.siph-ess-ta.
 John-Top Osaka-Acc Mary-Top Tokyo-to go-want-Pst-Dec
 ‘John (wanted to go) to Osaka, and Mary wanted to go to Tokyo.’

Given the prediction that the shared/elided elements must be “syntactically” identical, MD approach cannot account for these mismatches since different Cases are usually assumed to be licensed by different types of head-selection syntactically.

To recap, the core prediction of MD analysis regarding VLCs is that the

shared/elided elements must be identical phonologically, syntactically and semantically. However, this “strict-identity” requirement can be violated in VLCs, as observed in this section. Thus, the MD analysis of VLCs is untenable.

5. Toward an Explanation

It seems that some of mismatch data like homophones and Case alternation, which we discussed in section 4, may not be problematic for SD analysis since the shared parts of both conjuncts are p-identical. By contrast, mismatch in tense/aspect and agreement (henceforth, *vehicle change* data), is truly problematic for SD analysis because the shared parts of both conjuncts are phonologically distinct. Under the SD analysis, one may possibly postulate null morphemes of tense, aspect, and Agr for apparent mismatch (cf. Chung 2005). Thus, for example, tense interpretation mismatch can be handled as follows:

- (29) a. [_{&P}[_{MP} Na-nun caknyen-ey ~~thongkyeyhak-ul~~ ~~tut-ess-ta~~],
 I-Top last year-in statistics-Acc take-Pst-Dec
 [_{&&} [_{MP} John-un olhay thongkyeyhak-ul tut-nun-ta].
 John-Top this year statistics-Acc take-Pres-Dec
 ‘I (took statistics) last year, and John is taking it this year.’
- b. [_{MP}[_{&P}[_{TP} Na-nun caknyen-ey ~~thongkyeyhak-ul~~ ~~tut-∅_{PAST}~~],
 I-Top last year-in statistics-Acc take
 [_{&&}[_{TP} John-un olhay thongkyeyhak-ul tut-nun]-ta].
 John-Top this year statistics-Acc take-Pres-Dec
 ‘I (took statistics) last year, and John is taking it this year.’

(29a) is excluded outright because of its violation of the p-identity. On the other hand, (29b) can be a TP coordination in which the first conjunct has a zero morpheme for the past tense, and the verbal stem is elided by the p-identity with the verbal stem in the second conjunct. Since the null morpheme is not visible at PF, it does not have any harmful effect on ellipsis. Null morpheme analysis, however, must be independently motivated, otherwise the postulation of null entities in grammar goes against Occam’s Razor or Null Hypothesis.

In this paper we claim that vehicle change effects in VLCs cannot be

handled by the SD. We, instead, suggest that vehicle change effects in VLCs must be understood as one of typical outcomes of ellipsis phenomena *per se*, as noted by Fiengo & May (1994), Merchant (2001; 2004), and significantly by Hoji (2002; 2006) as *predicate vehicle change* for similar facts in Japanese VLCs. We basically follow Merchant's (2004: 700) idea that "positing syntactic structure in the ellipsis site does not commit one to claiming that ellipsis is regulated by (morpho)syntactic identity." In other words, ellipsis is not regulated by strict morphosyntactic form identity. Instead, he proposes that identity condition on deletion is regulated by semantic identity. Thus, vehicle change can be covered under ellipsis approach without further theoretical apparatus.

However, PDE licensing, sentence-internal reading of *kathun* 'same' and *talun* 'different', and distributive reading of NP/PP coordination cannot be properly treated by (vehicle change) ellipsis approach to VLCs.

We further propose that there is an alternative possibility that may parse each of the correlate conjuncts and the shared part to constitute separate sentential fragments. as shown in (30b) for PDE involving VLC (30a).

- (30) a. John-un Osaka-ey, Mary-nun Tokyo-ey **kakkak** kassta.
 John-Top Osaka-to, Mary-Top Tokyo-to respectively went
 'John (went) to Osaka, and Mary went to Tokyo, respectively.'
 b. [[John₁-un Osaka₃-ey <kassta>], [Mary₂-nun Tokyo₄-ey <kassta>],
 [e₁₊₂ e₃₊₄ kakkak kassta]].

Under this parse, the VLC construction (30a) is analyzed as multiple fragmental sentences (more precisely speaking, two fragments plus one full sentence with null pronouns). With this tripartite parse, we can account for PDE licensing and other problematic (non-vehicle-change-oriented) interpretational mismatches of VLC construction as discussed in section 3.

Multiple fragments (hereafter, MF) analysis may account for the distributive interpretation fact, but it cannot explain some facets of interpretational mismatches as shown in section 4. Thus, MF analysis suffers from identical problems as MD analysis.

Here we propose a dual analysis for VLC; either through (backward) ellipsis or MF. We further suggest that MF is generated under SD. Thus, in a sense, there are two kinds of PF-deletion: that is, s-ellipsis can be

understood as sloppy-PF-deletion while MF (= p-ellipsis) is licensed only by strict-PF-deletion. Put differently, the former can induce sloppy identity and vehicle change, whereas the latter cannot. MF, the strict-PF-deletion or p-ellipsis, is only sensitive to identical phonological strings, hence it should occur at shallow level.

To recapitulate, MF is regulated by p-identity, while ellipsis is regulated by s-identity which implies semantic parallelism between VLC and coordinate conjunction. For the normal case, they can be applied freely, which may induce some ambivalent structures. However, in vehicle change contexts (e.g. honorific agreement mismatch), MF cannot be generated, whereas in distributive contexts with PDEs, for example, ellipsis analysis doesn't work. Hence, these two analyses can be mutually exclusive if we assume that ellipsis occurs elsewhere of environments in which MF cannot take place. The core ideas of dual analysis can be summarized as follows:

(31) Possible VLCs by ellipsis or MF

a. VLC which cannot be derived by ellipsis:

distributive scoping, homophones (lexical mismatch), Case mismatch

b. Elsewhere (= VLC which cannot be derived by MF):

vehicle change, sloppy identity, and others

If our hypothesis is on the right track, it is expected that VLC is not acceptable when both ellipsis and MF are forced to be assigned into one structure. The prediction is borne out in the following sentences: (32) for honorific agreement mismatch, (33) for tense interpretation mismatch, and (34) for sloppy identity with b-sentences in distributive contexts, respectively. Witness the contrasts:

(32) a. na-nun ppang-ul, apenim-un lamyen-ul **capswusiessta**.

I-Top bread-Acc, father-Top ramen-Acc **ate (HON)**

'I (ate (non-Hon)) bread and Father ate (Hon) ramen.'

b. *na-nun ppang-ul, apenim-un lamyen-ul **kakkak capswusiessta**.

I-Top bread-Acc, father-Top ramen-Acc **respectively ate (HON)**

'I (ate (non-Hon)) bread and Father ate (Hon) ramen, respectively.'

- (33) a. John-un caknyen-ey, Bill-un cikum pyeng-ulo **nwuweissta**.
 John-Top last year-at, Bill-Top now illness-by **lie in bed (PRES)**
 ‘John (was lying in bed) last year and Bill is lying in bed now
 due to an illness.’
- b. *John-un caknyen-ey, Bill-un cikum pyeng-ulo **kakkak**
 John-Top last year-at, Bill-Top now illness-by **respectively**
nwuweissta.
lie in bed(PRES)
 ‘John (was lying in bed) last year and Bill is lying in bed
 now due to an illness, respectively.’
- (34) a. John-un chayk-ul, Mary-nun pheyn-ul **kunye-uy**
 John-Top book-Acc Mary-Top pen-Acc **she-GEN**
 emma-eykey cwuessta.
 mom-to gave
 ‘John (gave **his** mom) a book and Mary gave **her** mom a pen.’
- b. *John-un chayk-ul, Mary-nun pheyn-ul **kakkak kunye-uy**
 John-Top book-Acc Mary-Top pen-Acc **respectively she-GEN**
 emma-eykey cwuessta.
 mom-to gave
 ‘John (gave **his** mom) a book and Mary gave **her** mom a pen.’

The discrepancy results from the fact that a-sentences in (32-34) are all analyzed as instances of ellipsis, while b-sentences in (32-34) can be neither instances of ellipsis nor MF, hence ill-formedness results in b-sentences.

(35) for homophones (lexical mismatch) and (36) for Case mismatch, by contrast, do not exhibit sharp contrasts concerning presence or absence of distributors.

- (35) a. John-un khal-ul, Bill-un cenkwu-lul **kalassta**.
 John-Top knife-Acc Bill-Top light.bulb-Acc **sharpened/changed**
 ‘John (sharpened) a knife, Bill changed a light bulb, respectively.’
- b. John-un khal-ul, Bill-un cenkwu-lul **kakkak**
 John-Top knife-Acc Bill-Top light.bulb-Acc **respectively**
kalassta.
sharpened/changed

‘John (sharpened) a knife, Bill changed a light bulb, respectively.’

- (36) a. na-nun pizza-**lul**, Mary-nun spaghetti-**ka** **mek-ko.siph-ess-ta**.
 I-Top pizza-Acc, Mary-Top spaghetti-Nom eat-want-Pst-Dec
 ‘I wanted to eat pizza, and Mary wanted to eat spaghetti.’
- b. na-nun pizza-**lul**, Mary-nun spaghetti-**ka** **kakkak**
 I-Top pizza-Acc, Mary-Top spaghetti-Nom respectively
mek-ko.siph-ess-ta.
 eat-want-Pst-Dec
 ‘I wanted to eat pizza, and Mary wanted to eat spaghetti, respectively.’

Thus, as predicted under our dual analysis given in (31), (35-36) are uniformly analyzed as MF under p-identity, hence no discrepancy arises here.

6. Conclusion

In this paper, we propose that VLC in Korean exhibits dualistic nature: one type is derived by ellipsis under s-identity, and the other by MF under p-identity in a disjunctive manner. We have provided mismatches in interpretation as crucial evidence for dual distinction. The similarity of the two operations is that they are both elliptic (i.e., PF-deletion) operations. The essential difference lies between the two in that the s-ellipsis can induce vehicle change, while p-ellipsis cannot. Vehicle change effects include mismatches in honorification and tense/aspect, and sloppy identity reading of pronouns. MF is generated when distributive markers such as PDEs occur. Since MF is only sensitive to surface forms, it can tolerate only mismatches under p-identity: e.g. lexical mismatch such as homonyms and Case mismatch triggered by homophonous complex predicates. We believe a dual analysis advanced here not only has wider empirical coverage over previous approaches, but also bear richer theoretical implications. We hope future study will unravel the deeper nature of underlying difference between the two operations: s-ellipsis and p-ellipsis.

References

- Abe, J. and H. Hoshi. (1997). Gapping and P-stranding. *Journal of East Asian Linguistics* 6.
- Abels, K. (2004). Right node raising: ellipsis or across the board movement. *NELS* 34.
- Cable, S. (2005). Which question tags involve multi-dominance, do you think? Ms., MIT.
- Carlson, G. (1987). Same and different: some consequences for syntax and semantics. *Linguistics and Philosophy* 10.
- Citko, B. (2005). On the nature of merge: external merge, internal merge, and parallel merge. *Linguistic Inquiry* 36.4.
- Chung, D. (2004). A multiple dominance analysis of right node sharing constructions. *Language Research* 40.4.
- Chung, D. (2005). Interpretation of verbal affixes in V-ed and V-less coordination and some theoretical implications. Ms., Hanyang University.
- Dunan, B. (2003). Right node raising and Turkish. Unpublished master's thesis. Tilburg University.
- Fiengo, R. and R. May. (1994). *Indices and identity*. The MIT Press.
- Fukaya, T. and H. Hoji. (1999). Stripping and sluicing in Japanese and some implications. *WCCFL* 18.
- Hoji, H. (2002). Remarks on Mukai 2002. Handout distributed at class, University of Southern California.
- Hoji, H. (2006). A grammatical source of judgmental fluctuation: A case study of verbless conjunction and backward multiple stripping in Japanese. Handout distributed at class, University of Southern California.
- Hornstein, N., J. Nunes, and K. Grohmann. (2005). *Understanding minimalism*. Cambridge University Press.
- Kasai, H. (2004). ATB reconstruction puzzles. *NELS* 35.
- Kayne, R. (1994). *The antisymmetry in syntax*. The MIT Press.
- Kim, J.-S. (1997). Syntactic focus movement and ellipsis: A minimalist approach. Unpublished doctoral dissertation. University of Connecticut, Storrs.
- Koizumi, M. (2000). String vacuous overt verb raising. *Journal of East Asian Linguistics* 9.
- Kuno, S. (1978). Japanese: A characteristic OV language. In W. Lehmann.

- ed., *Syntactic Typology*, University of Texas Press.
- Lee, H. (2005). Evidence in favor of *vP* coordination on gapping in Korean. *Studies in Generative Grammar* 15.4.
- Merchant, J. (2001). *The syntax of silence: Sluicing, islands, and the theory of ellipsis*. Oxford University Press.
- Merchant, J. (2004). Fragments and ellipsis. *Linguistics and Philosophy* 27.
- Mukai, E. (2003). On verbless conjunction in Japanese. *NELS* 33.
- Ross, J. R. (1970). Gapping and the word order of constituents. In M. Bierwisch and K. E. Heidolph, eds., *Progress in linguistics*. Mouton.
- Saito, M. (1987). Three notes on syntactic movement in Japanese. In T. Imai and M. Saito *et al.* eds., *Issues in Japanese Linguistics*. Foris.
- Sohn, K.-W. (2001). Deletion and right node raising in Korean and English. *Studies in Generative Grammar* 11.2.
- Sohn, K.-W. (2005). Issues of Right Node Raising constructions in Korean. [written in Korean] Handout presented at KGGC workshop at Konkuk University.
- Takano, Y. (2002). Surprising constructions. *Journal of East Asian Linguistics* 11.
- Vicente, L and M. de Vos. (2005). Coordination under RNR. *WCCFL* 24.
- Wilder, C. (1999). Right Node Raising and the LCA. In Brid, S., A. Carnie, J. Jaugen, and P. Norquest, eds., *WCCFL* 18.
- Yoon, J. H. S. and W. Lee (2005). Conjunction reduction and its consequences for noun phrase morphosyntax in Korean. *WCCFL* 24.

Hee-Don Ahn
Department of English
Konkuk University
Seoul 143-701, Korea
E-mail: hdahn@konkuk.ac.kr

Yongjoon Cho
Department of East Asian Languages and Cultures
University of Southern California
Los Angeles, CA 90089, USA
E-mail: yongjooc@usc.edu

Received: Mar. 31, 2006
Revised version received: May 15, 2006
Accepted: May 31, 2006