

Article Review

Some Remarks on Ahn and Cho's (2006) Dual Analysis of Korean RNR*

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Chung, Dae-Ho. 2008. Some Remarks on Ahn and Cho's (2006) Dual Analysis of Korean RNR. *Linguistic Research* 25(3), 149-169. There have been various approaches entertained in the literature to account for the properties that the so-called right node raising construction (RNR) displays: Across-the-board rightward movement analyses, PF deletion analyses, and multi-dominance analyses, to name a few. Pointing out that no single uniform analysis can account for all the properties displayed by the RNR, Ahn and Cho (2006) propose a heterogeneous analysis approach: There are two types of RNR structures, one being derived by a semantically constrained ellipsis (S-ellipsis), while the other being derived by a phonologically constrained ellipsis (P-ellipsis). This article shows that despite some genius in it, Ahn and Cho's (2006) dual analysis approach faces some empirical and theoretical problems. It will be first shown that there exist some RNR properties which are hardly accounted for by any version of ellipsis approach, including S-ellipsis or P-ellipsis. It will be also shown that the mechanism of P-ellipsis, if strictly followed, leads to some non-trivial technical and semantic problems. The conclusion drawn is agnostic: The RNR is still in a haze. (Hanyang University)

Keywords right node raising (RNR), ellipsis, S-ellipsis, P-ellipsis, multiple fragment analysis

1. Introduction

There have been several kinds of approaches entertained in the literature to account for the so-called right node raising construction (RNR, hereafter). Three major approaches among them are across-the-board rightward movement analyses (Ross 1967, Postal 1974, 1998, Saito 1987, etc. cf. Sabbagh 2003, 2007); PF ellipsis analyses (Bošković 1997,

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Kim 1998, 2006, Hartmann 2000, 2003, Merchant 2001, Sohn 2001, Mukai 2003, An 2006, etc.); multiple dominance analyses (McCawley 1982, Wilder 1999, Abels 2004, Chung 2004, etc.). (See Chung and Sohn 2007, and Kim 2007 for some extensive summary on the three approaches to the RNR.)

Unlike other hitherto uniform analyses, Ahn and Cho (2006) propose a heterogeneous approach to the RNR. According to them, Korean verb-less coordinate construction (VLC), a sort of RNR, is of two types and therefore two different analyses are called for: One type of RNR is derived by a semantically constrained ellipsis (S-ellipsis) and the other is by a phonologically constrained ellipsis (P-ellipsis).

In this article, it will be pointed out that despite some genius in it, Ahn and Cho's (2006) dual analysis approach to the RNR conveys some non-trivial theoretical and empirical problems. This paper is organized as follows. Section 2 summarizes their dual analysis approach to the RNR and repeats their motivations for the dual analysis. Section 3 points out some non-trivial problems with any kind of ellipsis analysis (including Ahn and Cho's 2006). Section 4 discusses additional difficulties with the operation of P-ellipsis. Section 5 concludes the paper.

2. Ahn and Cho's (2006) Dual Analysis Approach

Unlike other analyses, Ahn and Cho (2006) propose a heterogeneous analysis of the RNR. They point out that Korean verb-less coordination (VLC), a type of RNR, defies any uniform analysis thus far entertained in the literature. They claim that the RNR is in fact of two different kinds and therefore a dual analysis approach is called for: One type of RNR results when a semantically constrained ellipsis operation ('S-ellipsis') applies to a coordinate structure, while the other type results when a phonologically constrained ellipsis operation ('P-ellipsis') applies to a coordinate structure. Although both types of ellipsis take place at PF, the two differ from each other in that S-ellipsis is licensed under semantic identity between the RNR target and its antecedent, while P-ellipsis is under PF string identity between the two. Another interesting point that they make is that the RNR derived by P-ellipsis involves a multiple fragment structure. The two are schematically represented in (1) and exemplified in (2):

- (1) a. S-ellipsis
 [a b c ~~<x y z>~~] & [e f g <x y z>]
 Condition: <x y z> and <x y z> are semantically identical.
- b. P-ellipsis
 [a b c ~~<x y z>~~] & [e f g ~~<x y z>~~] & [pro_{a+e} pro_{b+f} pro_{c+g} <x y z>]
 Condition: <x y z> and <x y z> are phonologically identical.
- (2) a. [[John-un Osaka-ey kassta], [Mary-nun Tokyo-ey kassta]]
 J.-Top Osaka-to went M.-Top Tokyo-to went
 'John (went) to Osaka, and Mary went to Tokyo.'
- b. [[John₁-un Osaka₃-ey kassta], [Mary₂-nun Tokyo₄-ey kassta],
 J.-Top Osaka-to went M.-Top Tokyo-to went
 [e₁₊₂ e₃₊₄ kassta]]
 went

Ahn and Cho (2006) motivate their dual analysis approach by showing that two different types display two different sets of properties, as summarized in (3) below:

- (3) (adapted from Ahn and Cho 2006: 63, their (31))
- a. RNR which cannot be derived by S-ellipsis:
distributive scoping, homophones (lexical mismatch), Case mismatch
- b. Elsewhere (=RNR which cannot be derived by P-ellipsis):
vehicle change, sloppy identity, and others

There being only two types of RNR, (3) can be positively restated as (4) below:

- (4) a. RNR derived by P-ellipsis:
distributive scoping, homophones (lexical mismatch), Case mismatch
- b. RNR derived by S-ellipsis:
vehicle change, sloppy identity, and others

RNRs derived by S-ellipsis are to behave like other instances of (semantically constrained) ellipsis such as VP-ellipsis and Sluicing and they may display properties like vehicle change and sloppy identity, among others. In contrast, RNRs derived by P-ellipsis are to behave like multiple fragments with a string deletion (cf. Mukai 2003) and they may display properties like a lexical mismatch and a Case mismatch. Various

behaviors displayed by RNR are attributed to the dual analysis.

The crucial evidence for the dual analysis, Ahn and Cho (2006) claim, lies in the restriction that the two types of RNR cannot be intermixed. In other words, an RNR construction cannot be simultaneously derived by S-ellipsis and by P-ellipsis. Thus, it is not possible for any of the properties in (4a) to coexist with any of the properties in (4b) in a given RNR structure, although the properties within (4a) or the properties within (4b) may coexist in an RNR construction. Consider the examples in (5)~(7) below, which are cited from Ahn and Cho (2006, 63-64, their (32)~(34)):

(5) **Honorific mismatch and distributive scoping**

a. na-nun ppang-ul, apenim-un laymen-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 laymen-ul **kakkak**

I-Top bread-Acc father-Top ramen-Acc **respectively**

capswusiessta

ate(HON)

‘I (ate(non-HON)) bread and Father ate(HON) ramen, respectively.’

(6) **Tense mismatch and distributive scoping**

a. John-un caknyen-ey, Bill-un cikum pyeng-ulo **nwuweissta**

J.-Top last;year-at, B.-Top now illness-by **lie;in;bed(PRES)**

‘John (was lying in bed) last year and Bill is lying in bed now.’

b. *John-un caknyen-ey, Bill-un cikum pyeng-ulo **kakkak**

J.-Top last;year-at, B.-Top now illness-by **respectively**

nwuweissta

lie;in;ed(PRES)

‘John (was lying in bed) last year and Bill is lying in bed now, respectively.’

(7) **Sloppy identity and distributive scoping**

a. John-un chayk-ul, Mary-nun pheyn-ul **kunye-uy** emma-eykey cwuessta

J.-Top book-Acc M.-Top pen-Acc **she-Gen** mother-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**

J.-Top book-Acc M.-Top pen-Acc **respectively** **she-Gen**

emma-eykey cwuessta

mother-to gave
 'John (gave **his** mom) a book and Mary gave **her** mom a pen,
 respectively.'

According to Ahn and Cho (2006), the sentences in (a) are fine since they can be derived by S-ellipsis.¹⁾ In contrast the sentences in (b) are ungrammatical since neither S-ellipsis nor P-ellipsis can derive them. Note that the sentences in (b) simultaneously display S-ellipsis properties (honorific mismatch / tense mismatch / sloppy identity) and P-ellipsis properties (distributive scope marking).

Ahn and Cho (2006) also provide a positive piece of evidence for the dual analysis. The dual analysis expects that properties within (4a) or those within (4b) may coexist. And they claim that the expectation is borne out as in the following examples.

(8) (=Ahn and Cho 2006: 64, their (35)) **Lexical mismatch and distributive scoping**

- a. John-un khal-ul, Bill-un cenkwu-lul **kalassta.**
 J.-Top knife-Acc B.-Top light;bulb-Acc **sharpened / changed**
 'John (sharpened) a knife, and Bill changed a light bulb, respectively.'
- b. John-un khal-ul, Bill-un cenkwu-lul **kakkak kalassta.**
 J.-Top knife-Acc B.-Top light;bulb-Acc **respectively sharpened / changed**
 'John (sharpened) a knife, and Bill changed a light bulb, respectively.'

(9) (=Ahn and Cho 2006: 65, their (36)) **Case mismatch and distributive scoping**

- a. na-nun pizza-lul, Mary-nun spaghetti-ka **mek-ko-siph-ess-ta.**
 I-Top pizza-Acc M.-Top spaghetti-Nom eat-want-Pst-DE
 'I (wanted to eat) pizza, and Mary wanted to eat spaghetti.'
- b. na-nun pizza-lul, Mary-nun spaghetti-ka **kakkak**

1) There seems to be some speakers' variation on the grammatical judgment of the sentences like (5a), (6a) and (7a). Some judge such sentences to be ungrammatical, as reported in Chung (2005). Examples like the following, where a derogative sense of predicate is used, seem to be unacceptable:

(i) *apenim-un lamyen-ul, ku casik-un ppang-ul chyemek-ko iss-ess-ta.
 father-Top ramen-Acc that rascal-Top bread-Acc eat(Derogative)-ing be-Pst-DE
 'My father (was eating) ramen, and the rascal was eating(Derogative) bread.'

A separate issue that needs to be further researched is what features can be ignored in the calculation of semantic identity. Phi-features seem to be ignored in sloppy identity, but it is not clear if features like tense and honorificity are also semantically ignorable.

I-Top pizza-Acc M.-Top spaghetti-Nom respectively
mek-ko-siph-ess-ta.
 eat-want-Pst-DE
 ‘I (wanted to eat) pizza, and Mary wanted to eat spaghetti,
 respectively.’

Distributive scoping can be compatible with lexical mismatch cases: homophone cases as in (8b) and Case mismatch cases as in (9b). (No examples that show the compatibility among the properties in (3b) or (4b) are provided in Ahn and Cho 2006.)

3. Problems with Ellipsis Analyses

There are some properties the RNR displays that ellipsis, S-ellipsis or P-ellipsis, fails to account for. Four of them will be discussed in this section: (i) The RNR may have a collective predicate in the shared part, while the subject in each conjunct is a singular subject; (ii) The RNR may have a coordinate structure in the shared part, whose scope is distributed over the higher coordinate structure; (iii) The RNR allows an otherwise unlicensed P-stranding; and (iv) The RNR obeys a directionality condition.

3.1 Collective Predicate in the Shared Part

A collective predicate requires a plural subject but it may appear in the shared part of an RNR structure, even when each conjunct clause has a singular subject, as Park (2007) discusses. Consider the following example from Park (2007:93)

(10) John-un palphyoca-lo, (kuliko) Bill-un tholonca-lo ku seyminasil-ey
 J.-Top presenter-as and B.-Top discussant-as the seminar;room-at
moi-ess-ta.
 gather-Pst-DE
 ‘John and Bill gathered to the seminar room as a presenter and as a
 discussant.’

A distributive scope marker can be inserted as in (11) below and the sentence may convey a distributive reading.²⁾

- (11) John-un palphyoca-lo, (kuliko) Bill-un tholonca-lo
 J.-Top presenter-as and B.-Top discussant-as
 ku seyminasil-ey **kakkak** moi-ess-ta.
 the seminar;room-at respectively gather-Pst-DE
 'John and Bill gathered to the seminar room as a presenter and as a
 discussant, respectively.'

Sentences like (10) can be derived neither by S-ellipsis nor by P-ellipsis (nor by any other version of ellipsis operation).

- (12) a. S-ellipsis
 [John-un palphyoca-lo moi-ess-ta][Tom-un tholonca-lo moi-ess-ta]
 b. P-ellipsis
 [[John₁-un palphyoca₃-lo moi-ess-ta][Tom₂-un tholonca₄-lo moi-ess-ta]
 [pro₁₊₂ pro₃₊₄ moi-ess-ta]]

The first conjunct in (12a) and the first and the second conjunct in (12b) cannot have a proper semantic interpretation since there is no element that the collective predicate can be predicated of in the relevant domain.

2) As pointed out by one of the reviewers, an ellipsis analysis may remain tenable since predicate *moi* 'gather' does not require a singular subject in Korean, as shown in the following example:

- (i) John-un (nwukwunka-wa hamkkey) palphyoca-lo moi-ess-ko,
 J.-Top someone-with together presenter-as gather-Pst-and
 Tom-un (nwukwunka-wa hamkkey) tholonca-lo moi-ess-ta.
 T.-Top someone-with together discussant-as gather-Pst-DE
 'John gathered (with others) as a presenter, and Tom gathered (with others) as a discussant.'

Notice, however, that an ellipsis analysis may not account for the following which is complicated with the sentence internal reading of *kathun* 'the same':

- (ii) John-un palphyoca-lo, Tom-un tholonca-lo
 J.-Top presenter-as Tom-un discussant-as
 kathun nal kathun cangso-ey moi-ess-ta.
 same day same place-at gather-Pst-DE
 'John as a presenter and Tom as a discussant gathered on the same day and at the same place.'

S-ellipsis may not apply since *kahtun* 'the same' cannot be properly interpreted in the second conjunct. P-ellipsis may not apply, either, since *nal... cangso-ey moi-ess-ta* is not a string. (Ahn and Cho 2006 point out that the sentence internal reading of SAME and DIFFERENT cannot be accounted for by S-ellipsis, but they do not provide a P-ellipsis account.)

3.2 Coordination in the Shared Part

RNR may have a coordinate structure in the shared part, which Vos and Vincente (2005) call CoRNR, as exemplified below:

(13) John loves and Peter hates [Mary and Susan].

(13) is ambiguous in interpretation between a collective reading and a distributive reading as follows.

- (14) a. John loves Mary and Susan, and Peter hates Mary and Susan.
 (Collective reading)
 b. John loves Mary and Peter hates Susan. (Distributive reading)

The collective reading in (14a) can be derived either by S-ellipsis or by P-ellipsis. However, the distributive reading in (14b) can be derived neither by S-ellipsis nor by P-ellipsis.

- (15) a. S-ellipsis
 [[John₁ loves₃ ~~Mary and Susan~~], and [Peter₂ hates₄ Mary and Susan]]
 b. P-ellipsis
 [[John₁ loves₃ ~~Mary and Susan~~], and [Peter₂ hates₄ ~~Mary and Susan~~],
 [pro₁₊₂ e₃₊₄ Mary and Susan]]

Neither (15a) nor (15b) can produce the intended distributive reading.³⁾

3) The structure in (15b) produces an additional problem with respect to the distribution of null pronominals, given that languages like English do not allow null pro. As pointed out by one of the reviewers, English may have pro in the limited context. Hornstein (1995), for example, postulates pro for the functional (pair-list) reading of wh-phrases in multiple-wh questions: *Who_i saw [pro_i what]_j?* It is clearly not the case, however, that English allows pro for a subject or object position:

- (i) A : John loves Mary.
 B : # pro loves Sue, too.
 B' : # Tom loves pro, too.

3.3 P-Stranding

There are languages that disallow P-stranding, except for the RNR structure. German is such a language, as shown in the following examples (McClosky 1986, recited from Hartmann 2003: 125, (7)).

- (16) a. Die Katze Halma sitzt **auf** dem Ofen, und der Kater Mikado sitzt
The cat H. sits **on** the oven and the tomcat M. sits
neben dem Ofen.
beside the oven
'The cat Halma sits on the oven, and the tomcat Mikado sits beside
the oven.'
- b. *[Dem Ofen]₁ sitzt die Katze Halma auf *t*₁.
- c. [Auf dem Ofen]₁ sitzt die Katze Halma *t*₁.

(16a) shows that P-stranding is possible in the RNR construction. (16b) and (16c) show that a preposition cannot be stranded by a movement operation, but is pied-piped. Even in English, the so-called Heavy NP Shift cannot, but the RNR can, leave a preposition stranded, as shown in the following examples (cited from Chung and Sohn 2007: 169, (8)).

- (17) a. Mary found a solution to _____ and John will write a book about
[one of the greatest unsolved problems of syntax].
- b. *Mary found a solution to ____ yesterday
[one of the greatest unsolved problems of syntax].

Thus, P-stranding in the RNR context is clearly against a rightward ATB movement analysis of RNR.

Now turn to the question whether an ellipsis analysis can account for the special status of P-stranding in the RNR context. As pointed out in Chung and Sohn (2007: 170), the answer seems rather negative. Notice that while VP-ellipsis and Sluicing, which are taken as instances of S-ellipsis, can be discourse-induced, P-stranding is never discourse induced.

- (18) A: Mary went to school this morning.
B: Tom did [~~go to school this morning~~], too.
- (19) A: John left early in the morning.
B: Do you know why [~~John left early in the morning~~]?
- (20) (=Chung and Sohn 2007: 170, (10))
A: Mary found a solution to [one of the greatest unsolved problems of syntax].
B: #And John will write a book about [~~one of the greatest unsolved problems of syntax~~].

Thus, it is implausible to consider the RNR as an instance of ellipsis, unlike VP-deletion and Sluicing.

3.4 Directionality

As pointed out in Wilder (1999), the gap in the RNR appears at the right edge of the non-final conjunct, but it never appears in the final conjunct.

- (21) a. John likes _____ and Peter hates your best friend.
b. *John likes your best friend and Peter hates _____.

In contrast, a gap in other ellipsis constructions such as VP-ellipsis and Sluicing normally appears in the right side or in the continuing discourse, while its antecedent appears to the left or in the previous discourse. Under an ellipsis account of the RNR, it is a mystery that the RNR only allows a backward deletion unlike other cases of ellipsis.

4. Remarks on P-ellipsis (Multiple Fragment Analysis)

This section focuses on the some non-trivial problems that Ahn and Cho's (2006) second type of the RNR, i.e., the RNR derived by P-ellipsis, faces. This type of the RNR is taken as having a multiple fragment structure, as schematically illustrated in (1b), repeated below.

(1) b. P-ellipsis

[a b c <x-y-z>] & [e f g <x-y-z>] & [pro_{a+e} pro_{b+f} pro_{c+g} <x y z>]

Condition: <x y z> and <x y z> are phonologically identical.

The following points will be made among others: (i) Distributivity is not germane to this type of RNR; (ii) A semantic problem arises in the interpretation of the third conjunct in the homophone cases; (iii) String identity is not strictly respected in some cases of P-ellipsis; (iv) When a wh-phrase is involved, the third conjunct violates Chung's (2008a) generalization that an overt question ending requires an overt wh-phrase in its scope domain; and (v) the P-ellipsis faces an overgeneration and undergeneration problem with respect to the scope interpretation of floating quantifiers.

4.1 Distributivity is not germane to the P-ellipsis

If an RNR structure contains a distributive marker, *kakkak* 'respectively', as in (8b) and (9b), it surely conveys a distributive reading. It is not the case, however, that absence of the distributive maker necessarily rules out a distributive reading. For example, (8a) and (9a) may convey a distributive reading as well.⁴ The same point can be made as to the case of CoRNR discussed in Section 3.2. Recall the ambiguous interpretations in (14) for the sentence in (13), repeated below:

(13) John loves and Peter hates [Mary and Susan].

(14) a. John loves Mary and Susan, and Peter hates Mary and Susan.

(Collective reading)

b. John loves Mary and Peter hates Susan. (Distributive reading)

Even without an overt distributive marker, (13) can convey a distributive reading. Thus, the difference in grammaticality between (5a)~(7a) vs. (5b)~(7b), if it is real, may not depend on the presence or absence of the marker. Notice that the sentences in (5a)~(7a), if they are grammatical at all, convey a distributive reading. See footnote 1 for the speakers' variation on the judgment of the sentences in (5a)~(7a).

4) In fact, the RNR generally conveys a distributive reading unless otherwise forced by the predicational relation, as in the cases of plural dependent elements or collective predicates in the shared part.

4.2 Semantics of RNR with Homophone Cases

The P-ellipsis operation or the multiple fragment analysis apparently solves the special status of plural dependent elements in the RNR context with the introduction of third conjunct in (1b). Consider the following sentences.

(22) (=Chung 2004; 9, (17))

- a. {*John-un / John-kwa Mary-nun} nonmwun-ul yelsimhi-**tul** ilk-ess-ta.
 J.-Top J.-and M.-Top article-Acc hard-DPM read-Pst-DE
 ‘{John / John and Mary} read articles hard.’
- b. John-un nonmwun-ul yelsimhi(*-tul) ilk-ko
 J.-Top article-Acc hard-DPM read-and
 Mary-nun chayk-ul yelsimhi(*-tul) ilk-ess-ta.
 M.-TopP book-Acc hard-DPM read-Pst-DE
 ‘John read articles hard and Mary read books hard.’
- c. John-un nonmwun-ul (kuliko) Mary-nun chayk-ul
 J.-Top article-Acc CONJ M.-Top book-Acc
 yelsimhi-tul ilk-ess-ta.
 hard-DPM read-Pst-DE
 ‘John read articles hard and Mary read books hard.’

Dummy plural marker *tul* requires a plural subject as in (22a). The same condition is operative even in a coordinate structure as in (b). Exceptionally, an RNR structure feeds the licensing of the dummy plural marker even if each conjunct has a singular subject, as in (c).

Ahn and Cho’s (2006) P-ellipsis provides an easy account for the grammatical status of (22c), as follows:

(23) [[John₁-Top article₃-Acc ~~hard-read~~] [Mary₂-Top book₄-Acc ~~hard-read~~]
 [pro₁₊₂ pro₃₊₄ hard-DPM read]]

The dummy plural marker in the third conjunct is licensed since it is linked to a plural subject, pro₁₊₂, which is in turn linked to split antecedents in the preceding two conjuncts.⁵⁾

This analysis, however, faces a problem with respect to the interpretation of

homophones. Consider the following example, cited from Ahn and Cho (2006: 64, their (35a)):

- (24) John-un khal-ul, Bill-un cenkwu-lul kalassta.
 J.-Top knife-Acc B.-Top light;bulb-Acc sharpened / changed
 'John (sharpened) a knife, and Bill changed a light bulb.'

Ahn and Cho (2006) take sentences like (24) as crucial evidence against the multiple dominance analysis: If the predicate were shared, it would be incompatible either with the complement in the first conjunct or with the one in the second conjunct. Involving a homophone predicate, (13) will only be derived by P-ellipsis as in (25) below. (The semantic disparity excludes the possibility of S-ellipsis.)

- (25) [[John₁-un khal₃-ul kalassta] [Bill₂-un cenkwu₄-lul kalassta]
 [pro₁₊₂ pro₃₊₄ kalassta]]

The predicates in the first and second conjunct can be deleted since they have the same phonetic value as the predicate in the third conjunct. The derivational process in (25), however, has a serious problem in its semantic interpretation of the predicate. The deleted predicates in the first two conjuncts do not cause any semantic problem since the (deleted) predicate in the first conjunct will have the reading 'sharpen', while the one in the second conjunct will have the reading 'change', so that they may be semantically compatible with the complement in each conjunct. The problem arises with the interpretation of the predicate in the third conjunct. Notice that the predicate *kalassta* in the third conjunct cannot be semantically determined since it is not compatible with the referent of the (complex) object, pro₃₊₄, which refers back to 'knife and light bulb'. No matter which reading the predicate may have, the semantic relation between the predicate and its complex object is incompatible. Note that neither 'sharpen a knife and light bulb' nor 'change a knife and a light bulb' satisfies such a semantic condition.⁶⁾

5) It will be shown in section 4.3 that the analysis in (23) itself contains a serious problem with respect to the condition for a string deletion.

6) One might try to avoid the semantic problem by claiming that the third instance of the predicate does not have much semantic content such that the distinction between 'sharpen' and 'change' is not required, since the two readings are already realized in the first two conjuncts. Once such a semantic weakening is allowed, however, the homophone case does not necessarily have to take

4.3 Non-strict String Deletion Cases

Although the plural dependency in the RNR appears to be well captured by Ahn and Cho's (2006) dual analysis, especially by the multiple fragment analysis, a new problem arises with their solution with respect to the string deletion. Consider the example in (26a), repeated from Chung (2004: (46)). According to Ahn and Cho (2006), it will have the structure in (26b), a multiple fragment structure, due to the presence of the dummy plural marker:

- (26) a. John₁-un nonmwun₃-ul, Mary₂-nun chayk₄-ul yelsimhi-tul ilk-ess-ta
 J.-Top article-Acc M.-Top book-Acc hard-DPM read-Pst-DE
 'John read articles and Mary read books hard.'
- b. [[John₁-un nonmwun₃-ul {yelsimhi-tul — ilk-ess-ta}
 J.-Top article-Acc hard-DPM read-Pst-DE
 [Mary₂-nun chayk₄-ul {yelsimh i-tul — ilk-ess-ta}
 M.-Top book-Acc hard-DPM read-Pst-DE
 [pro₁₊₂ pro₃₊₄ yelsimhi-tul ilk-ess-ta]]
 hard-DPM read-Pst-DE
- c. [[John₁-un nonmwun₃-ul {yelsimhi — ilk-ess-ta}
 J.-Top article-Acc hard read-Pst-DE
 [Mary₂-nun chayk₄-ul {yelsimhi ilk-ess-ta}
 M.-Top book-Acc hard read-Pst-DE
 [pro₁₊₂ pro₃₊₄ yelsimhi-tul ilk-ess-ta]]
 hard-DPM read-Pst-DE

The structure in (26b) predicts the legitimacy of the dummy plural marker in the third conjunct since it can be licensed by the plural subject (pro₁₊₂). Notice, however, that the dummy plural marker in the first and the second conjuncts is not licensed since there is no plural subject in the local domain that c-commands the plural dependent element. The dummy plural marker cannot be simply omitted, as in (26c), either, since the string deletion operation only applies to the phonologically identical strings.⁷⁾ Once

the multiple fragment structure. For example, a multiple dominance analysis will equally account for the homophone case, if the homophone predicate undergoes a sufficient semantic weakening.

7) In his thesis (2008) and series of papers (2006a,b, 2007), Ha proposes such a structure. See Chung (2008b)'s comments on Ha's analysis.

the dummy plural marker is excluded in the first two conjuncts, then the string deletion cannot apply since *yelsimhi ilk-ess-ta* is not phonologically identical to *yelsimhi-tul ilk-ess-ta*. Therefore, as far as the dummy plural marker *tul* is syntactically licensed, the multiple fragment analysis makes an erroneous prediction with respect to the licensing of the plural dependency in RNR.

A similar comment applies to the example in (27a), in which the distributive scope marker *kakkak* is properly contained in the string to be deleted.

- (27) a. John-un onul, Mary-nun ecey Tom-kwa Sue-lul
 J.-Top today M.-Top yesterday T.-and S.-Acc
kakkak manna-ess-ta
 respectively meet-Pst-DE
 'John and Mary met Tom and Sue today and yesterday, respectively.'
- b. [[John₁-un onul₃, Tom-kwa Sue-lul **kakkak** — manna-ess-ta-]
 J.-Top today T.-and S.-Acc respectively meet-Pst-DE
 [Mary₂-nun ecey₄ Tom-kwa Sue-lul **kakkak** — manna-ess-ta]
 M.-Top yesterday T.-and S.-Acc respectively meet-Pst-DE
 [pro₁₊₂ pro₃₊₄ Tom-kwa Sue-lul **kakkak** manna-ess-ta]]
 T.-and S.-Acc respectively meet-Pst-DE
- c. [[John₁-un onul₃, Tom-kwa Sue-lul — manna-ess-ta]
 J.-Top today T.-and S.-Acc meet-Pst-DE
 [Mary₂-nun ecey₄ Tom-kwa Sue-lul — manna-ess-ta]
 M.-Top yesterday T.-and S.-Acc meet-Pst-DE
 [pro₁₊₂ pro₃₊₄ Tom-kwa Sue-lul **kakkak** manna-ess-ta]]
 T.-and S.-Acc respectively meet-Pst-DE

If (35a) takes the derivation in (27b), the distributive scope in the first two conjuncts cannot be licensed since there is no plural element to be linked to. (27c) cannot be opted for, either, because the deleted parts in the first two conjuncts are not phonologically identical to the antecedent in the final conjunct due to the intervention of the distributive scope marker *kakkak*.

4.4 On the Restriction on the Correlative Relation between Question Ending and Wh-phrase

Question endings (QEs) and wh-phrases (WPs) in Korean may or may not be overtly realized, but the combination is not entirely free, as observed in Chung (2008a). The combination of an overt QE and a covert WP is prohibited, while the other three combinations are attested in Korean WH-questions. Consider the example in (28) (=Chung 2008a: (6)) and (29) (=Chung 2008a: (7)) below:

- (28) A1: Mary-ka nwukwu-lul_i manna-ess-no?
 M.-Nom who-Acc meet-Pst-QE_{wh}
 ‘Who did Mary see?’
 B1: Mary-ka Tom-ul manna-ess-ta.
 M.-Nom Tom-Acc meet-Pst-DE
 ‘Mary saw Tom.’
 A2: kulemyen, Sue-nun*(nwukwu-lul_i)manna-ess-no?
 then S.-Top who-Acc meet-Pst-QE_{wh}
 ‘Then (who) did Sue see?’
- (29) A: na-nun Chulswu-ka nwukwu-lul manna-ess-nunci al-n-ta.
 I-Top Ch.-Nom who-Acc meet-Pst-QE_{wh} know-Pres-DE
 ‘I know who Chulswu met.’
 B: kulem, (ne-nun) Yengi-ka *(nwukwu-lul) manna-ess-nunci-to
 then you-Top Y.-Nom who-Acc meet-Pst-QE_{wh}-also
 al-na?
 know-QE_{yes/no}
 ‘Then, do you also know who Yengi met?’

(28A2) is ungrammatical with the object WP suppressed, despite the fact that the same WP exists in the previous discourse in (28A1). The same can be said about the embedded wh-question as in (29). QEs are always overtly realized in the case of embedded wh-questions. (For that matter, all other mood markers are also required to be present in the embedded clause.) Although the WP in (29B) seems to be retrievable from the previous discourse, the ellipsis of the WP leads to an ungrammatical status. There must be an overt WP corresponding to the QE in an embedded interrogative clause.

With this much background knowledge in mind, let us return to the homophone case

of RNR, as in (30) below:

- (30) [[John₁-un khal₃-ul encey₅ kal-ess-ni] [Bill₂-un cenkwu₄-lul
 J.-Top knife-Acc when sharpen-Pst-QE B.-Top light;bulb-Acc
 etise₆ kal-ess-ni] [pro₁₊₂ pro₃₊₄ pro₅₊₆ kal-ess-ni]]?
 where change-Pst-QE sharpen / change-Pst-QE
 'When did John (sharpen) the knife and where did Bill change light bulbs?'

The third conjunct / fragment violates the theory, whatever it may be, that is responsible for the generalization about the distribution of the correlative relation between WPs and QEs. Note that there is no overt WP for the overt QE to be linked to in the third conjunct in (30).

4.5 Interpretation of Floating Numeral Quantifiers in the RNR

P-ellipsis seems to face both an overgeneration and undergeneration problem with respect to the interpretation of numeral quantifiers in the RNR. First, let us see how it faces an overgeneration problem. According to the dual analysis of RNR, the sentence in (31), which has a distributive scope marker *kakkak* 'respectively', would be derived by P-ellipsis, as in (32):

- (31) John-un namhaksayng-ul sey myeng, Mary-nun yehaksayng-ul
 J.-Top male;student-Acc three Cl M.-Top female;student-Acc
 twu myeng **kakkak** manna-ess-ta.
 two Cl respectively meet-Pst-DE
 'John met three male students, and Mary met two female students,
 respectively.'

- (32) [[John₁-un namhaksayng-ul sey myeng₃ manna-ess-ta]
 [Mary₂-nun yehaksayng-ul twu myeng₄ manna-ess-ta]
 [pro₁₊₂ pro₃₊₄ **kakkak** manna-ess-ta]]

Now consider the following sentence, which has an identical internal structure to the third conjunct of (32), except for the overt realization of the subject and object.

- (33) John-kwa Mary-nun namhaksayng-ul sey myeng,
 J.-and M.-Top male;student-Acc three Cl

yehaksayng-ul twu myeng kakkak manna-ess-ta.
 female;student-Acc two Cl respectively meet-Pst-DE
 ‘John and Mary met three male students and two female students,
 respectively.’

The sentence in (33) seems to be ambiguous as follows. The first reading it conveys is that the distributive scope marker quantifies over both the subject and the object: ‘John met three male students, and Mary met two female students, respectively’. Another reading that (33) conveys is that the distributive operator only quantifies over the subject: ‘John met three male students and two female students, and Mary met three male students and two female students also.’ The first two conjuncts in (32) are compatible with the second reading. However, (31) does not produce the second reading, weakening the motivation for the multiple fragment analysis.

The multiple fragment analysis also suffers from an undergeneration problem. Consider the example in (34), which includes a distributive scope marker *kakkak*. Having a distributive scope marker, the sentence should take a multiple fragment structure, as in (35).

- (34) John-un onul, Mary-nun ecey **kakkak** Tom-kwa Sue-lul
 J.-Top today M.-Top yesterday respectively T.-and S.-Acc
 manna-ess-ta
 meet-Pst-DE
 ‘John and Mary met Tom and Sue today and yesterday, respectively.’
- (35) [[John-un onul Tom-kwa—Sue-lul manna-ess-ta]
 J.-Top today T.-and S.-Acc meet-Pst-DE
 [Mary-nun ecey Tom-kwa—Sue-lul manna-ess-ta]
 M.-Top yesterday T.-and S.-Acc meet-Pst-DE
 [pro₁₊₂ pro₃₊₄ **kakkak** Tom-kwa Sue-lul manna-ess-ta]]
 respectively T.-and S.-Acc meet-Pst-DE
 ‘John and Mary met Tom and Sue today and yesterday, respectively.’

The RNR in (34) produces ambiguous readings: (i) John met Tom today and Mary met Sue yesterday, respectively; (ii) John met Tom and Sue today, and Mary met Tom and Sue yesterday, respectively. However, the analysis given in (35) is expected to have the second reading only, contrary to fact.

5. Conclusion

It seems to be the case that, as pointed out by Ahn and Cho (2006), all the properties displayed in the RNR are hardly accounted for by any single uniform analysis and a heterogeneous analysis approach is called for. Despite some genius in it, however, Ahn and Cho's (2006) dual analysis approach faces some empirical and theoretical problems. As shown in Section 3, there are some properties the RNR displays which cannot be accounted for by an ellipsis analysis, whether S-ellipsis or P-ellipsis, or any other version of ellipsis analysis thus far entertained in the literature. Section 4 has shown that P-ellipsis, which involves a multiple fragment structure, faces some additional problems with respect to the deletion operation and with respect to the semantic interpretation. For the moment I do not pursue any particular version of uniform or heterogeneous approach to account for all the RNR properties, but I vaguely conjecture that for a heterogeneous approach to be successful, it should be the one that does not simply resort to a single operation such as ellipsis, movement or multi-dominance, but to a mixture of these operations.

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