

FRAGMENTS AND ELLIPSIS IN KOREAN

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1. Introduction

B-S. Park (2005b) notes that like English (Merchant, 2004), Korean has so-called fragment answers (FAs) as in (1A) and (2A) below, as responses to the preceding question sentences in (1Q) and (2Q):

(1) Q: nwu-ka ku chayk-ul sass-ni?
who-Nom that book-Acc bought-Q

‘Who bought that book?’

A: Yungswu-ka [~~ti-ku chayk-ul sass-e~~].
Youngswu-Nom that book-Acc ate-Informal

‘Youngswu.’

(2) Q: John-i mwues-ul mekess-ni?
John-Nom what-Acc ate-Q

‘What did John eat?’

A: sakwa-luli [~~John-i ti mekess-e~~].
apple-Acc John-Nom ate-Informal

‘An apple.’

B-S. Park uses a battery of tests to argue that FAs are derived by PF deletion. This means that in (1A) and (2A), they are derived from clausal sources that have undergone deletion (or Fragmenting) after their extraction from within.

When we hold on to the Move and Delete analysis that B-S. Park adopts for the derivation of FAs, the question that arises is whether their derivation is island-sensitive or not. In fact, B-S. Park (2005b, 322) brings out the following examples to claim that the operation of Move involved for the derivation of FAs is island-insensitive.

(3) Q: John-un [nwu-ka cakokha-n nolay]-lul pulesse-ni?
John-Top who-Nom compose-Rel song-Acc sang-Q

‘*Who_i did John sing a song that _i had composed?’

A: Max-ka.
 Max-Nom
 ‘Max.’

(4) Q: John-un [casin-uy tongsayng-ekey mwues-ul cwu-n salam]-ul
 John-Top self-Gen brother-to what-Acc give-Rel person-Acc
 manass-ni?
 met-Q?
 ‘*What_i did John meet a person who had given t_i to his brother?’

A: sakwa-lul.
 apple-Acc
 ‘An apple.’

In this paper we concentrate on this issue of locality in deriving FAs in Korean. We are going to investigate this issue not only in so-called single fragment (answer) constructions but also in multiple fragment (answer) constructions. To this end we are going to argue that Move- \bar{c} -Delete derives FAs in Korean in a right way, scrutinizing the exact type(s) of movement involved, and that in Korean the FA survivors/remnants that move out of deletion are subject to an additional process of what we call peripheral ellipsis (PE).

2. Single Fragments

Before delving into the issue of locality in the derivation of a fragment answer (FA) in the ellipsis clause, it is instructive to first note that its derivation is contingent on the syntactic behavior of its correlate in the antecedent clause (i.e., the preceding question sentence corresponding to the ellipsis clause only with an FA survivor). In the recent analysis of ellipsis, the relation between an FA and its correlate, or more generally, the relation between a surviving element (i.e., survivor) and its correlate has been conceptualized as the so-called parallelism/identity condition on ellipsis (Fox and Lasnik, 2003; Merchant, 2008). Informally speaking, this condition dictates that a survivor like an FA in the ellipsis clause takes scope in a parallel fashion as its correlate in the antecedent clause does. Below we will often describe the syntactic behavior of an FA in terms of its correlate in the antecedent clause because the syntactic structure of the clause containing only the FA has been elided after its extraction from within.

It is well known that in Korean, the indefinite expression that corresponds to the *wh*-phrase in English generally stays in situ and is construed as a question phrase (QP) in link with the question/Q particle in the Comp position. Since Kyongsang dialect in Korean distinguishes an information and a polarity (*yes/no*) question by using different forms of Q particle (*-no* for information question; *-ka* for polarity question), it is more appropriate to use this dialect to pair FAs with the preceding associated question sentences.

In (5) the embedded QP (underlined in (5Q) below) in the single fragment construction is linked with the information question-licensing Q particle *-no* in the matrix clause.

(5) Q: yengi-ka [cheli-ka nwukwu-lul ttaylyess-ta-ko] malhayss-no?
 who-Nom Cheli-Nom who-Acc hit-Decl-Subord said-Q[+WH]

‘(Lit.) Yengi said that Cheli had hit who?’

A: cinswu-lul.
 Cinswu-Acc

‘(Lit.) Yengi said that Cheli had hit Cinswu.’

Thus, the movement involved in the derivation of a single FA is not clause-bounded, but can be long-distance.

In fact, such a movement is island-insensitive, as follows:

(6) Q: [cheli-ka nwukwu-eykey ponay-n] chayk-i hungmi-iss-no?
 Cheli-Nom who-to sent-Rel book-Nom interest-be-Q[+WH]

‘(Lit.) Is the book that Cheli sent to whom interesting?’

A: yengi(-eykey).
 Yengi-to

‘To Yengi.’

(7) Q: swuni-ka [cheli-ka nwukwu-eykey ku chayk-ul ponay-ess-ki
 Swuni-Nom Cheli-Nom who-to that book-Acc sent-Nm
 ttaymwun-ey] hwa-ka manhi nass-no?
 because-for anger-Nom much had-Q[+WH]

‘(Lit.) Was Swuni upset because Cheli sent that book to whom?’

A: yengi(-eykey).
 Yengi-to

‘To Yengi.’

The QP occurs within the relative clause in (6Q) or the adjunct clause in (7Q), but the FA in (6A) or (7A) is perfectly fine.

As predicted by Lasnik and Saito’s (1984) account for the argument vs. adjunct asymmetry in information-*wh*-question interpretation in Korean, the following examples show that the adjunct QP in an island context cannot be responded to by a single FA:

(8) a. Q: *[cheli-ka **way** peli-n] os-i yeki-ey nohy-e iss-no?
 Cheli-Nom why throw-Rel clothes-Nom here-at be put-ing be-Q[+WH]

‘(Lit.) Do you have put here the clothes that Cheli threw away **why**?’

A: nalk-ase.
 be worn out-adverbializer

‘Because it was worn out.’

b. Q: *cheli-nun [swuni-ka **way** ku os-ul pely-ess-ki
 Cheli-Top Swuni-Nom why that clothes threw-Nm
 ttaymwun-ey] hwa-ka nass-no?
 because-for anger-Nom had-Q[+WH]

‘(Lit.) Was Cheli upset because Swuni had thrown away those clothes **why**?’

A: nalk-ase.
 be worn out-adverbializer

‘Because they were worn out.’

The contrast between (6)-(7) and (8) clearly points to the fact that the syntactic derivation of the single FA hinges on that of its correlate QP in the antecedent clause. In other words, as the adjunct QP *way* ‘why’ in (8) cannot take scope in the matrix clause in link with the matrix Q-particle, the single FA cannot be derived licitly, because its movement to the matrix clause would violate the parallelism condition on ellipsis. Along the line of analysis proposed by Lasnik and Saito (1984), we submit that adjunct QPs in Korean undergo strictly local steps of XP-movement at LF and are ruled out when they move out of an island.

Unlike adjunct QPs, argument QPs are not only island-insensitive as seen in (6)-(7), but are also further embedded within the island context as in (9):

(9) Q: ?cheli-nun Yengi-eykey [minswu-ka [kyoswunim-i **eti-eyse**
 Cheli-Top Yengi-Dat Miswu-Nom professor-Nom where-in
 palphyohassyess-tako] malha-n nonmwun-ul] chwuchenhayss-no?
 presented-Subord said-Rel paper-Acc recommended-Q[+WH]

‘Cheli recommended to Yenghi a paper that Miswu said that his professor presented **where**?’

A: SICOGG-eyse.
 SICOGG-at

‘Cheli recommended to Yengi a paper that Miswu said that his professor presented at SICOGG.’

It seems that there are currently three ways of accounting for island insensitivity of argument QPs in Korean. The first proposal is the analysis based on a one-fell swoop kind of displacement for them (Lasnik and Saito, 1984; Rizzi, 1990; Cinque, 1991). The second one is the unselective binding (Pesetsky, 1987; Tsai, 1994a, 1999a; Cole and Harmon, 1998; Bruening, 2007) or choice function approach to them (Reinhart, 1998; Hagstrom, 1998). The third one is the analysis based on downward (island-insensitive) Agree between the Q particle and an argument QP (Abe, 2017). Though we will not go into details to evaluate which proposal is on the right track in accounting for the island insensitivity of in-situ argument QPs in Korean, it seems that the third proposal based on Agree is a right one, considering question/*wh*-island sensitivity in deriving single FAs, which we will turn to directly.

Note that Kyengsang dialect displays question/*wh*-island sensitivity, as follows:

- (10) Q: ?*cheli-nun [swuni-ka nwukwu-eykey ku chayk-ul ponayess-nunci]
 Cheli-Top Swuni-Nom who-to that book-Acc sent-Comp
 al-ko iss-no?
 know-ing be-Q[+WH]
 ‘(Lit.) Does Cheli know whether Swuni sent that book to whom?’

A: yengi(-eykey).
 Yenghi-to
 ‘To Yenghi.’

8 speakers of this dialect that we consulted unanimously rated the dialogue in (10) as not coherent. Here again, the inappropriateness of this dialogue is ascribed to the fact that the QP within the scope of the embedded Q particle in (10Q) cannot be associated with the matrix Q particle, exhibiting the question/*wh*-island effects because of the intervening embedded Q particle. The ECP-based or unselective binding/choice function-based approach to QPs in-situ in this dialect cannot account for question/*wh*-island sensitivity in an effective way. However, the Agree-based approach to them has room for accommodating question/*wh*-island sensitivity. Crucially, if this approach forbids Agree to relate one Q-particle to a QP over another intervening Q-particle, it follows that (10Q) will be ruled out, as required. Thus, Agree is sensitive to the existence of an intervening element with the same feature(s) that a probe has.

Though the argument QP in the antecedent clause can take scope thanks to the Q-particle without moving to the phrase projected by it, the corresponding FA is supposed to literally undergo movement from the clause to be deleted, as assumed in the Introduction. There are, however, cases where what you see as an FA is not what has been moved from the clause to be deleted. One such case is (11), where two forms of FA are allowed:

(11) Q: cheli-ka nwukwu-uy chayk-ul pillie kass-no?
 Cheli-Nom who-Gen book-Acc borrow-verbal went-Q[+WH]

‘Whose book did Cheli borrow?’

A1: yengi-uy chayk-ul.
 Yengi-Gen book-Acc

‘Yengi’s book.’

A2: yengi-uy ~~chayk-ul~~.
 Yengi-Gen book-Acc

‘Yengi’s book.’

The FA in (11A1) is straightforward. Since Korean obeys the Left Branch Condition (LBC), the bigger NP containing the QP has been extracted from the clause to be deleted. By contrast, it can be hypothesized that the FA in (11A2) is derived in two ways. On the one hand, it is derived in the same way as (11A1), but the right periphery of the bigger NP is subject to additional ellipsis; because of the structural context where it applies, let’s call it peripheral ellipsis (PE). On the other hand, in (11A2) the Genitive-marked FA by itself is moved and ends up violating the LBC, but the violation is redeemed by virtue of what is called repair-by-ellipsis (Merchant, 2001).

We argue that the former option but not the second option is a viable one, on the basis of the following example:

(12) Q: cheli-ka nwukwu-uy etten inhyeng-ul kacyekass-no?
 Cheli-Nom who-Gen which toy-Acc took-Q[+WH]

‘Which toy of whose did Cheli take?’

A: yengi-uy cak-un [~~inhyeng-ul~~]
 Yengi-Gen small-Rel toy-Acc

‘Yengi’s small one.’

(12Q) is analogous to (11Q), except for the additional question phrase *etten* ‘which’ in front of the common noun phrase. Since the neighboring two answer phrases corresponding to the two QPs do not form a constituent, their LBC-violating movement cannot be a right option for the derivation of the FA in (12A). Thus, in the parallel fashion to (11A2), we keep to the operation of PE that applies to elide the right edge of the containing NP that has been moved from the clause to be deleted.

We now turn to another case which has been analyzed as involving the so-called pied-piping strategy which allegedly applies when the QP is contained in the island structure (Choe, 1987;

Fiengo et al, 1988). (13) and (14) below are taken from Choe (1987) with some modifications:¹

(13) ?[CP.[TP.[NP.[CP.[TP.[NP.[CP.[TP.nwu-ka...chwuk-ess-ta]-nun] kisa]-lul
who-Nom die-Past article-Acc
panpakha]-n] salam]-ul manna-ess-upnik] ka]?
criticize person-Acc meet-Past Q

‘*Who_t did you meet the person who criticized the article (that says) that t_t died?’

(14) (Answers to (13))

A1: Andropov- ka cwuk-ess-ta-nun kisa-lul panpakha-n salam-ul.

‘the person who criticized the article that Andropov has died.’

A2: (?)Andropov-ka cwuk-ess-ta-nun kisa-lul.

‘the article that (says that) Andropov has died.’

A3: (?)Andropov-ka.

Andropov-Nom

‘It’s Andropov.’

Responding to the question in (13), there are three FAs available as in (14A1-3). (14A1) is the usual kind of ‘long’ pied-piped answer, and (14A2) and (14A3) are ‘short’ and ‘shorter’ FAs. Now the question that arises is how (14A2) and (14A3) are derived, given the option of PE. Like (11A2), there are two ways of deriving (14A2) and (14A3). One is to derive them by using the repair-by-ellipsis strategy: as the argumental QP in the antecedent clause can take scope at the phrase projected by the matrix Q particle, the corresponding answer phrase (or the bigger containing answer phrase in the case of (14A2)) moves to the beginning of the sentence despite missteps of island-crossing derivation that are going to be repaired by ellipsis. The other is to derive them by means of PE: in this case, we first use the pied-piping strategy to prepose the ‘long’ FA as in (14A1), afterwards applying PE to derive ‘short’ or ‘shorter’ FA in (14A2) and (14A3).

(13) and (14) involve an island-forming relative clause (RC). One peculiar aspect of FA formation in Korean is that in addition to the RC plus relative head NP (RHN) combination as an FA, either a RC or the portion of it can serve as an FA, as follows:

¹ In Choe’s (1987) original examples, the FA NPs’ in (14a-c) end with the copula followed by tense and mood markers. Among those cases with verbal ending, the ‘shorter’ answers corresponding to (14a-b) were rated as marginal as indicated with ??. We replaced the inflected copulas with Case markers, in which case (14a-b) improve in acceptability, as indicated with (?).

(15) Q: cheli-ka [nwukwu-lul piphanha-n chayk-ul] ilkess-no?
 Cheli-Nom who-Acc criticize-Rel book-Acc read-Q[+WH]

‘Did Cheli read a book that criticized who?’

A1: [khullinthen-ul piphanha-n chayk-ul].
 Clinton-Acc criticize-Rel book-Acc

‘Cheli read a book that criticized Clinton.’

A2: [khullinthen-ul piphanha-n chayk-ul].

A3: [khullinthen-ul piphanha-n chayk-ul].

(15A1) is a ‘long’ pied-piped FA, but either the RC as in (15A2) or the part of it as in (15A3) (which is an answer phrase exactly corresponding to the QP) serves as an FA. Because the RC in (15A2) will invite a violation of the LBC if it moves, it is instead derived via PE that applies to the RHN after the extraction of the RC plus RHN combination from the clause to be deleted.

The PE-based analysis for the derivation of an FA from within a RC seems to be on the right track, considering the following kind of FAs:

(16) Q: mina-ka [sensayngnim-i nwukwu-lopwuthe patu-n chayk-ul]
 Mina-Nom teacher-Nom who-from receive-Rel book-Acc
 ilkess-no?
 read-Q[+WH]

‘Did Mina read a book that the teacher received from whom?’

A1: [sensayngnim-i yengi-lopwuthe patu-n chayk-ul].
 teacher-Nom Yengi-from receive-Rel book-Acc

‘Mina read a book that the teacher received from Yenghi.’

A2: [sensayngnim-i yengi-lopwuthe patu-n chayk-ul].

A3: [sensayngnim-i yengi-lopwuthe patu-n chayk-ul].

A4: [yengi-lopwuthe sensayngnim-i patu-n chayk-ul].

What deserves particular attention among the FAs in (16A1-4) is (16A3), where the subject NP and the oblique case-marked NP within the RC do not form a constituent. Supposing that it is impossible to extract from the ellipsis site the two NPs that do not form a constituent, we argue that PE is a right strategy of deriving (16A3) and (16A2) & (16A4) alike, together with (15A2) & (15A3). In this analysis, as pointed out above, the pied-piping strategy is first taken to extract the bigger constituent from the clause to be deleted, avoiding the violation of an island constraint, afterwards the pied-piped, bigger constituent having its right periphery elided

optionally, yielding such cases as (16A2-4) and (15A2-3) alike.

3. Multiple Fragments

3.1. Simple MF Answers

We now turn to the so-called multiple fragment (MF) (answer) construction, which is derived by the operation of Fragmenting as clausal ellipsis, leaving behind more than one survivor in the answer sentence of the question-answer dialogue (cf. B-S. Park (2005a); Y-J. Choi and J. Yoon (2009); B-S. Park (2013); N-Y. Ku and S-Y. Cho (2014); M-K. Park and U-J. Shin (2014)). One example representing the MF construction is as follows:

(17) Q: i senmwul-ul nwu-ka nwukwu-lopwuthe patass-no?
 this present-Acc who-Nom who-from received-Q[+WH]

‘Who received this present from whom?’

A1: yengi-ka cheli(-lopwuthe).
 Yengi-Nom Cheli-from

‘Yengi, from Cheli.’

A2: cheli-lopwuthe yengi(-ka).
 Cheli-from Yengi-Nom

‘Yengi, from Cheli.’

In (17A1) and (17A2), the two FA survivors originate from the same clause. Because the Superiority condition is not enforced in Korean, the two FA survivors may be switched around in word order, yielding either (17A1) or (17A2). Regarding the retainability of the Case marker/postposition, the first FA survivor obligatorily bears the same Case marker/postposition as its correlate,² but the second FA survivor can be optionally dropped.

As shown in (17) above, the MF answer phrases derived from the same clause are acceptable. However, the MF answer phrases derived from the different clauses become substantially degraded, as follows (M-K. Park and U-J. Shin (2014); cf. B-S. Park (2005a)):

(18) Q: nwu-ka [cheli-ka nwukwu-lul ttaylyess-ta-ko] malhayss-no?
 who-Nom Cheli-Nom who-Acc hit-Decl-Subord said-Q[+WH]

‘Who said Cheli hit who?’

² However, when the first FA survivor without a Case marker/postposition is followed by an intonational break, the resultant sentence becomes fine. This option is often known as the hanging topic strategy, which we will come back to below in the text.

A: *yengi-ka cinswu(-lul).
 Yengi-Nom Cinswu(-Acc).

‘(Lit.) Yengi said that Cheli hit Cinswu.’

The contrast between (17) and (18) indicates that the MF formation obeys the well-known clause-mate condition. That is, the FM answer phrases that are left behind by the operation of Fragmenting are generally derived from the same clause.

However, B-S. Park and S-Y. Bae (2014) pose a challenge to the clause-mate condition on the derivation of MF answers in Korean. They note that two MF answer phrases can be derived from different clauses only when one of them is at the left edge of the clause immediately lower than the clause housing the other one, as in (19)-(20) ((19Q) and (19A1) are directly cited from B-S. Park and S-Y. Bae (2014), and the other examples are newly constructed ones):

(19) Q: Max-ka nwukwu-ekey [CP nwu-ka ppang-ul mekess-ta-ko] malhayss-no?
 Max-Nom who-to who-Nom bread-Acc ate-Dec-C say-Q[+WH]
 ‘Who did Max tell who ate bread?’

A1: Bill-ekey John(-i). Park and Bae (2014)
 Bill-to John(-Nom)

‘(Lit.) Max told Bill that John ate bread.’

A2: ?(??)John-i Bill-ekey
 John-Nom Bill-to

‘(Lit.) Max told Bill that John ate bread.’

(20) Q: cheli-ka nwukwu-eykey [PRO mwues-ul ilk-ulako] malhayss-ni?
 Cheli-Nom who-Dat what-Acc read-Decl-Subor said-Q[+WH]
 ‘Who did Cheli tell to read what?’

A1: yengi-eykey Preminger-uy chayk(-ul)
 Yengi-Dat Preminger-Gen book-Acc

‘(Lit.) Cheli told Yengi to read Preminger's book.’

A2: ? Preminger-uy chayk-ul yengi-eykey
 Preminger-Gen book-Acc Yengi-Dat

‘(Lit.) Cheli told Yengi to read Preminger's book.’

As in (A1) of (19)/(20), the Dative + Nominative/Accusative FA sequence that mirrors the word order of the two QPs in the preceding question sentence is fine, as noted by B-S. Park and S-Y. Bae (2014). In addition, the Nominative/Accusative + Dative FA sequence that is derived via

scrambling as in (A2) of (19)/(20) is also fine (though as B-S. Park and S-Y. Bae (2014) note, it is slightly degraded).³

Besides, in deriving MF answers the second FA survivor at the left edge of the lower clause may be accompanied by the third one in the same clause, as follows:

(21) Q: cheli-ka nwukwu-eykey [nwu-ka mwues-ul mekess-tako] malhayss-no?
 Cheli-Nom who-Dat who-Nom what-Acc ate-Decl-Subor said-Q[+WH]
 ‘Who did Cheli tell who ate what?’

A1: minswu-eykey swuni-ka phica(-lul). Park and Bae (2014)
 minswu-Dat swuni-Nom pizza-Acc
 ‘(Lit.) Cheli told [Minswu] that [Swuni] ate [pizza].’

A2: ?{swuni-ka phica-lul / phica-lul swuni-ka} minswu-eykey
 swuni-Nom pizza-Acc pizza-Acc swuni-Nom minswu-Dat
 ‘(Lit.) Cheli told [Minswu] that [Swuni] ate [pizza].’

Remember that as shown in (18), the matrix subject FA survivor cannot be combined with the embedded object FA survivor in deriving the MF answer. As in (21), however, the FA survivor at the edge of the lower clause serves as a mediator/linker, legally grouping together the other two FA survivors.⁴

³ We will come back to the degradedness of this instance presently.

⁴ English has multiple *wh*-questions whose construal is necessarily a single-pair reading. The multiple *wh*-questions below, cited from Dayal (2002), have this property: they can only be construed as requesting a single pair.

- (i) a. Which student read the book that which professor wrote? Dayal (2002: 515)
- b. Which student got a headache after she read which book? Dayal (2002: 515)
- c. Which linguist will be offended if we invite which philosopher? Dayal (2002: 512)
- d. Which student believes that Mary read which book? Dayal (2002: 617)

In these instances, the two QPs underlined are separated by an island or a finite complementizer and therefore do not interact scopally with each other.

However, as Dayal (2002) points out, the additional *wh*-phrase at the left edge of the lower clause helps permit a multiple-pair reading for otherwise non-interacting two *wh*-phrases, as in (ii).

- (ii) Which student knows where Mary bought which book?

The availability of a multiple-pair interpretation in English in (ii) bears resemblance to the formation of MF sentences in Korean. We will, however, leave it for further research to make sense out of this parallelism.

The most remarkable feature of MF formation in Korean is that (18A) (or (22A1)), which is ruled out by the clause-mate condition on MF formation, improves in acceptability by switching around the two answer phrases in word order, as in (22A2):

(22) Q: nwu-ka [cheli-ka nwukwu-lul ttaylyess-ta-ko] malhayss-no?
 who-Nom Cheli-Nom who-Acc hit-Decl-Subord said-Q[+WH]
 ‘Who said Cheli hit who?’

A1: *yengi-ka cinswu-lul
 Yengi-Nom Cinswu-Acc
 ‘(Lit.) Yengi said Cheli hit Cinswu.’

A2: ?cinswu-lul yengi-ka
 Cinswu-Acc Yengi-Nom
 ‘(Lit.) Yengi said Cheli hit Cinswu.’

To account for the acceptability of the MF formation in (22A2), B-S. Park and S-Y. Bae suggest that this example is derived as in (23). In this representation, the whole embedded clause is moved to the beginning of the sentence and undergoes Fragmenting (or clausal ellipsis) after excavating as a survivor the embedded object from within.

(23) ?[X/FP cinswu-lul₃ [X/FP [~~CP~~ cheli-ka t₃ ttaylyess-ta-ko]₂ [X/FP yengi-ka₁ [~~TP~~ t₁—t₂ malhayss-e.]]]]

The derivation in (23), however, has a couple of disadvantages. Note that it involves the so-called ‘scattered’ applications of ellipsis. One instance of ellipsis is Fragmenting/or clausal ellipsis that applies immediately behind the matrix subject now in [Spec,X/FP], and the other is CP deletion applying immediately ahead of it. As will be noted, the scattered application of ellipsis would also wrongly allow some incorrect cases, which will be examined below in the next section. In addition, it would also allow (22A1) with the following derivation, contrary to fact:

(24) *[X/FP yengi-ka₁ [X/FP [~~CP~~ cinswu-lul₃ [~~CP~~ cheli-ka t₃ ttaylyess-ta-ko]₂ [TP t₁—t₂ malhayss-e.]]]]

In (24), the embedded CP first moves to the matrix [Spec,X/FP], then the embedded object moving to the edge of the embedded CP, and the matrix subject moving over the embedded clause to the outer layer of X/FP. As in the derivation in (24), the embedded CP and the matrix TP would be elided ‘scatteredly’, incorrectly generating (22A1).

We thus argue that the movement of the whole embedded clause, followed by CP ellipsis after excavating one survivor from within, would rule in such ungrammatical cases as (22A1) and thus cannot be allowed as an option for the MF formation in Korean. We instead suggest

that (22A2) involving word order reversal is derived by the operation of scrambling that puts the embedded object FA survivor in front of the matrix subject FA survivor.

Taking the *direct scrambling* approach to moving to the matrix clause the embedded object FA survivor in (22A2), we reformulate the clause-mate condition that governs the MF formation in Korean, as follows:

(25) The ‘revised’ clause-mate condition

Two or more FA survivors/their QP correlates are in the same clause, but one FA/QP at the left edge of a lower clause but not in the elsewhere domain is accessible to another FA/QP in the immediately higher clause (as dictated by the phase impenetrability condition (PIC) (cf. Chomsky, 2001)).

How come does this condition regulate the MF formation in Korean? We submit that, unlike the single QP in the single fragment construction that serves as a variable (Heim, 1982) or as a choice function variable (Reinhart, 1998), the multiple QPs corresponding to the MF answer phrases are, in nature, quantificational. Following Fox (2000) (see also May (1977, 1985)), we assume that as they are quantificational, multiple QPs are regulated by the economy principle and take scope via QR at the smallest propositional phrase dominating them, afterwards undergoing absorption (May and Higginbotham, 1981). Otherwise (say, when they take scope via QR not at the smallest propositional constituent, but at the bigger one), it would infringe on the economy principle. Consequently, post-QR absorption cannot apply to pair together two QPs that come from different clauses, particularly being separated by the overt Nominative Case-marked embedded subject. Recall also that the survivors in the ellipsis clause are restricted in the syntactic derivation as their correlates (QPs in our examples) in the antecedent clause are (Fox and Lasnik, 2003; Merchant, 2008, among others). In other words, the survivors and their correlates observe the so-called scope parallelism.

We can now explain the contrast between (22A1) and (22A2) in the following way. In the parallel fashion as their QP correlates in the antecedent clause do, the multiple answer phrases in (22A1) have undergone QR in the ellipsis clause. In compliance with scope parallelism, the two answer phrases in the ellipsis clause are quantificational and thus required to be clause-bounded, but they are not. Violating the condition in (25), they cannot feed into post-QR absorption, but they did, which is to blame for the unacceptability of (22A1). Likewise, the multiple answer phrases in (22A2) cannot undergo absorption after QR in the ellipsis clause, because the second answer phrase is prohibited from taking a long-distance QR from the embedded clause to the matrix clause. However, there is an alternative way of moving the embedded object answer phrase to the matrix clause and relating it with the matrix subject answer phrase. This option is scrambling. The second FA survivor in (22A2) can undergo scrambling over the first one in the ellipsis clause. There is nothing wrong with this derivation using the operation of scrambling. Note that when the scrambling option is taken, the multiple FA survivors are different from their QP correlates in word order. By contrast, if the post-QR absorption-driven strategy is taken, the multiple FA survivors retain the word order that their

QP correlates have.

Coming back briefly to (19A2) (though (20A2) & (21A2) are accounted for on a par with (22A2)), we have argued that MF answers can be derived via the scrambling strategy. However, as was indicated by ?(?), (19A2) is quite degraded, in contrast to (22A2) [and 20A2] & (21A2)]. We ascribe the marginal acceptability of this example to the ban on subject scrambling (see Kuno (1973) and Saito (1985)). In contrast, as for the Korean speakers who rate (19A2) as acceptable, they seem to rule this example in by virtue of allowing for long-distance subject scrambling (see K-W. Sohn (1995) and H-J. Ko (2005) for the arguments advocating (long-distance) subject scrambling in Korean). Meanwhile, both (20A1) and (21A1) are ruled in without any problem because the second FA survivor from subject position occurs at the left edge of the lower clause. Meeting the condition in (25), it thus undergoes QR rather than subject scrambling and feeds into post-QR absorption. It is to be underscored that the difference between (19A2) and (20A1) & (21A1) lies in the type of movement involved for extraction of the subject NP out of ellipsis: the former utilizes scrambling, and the latter, QR.

Before moving further, we summarize the two key ingredients for the analysis of Korean MF formation. We have argued that one key operation that derives MF in Korean is an overt instance of QR-cum-absorption⁵ that applies to multiple FA survivors as well as to multiple QPs (cf. K-W. Sohn, 1994). As Saito (1994) and K-W. Sohn (1994) show, the operation is subject to the clause-mate condition or, specifically to the reformulated one in (25). In addition to this operation, the other operation is scrambling readily available to Korean for the permutation of sentential constituents.

- (26) a. An overt instance of QR-cum-absorption, which is subject to the 'revised' clause-mate condition in (25)
 b. Scrambling, which is not subject to the condition

In the next section we bring out a more complex kind of examples illustrating MF formation in Korean, showing that these two operations conspire to derive MF answers in Korean successfully.

3.2. Complex MF Answers

We now turn to what we call complex MF answers where the second FA survivor is derived from the island-forming structure. This kind of examples are initially reported by Chung (2015):

⁵ The operation of absorption was originally proposed to apply to multiple *wh*-questions (May and Higginbotham, 1981; see also Saito (1994) and Sohn (1994) in the counterpart construction in Japanese and Korean). We assume, as argued in the text, that MF answer phrases that take parallel scope to multiple *wh*-phrases (cf. Merchant, 2004) are also subject to absorption after undergoing QR.

(27) Q: Cheli-ka nwukwu-eykey [eti-ey sa-nun chinkwu-lul] sokayhayss-no?
 Cheli-Nom who-Dat where-at live-Rel friend-Acc introduced-Q[+WH]

‘To whom did Cheli introduce the friend who lives where?’

A1: Yengi-eykey [Seoul-ey sa-nun chinkwu-lul].
 Yengi-Dat Seoul-at live-Rel friend-Acc

‘(Lit.) Cheli introduced to Yengi the friend who lives in Seoul.’

A2: Yengi-eykey [Seoul-ey sa-nun chinkwu].

A3: Yengi-eykey [Seoul-ey sa-nun].

A4: Yengi-eykey [Seoul-ey].⁶

A5: Yengi-eykey [Seoul].

Chung (2015)

A4’: * [Seoul-ey] Yengi-eykey.

The two comments are in order concerning an assortment of question-answer pairs in (27). First, the island-forming RC plus the following RHN after replacing the QP with the answer phrase serves as the second FA survivor as in (27A1), but PE can subsequently apply to its right periphery linearly from right to left, producing the different forms of second FA survivor in (27A2)-(27A5). Note that the second FA survivors, for example, in (27A4) and (27A5), look as if they were extracted out of the RC island. However, they are not. As argued in the previous sub-section, MF formation in Korean is fed either by QR or scrambling. Since the MF answers in (27A4) and (27A5) retain the word order of the QPs in the antecedent clause, they would be derived via QR. But the second FA survivors in (27A4) and (27A5) cannot undergo QR because they would cross the RC island. Thus, both the first ‘simplex’ and the second ‘complex’ FA survivors as in (27A1) undergo QR meeting the condition in (25) and enter into absorption. After post-QR absorption, PE subsequently applies to the second potential survivor in (27A1) to derive such forms of second FA survivor as in (27A2)-(27A5). Second, when the second FA survivor is switched around in word order with the first one as in (27A4’), the resultant MF answer (in contrast to (27A4)) becomes completely unacceptable. The unacceptability of (27A4’) bolsters the thesis that the permutation of the FA survivors in the MF formation not reflecting the word order of the QP correlates is fulfilled by scrambling. Recall that in (17A2) & (19A2)-(21A2) and particularly in (22A2), scrambling may accomplish MF formation in Korean. However, scrambling of the second FA survivor out of the RC island over the first one is to blame for the resultant illegal MF formation in (27A4’).

⁶ As mentioned in the text, the MF answers in (27) except for (27A4’) with their acceptability rating are directly taken from Chung (2015). We admit that there are some Korean speakers who do not agree on the acceptability of, particularly (27A4) and (27A5). See Chung (2015) for the discussion of speaker variation in such MF answers.

The following question-answer pairs in (28) exhibit the same traits of behavior as those in (27):

(28) Q: cheli-ka nwukwu-eykey [[nwu-ka ssu-n chayk-i] choyko-lako]
 Cheli-Nom who-Dat who-Nom write-Rel book-Nom the best-Subor
 malhayss-no?
 said-Q[+WH]

‘Who did Cheli tell the book who wrote was the best?’

A1: yengi-eykey [chomsukhi-ka ssu-n chayk-i].
 Yengi-Dat Chomsky-Nom write-Rel book-Nom

‘To Yengi, the book Chomsky wrote.’

A2: yengi-eykey [chomsukhi-ka ssun chayk].

A3: yengi-eykey [chomsukhi-ka ssun].

A4: yengi-eykey [chomsukhi-ka].

A5: yengi-eykey [chomsukhi].

A4’: *[chomsukhi-ka] yengi-eykey.

The second FA survivor in (28A1) is also the island-forming RC plus the following RHN. It is derived from the subject position of the embedded finite clause. Note that it undergoes QR meeting the condition in (25) and enters into absorption with the first FA survivor. In this regard, (28A1) is comparable to (19A1), except that the second FA survivor in the former is structurally complex, unlike the one in the latter.

It is noteworthy that the first QP in the preceding question sentence need not be immediately adjacent to the island-forming RC & RHN combination containing the second QP, as in (29):

(29) Q: nwu-ka [minswu-eykeyse] [mwues-ul cal mantu-nun yolisa-lul]
 who-Nom Minswu-Dat what-Acc well make-Rel cook-Acc
 chwuchenpatass-no?
 recommended-Q[+WH]

‘Who recommended to Minswu a cook that is good at making what?’

A1: cheli-ka [phica-lul cal mantu-nun yolisa-lul].
 Cheli-Nom pizza-Acc well make-Rel cook-Acc

‘(Lit.) Cheli recommended to Minswu a cook that is good at making pizza.’

A2: cheli-ka [phica-lul cal mantunun yolisa].

A3: cheli-ka [phica-lul cal mantunun].

A4: cheli-ka [phica-lul cal].⁷

A5: cheli-ka [phica-lul].

A6: cheli-ka [phica].

A5': *phica-lul cheli-ka.

As in (29A1), there is no problem with pairing together the first 'simplex' FA survivor with the second 'complex' FA survivor in the MF formation because meeting the condition in (25), they licitly undergo QR, feeding into absorption. The second 'complex' survivor also undergoes subsequent PE from right to left, producing (29A2) through (29A6).

It is impossible, however, to construct the MF answer by combining together the first 'simple' FA survivor and the second 'complex' FA survivor that do not meet the clause-mate condition in (25). The following dialogues make a point:

(30) Q: cheli-ka nwukwu-eykey [minswu-ka [nwu-ka ssu-n chayk-ul]
 Cheli-Nom who-Dat Minswu-Nom who-Nom write-Rel book-Acc
 ilkesstako] malhayss-no?
 read-Decl-Subor said-Q[+WH]

'Who did Cheli tell Minswu read a book who wrote?'

A1: ?*yengi-eykey [chomsukhi-ka ssu-n chayk-ul].
 Yengi-Dat Chomsky-Nom write-Rel book-Acc

'Cheli told (to) Yengi a book Chomsky wrote.'

A2: *yengi-eykey [chomsukhi-ka ssun chayk].

A3: *yengi-eykey [chomsukhi-ka ssun].

A4: *yengi-eykey [chomsukhi-ka].

A5: *yengi-eykey [chomsukhi].

A4': *[chomsukhi-ka] yengi-eykey.

Note that (30A1) is ruled out because, like those in (22A1), the two FA survivors (though in (30A1) the second FA survivor is a complex one) do not obey the clause-mate condition in (25),

⁷ (29A4) with the clitic-like adverb *cal* 'well' as part of the second FA survivor is pretty degraded. It seems that PE is sensitive to prosodic phrasing, thus including it obligatorily in the portion to be elided when the adjacent element undergoes PE.

as they are from properly within the different clauses. As (30A1) is ruled out, all the other variant forms of MF answer in (30A2-30A5) where their second ‘shorter’ survivor is derived from the second ‘longer’ survivor in (30A1) via PE are also ruled out. In other words, the application of PE is contingent on the initial legitimate formation of MF. This provides conclusive evidence evincing that PE applies after the initial derivation of a ‘bigger’ FA survivor, if any.

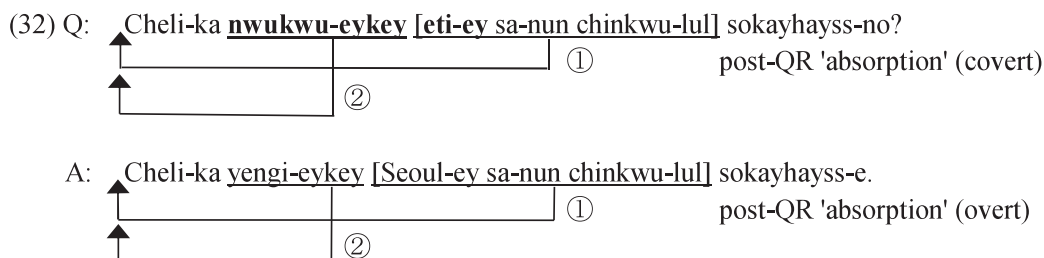
We now set up a more concrete analysis of MF formation in Korean, as follows:

(31) The proposed analysis

A pied-piped constituent containing an answer phrase undergoes an overt instantiation of QR followed by absorption,⁸ and it subsequently enters into optional PE.

Since in this analysis, an answer phrase is simply included in a pied-piped constituent of island structure, it does not involve a movement out of it, thus obviating a violation of an island constraint. In other words, as argued by Choe (1987), in Korean the preferred answer to a constituent question when a QP is included in an island is formed by simply taking the pied-piping strategy of moving a bigger constituent containing an answer phrase in deriving single/multiple fragment answers because the movement of the answer phrase alone using QR or scrambling would result in violating an island constraint.

Adopting the *pied-piping* approach to the complex kind of FA survivor, we go further to suggest that MF formation is accomplished by an overt instantiation of post-QR absorption (Saito, 1994; Sohn, 1994; see also May and Higginbotham (1981)) or ‘Turk-In movement’ (Richards, 2001) that preserves word/phrase order for FAs/QPs. For example, the MF sentence in (27A1) is derived in the following way.



Pied-piping-QR and absorption conspire to derive the structure that feeds into deletion. To repeat, the second answer phrase *Seoul-ey* ‘in Seoul’ within the RC island cannot undergo QR alone out of it. As an alternative to this illegal QR, however, the bigger constituent including it may undergo pied-piping QR. Post-QR overt absorption of the two FA survivors at the periphery of TP then converts (27A1) to (33):

⁸ Post QR-driven overt absorption is analogous to what Takano (2002) calls ‘surprising constituent formation’, in terms of the derivational output.

(33) (27A1) converts to the following structure:

[[yengi-eykey]₁ [Seoul-ey sa-nun chinkwu-lul]₂]-[TP-Cheli-ka t₁ t₂ sokayhayss-e]]].
 ↑ Optional PE

TP ellipsis yields (27A1), where the two FA survivors retain the word order of their counterparts in the preceding question sentence. We have also seen that the second FA survivor in (27A1) has its right periphery elided, as indicated in (33). Specifically, PE that applies at the periphery of the second/final survivor immediately before the elided TP can be informally defined as follows (there seems to be some parallelism between PE and *Max-Elide* in Merchant (2008)⁹).

(34) Peripheral ellipsis (PE) (optional)

PE applies optionally to the right periphery of the second/final survivor immediately preceding the elided TP.

We now turn to evaluate the validity of some predictions that our proposed analysis makes. First, when pied-piping QR-driven overt absorption in (31) and optional PE in (34) come into play in the MF formation in Korean, the survival of (the portion containing) an answer phrase left behind from an island is banned except that the island is part of the final pied-piped, temporarily-surviving constituent. This prediction is borne out, as in (35), cited from H-S. Kim and B-S. Park (2015, (37)). We add (35Q1) to an array of question-answer pairs:

(35) Q1: nwu-ka [mwues-ul kaci-n salam-ul] chacko iss-no?
 who-Nom what-Acc have-Rel person-Acc look for-Q[+WH]

‘Who is looking for a person that has what?’

Q2: [mwues-ul kaci-n salam-ul] nwu-ka chacko iss-no?
 what-Acc have-Rel person-Acc who-Nom look for-Q[+WH]

‘Who is looking for a person that has what?’

⁹ Merchant (2003) proposes the conception of Max-Elide to explain the obligatory elision of the bigger TP rather than the smaller VP, as in (i):

(i) Mary was kissing someone, but I don’t know who (*[she is]).

Lasnik and Park (2013), however, show that the ungrammatical version of (i) with the smaller VP elided is ruled out independently of Max-Elide, arguing that its stipulation is attributed to general conditions such as the chain uniformity condition and the parallelism condition on ellipsis.

Now what Max-Elide captures is that, as in VP ellipsis of English as in (iia-b), ellipsis is both minimal or maximal.

(ii) a. Mary said you would arrive, and Sue also said you would.

b. Mary said you would arrive, and Sue also did.

In this respect, Max-Elide bears resemblance to PE in the text.

A1: [master key-lul kaci-n salam-ul] cheli-ka
 master key-Acc have-Rel person-Acc Cheli-Nom

‘(Lit.) Cheli is looking for a person who has a master key.’

A2: [master key-lul kacin salam] cheli-ka

A3 * [master key-lul kacin ~~salam-ul~~] cheli-ka

A4: ?*[master key-lul ~~kacin salam-ul~~] cheli-ka

A5: (*)[master key-~~lul kacin salam-ul~~] cheli-ka

(Kim and Park (2015), (37), which is a set of Q2 & A1-A5 above)

In the question (35Q1) and its MF answer (35A1), the latter is derived via scrambling of the second pied-piped bigger constituent over the first FA survivor. Since scrambling in Korean is not subject to the Superiority condition, word order reversal of the first with the second FA survivor via scrambling is a legitimate option. By contrast, in the question (35Q2) and its MF answer (35A1), the latter is derived via post-QR overt absorption of the first pied-piped bigger constituent together with the second FA survivor. Irrespective of which is an antecedent question sentence that (35A1) responds to, PE cannot apply to the right edge of the first (i.e., non-final) pied-piped bigger constituent in (35A1), as shown in (35A3) and (35A4). Recall that if we employed the ‘scattered’ application of ellipsis as in B-S. Park and S-Y. Bae’s (2014) analysis of (22A2) as represented in (23), we would allow such MF answers as (35A3) and (35A4), contrary to fact. It is also noteworthy that scrambling cannot apply to move the resultant FA survivor (as in (34A4)) out of the first pied-piped bigger constituent because scrambling is simply island-sensitive (Saito, 1985).¹⁰

¹⁰ We will briefly review the three recent proposed ideas on the MF formation in Korean (although thorough comparisons of these previous studies with ours in the text are not the main concern here).

D-H. Chung (2015: 583) formulates the c-command condition between focus elements (i.e., answer phrases) in multi-focused fragment answers, as in (i):

- (i) The focus element (including a *WH*-correlate) in the non-final position pied-pipes the minimal node that dominates it and c-commands the focus element(s) that follows, while the focus element in the final position optionally pied-pipes its dominating node(s).

In D-H. Chung’s analysis utilizing the condition (i), the contrast between (27A2-A5) and (35A3-A4) is ascribed to the obligatory application of piped piping to the non-final FA survivor(s). Though he argues that the final FA survivor is derived not via ellipsis but the non-application of pied-piping, he does not address why (27A4’) is not acceptable, while (22A2) is.

H-S. Kim and B-S. Park (2016) capitalize on repair-by-ellipsis at PF, viewing ‘any intervening lexical item’ between the extracted FA survivor and the island as an offending element in PF. For example, (27A3) is ruled out because Kim and Park’s analysis dictates that it is derived as follows,

At this point we comment on the acceptability of (35A5) as well as (35A2) where the first FA survivor has the Case marker dropped. Recall that the first FA survivor is allowed without a Case/postposition marker since it can be generated as a left-dislocated hanging topic (Y-T. Hong, 2012a, b; Y-T. Hong and S-W. Kim. 2013). In the parallel form as (35A5), (36A2) unlike to (36A1) seems to be acceptable where the first answer survivor *chomsukhi* ‘Chomsky’ is interpretively (not via the Move but via the hanging topic strategy) linked with a position inside the subject RC:

(36) Q: [nwu-ka ssun chayk-i] nwukwu-eykey centaltoyess-no?
 who-Nom wrote book-Nom who-Dat was sent-Q[+WH]

‘Who was a book who wrote sent to?’

A1: *chomsukhi-ka yengi-eykey.
 Chomsky-Nom Yengi-Dat

‘(Lit.) A book that Chomsky wrote sent to Yengi.’

A2: chomsukhi yengi-eykey.

Put concisely, in the MF formation in Korean there are two strategies of saving answer phrases from island structures. The first strategy is to apply PE to the final pied-piped bigger constituent, leaving the ultimate FA ‘survivor’ apparently free from island structure by eliding the latter’s right periphery. Note, however, that PE cannot apply to the first FA survivor in (36A1) because it does not meet the structural context where it applies. The second strategy is to capitalize on the hanging topic option, generating outside of island structure the ultimate Case/postposition-less FA survivor linked to the potential first pied-piped bigger constituent. Note that neither strategy involves any literal extraction out of an island, thus not inducing a violation of any island constraint.

crucially via Move-based extraction of the surface FA survivor from within the TP to be deleted:

(ii) = (27A3) *[master key-lul kacin]₂ [cheli-ka]₁ [_{TP} t₁ [_{island} t₂ salam-ul] chacko-iss-ta]

Note that violating the LBC, the first FA survivor in (ii) is moved out of the island within TP ellipsis. According to them, repair-by-ellipsis cannot rescue this derivation owing to the offending intervener *cheli-ka*. H-S. Kim and B-S. Park can account for the contrast between (27A2-A5) and (35A3-A4) as well as the unacceptability of (27A4’), but it is only a stipulation to have it that the intervener like *cheli-ka* in (ii) ‘break(s) the dependency relation’ between the FA survivor and the island.

D-H. An (2016) formulates what he calls Extra Deletion that applies in PF. This operation has two distinctive features. One is that it applies to the final FA survivor immediately after TP ellipsis applies. The other is that it is not constituent-based, but string-based, thus applying only to the right edge of the final FA survivor up to the recoverability condition. His analysis can account for the contrast between (27A2-A5) and (35A3-A4), on the ground that Extra Deletion does not apply to the non-final potential FA survivor, but only to the final one. But it seems that his analysis is short of accounting for the contrast in acceptability between (27A4’) and (22A2).

When the pied-piped bigger constituent is potentially neither the first nor the final survivor, it cannot be affected by PE nor by the hanging topic strategy, as shown by the question-answer pairs in (37), cited from Chung (2015):

(37) Q: John-i nwukwu-eykey [eti-ey sal-nun chinkwu]-lul encey
 John-Nom who-Dat where-at live-Rel friend-Acc when
 sokayhayss-no?
 introduced-Q[+WH]

‘(Lit.)To whom did John introduce the friend who lives where?’

A1: Mary-eykey [Seoul-ey sal-nun chinkwu]-lul ecey
 Mary-Dat Seoul-in live-Rel friend-Acc yesterday

‘(Lit.) the friend who lives in Seoul, to Mary, yesterday’

A2: *Mary-eykey [Seoul-ey sal-nun chinkwu] ecey

A3: *Mary-eykey [Seoul-ey sal-nun] ecey

A4: *Mary-eykey Seoul-ey ecey

A5: *Mary-eykey Seoul ecey (Chung (2015))

In these question-answer pairs, the second pied-piped bigger constituent cannot have the internal answer phrase QR-ed nor scrambled from it. Note further that unlike the first survivors in general, the internal answer phrase cannot capitalize on the hanging topic strategy that would yield (37A5) because the strategy applies only to the leftmost pied-piped constituent, not to the medial nor to the final one.

We now turn to complex MF answers where the second (i.e. final) FA survivor evidently cannot be derived via Move. The relevant example representing them is in (38A), where the Genitive-marked answer phrase serves as the second FA survivor. As argued above, the Genitive-marked answer phrase is immobile because its movement would violate the Left Branch Condition, and thus, as noted by Park (2013) and Chung (2014, 2015), it may occur as a survivor when it is part of the final pied-piped bigger constituent, as in (38):

(38) Q: Cheli-ka mwues-ul [nwukwu-uy oppa-eykey] cwuess-no?
 Cheli-Nom what-Acc who-Gen brother-Dat gave-Q[+WH]

‘What did Cheli give to whose brother?’

A1: sakwa-lul [Yengi-uy oppa-eykey].
 apple-Acc Yengi-Gen brother-Dat

‘(Lit.) Cheli gave an apple to Yengi’s brother.’

A2: sakwa-lul [Yengi-uy oppa]

A3: sakwa-lul [Yengi-uy]

A4: sakwa-lul [Yengi]¹¹

The second pied-piped bigger constituent may subsequently have its right periphery elided via PE, leaving behind only the Genitive-marked FA survivor, without violating the Left Branch Condition, thereby with (38A3) and (38A4) ruled in.

When the Genitive-marked answer phrase is contained in the first pied-piped bigger constituent, it cannot take advantage of PE, therefore yielding the unacceptable MF answer as in (39A3):

(39) Q: Cheli-ka [nwukwu-uy oppa-eykey] mwues-ul cwuess-no?
 Cheli-Nom who-Gen brother-Dat what-Acc gave-Q[+WH]

‘What did Cheli give to whose brother?’

A1: [Yengi-uy oppa-eykey] sakwa-lul
 Yengi-Gen brother-Dat apple-Acc

‘(Lit.) Cheli gave an apple to Yengi’s brother.’

A2: [Yengi-uy oppa-eykey] sakwa

A3: *[Yengi-uy] sakwa-lul

A4: *[Yengi] sakwa-lul

This confirms the thesis that either extraction out of or application of PE to the first pied-piped bigger constituent is illegal. Note that the hanging topic strategy would yield (39A4). Since it does not involve any movement, (39A4) should be fine, but it is not. We conjecture tentatively that the hanging topic strategy can apply to the argument NP with the structural Case marker, but not to the NP with the Genitive marker.

The following example as an FA answer in (40A1) has the pied-piped bigger constituent containing the Genitive-marked answer phrase that serves as the second survivor:

(40) Q: nwu-ka [nwukwu-uy oppa-eykey] mwues-ul cwuess-no?
 who-Nom who-Gen brother-Dat what-Acc gave-Q[+WH]

‘Who gave what to whose brother?’

¹¹ Some Korean speakers may disagree on the acceptability of (38A4). See the relevant discussion in Chung (2015: 581, fn. 5).

A1: Cheli-ka [Yengi-uy oppa-eykey] sakwa-lul
 Cheli-Nom Yengi-Gen brother-Dat apple-Acc

‘(Lit.) Cheli gave an apple to Yenghi’s brother.’

A2: Cheli-ka [Yengi-uy oppa-eykey] sakwa

A3: *Cheli-ka [Yengi-uy] sakwa-lul

A4: *Cheli-ka [Yengi] sakwa-lul

The question-answer pairs in (40) are analogous to those in (39), in that neither the Genitive-marked FA survivor as in (40A3) nor the FA survivor without the Genitive-marker as in (40A4) is allowed, as predicted by our proposed analysis.

We have seen that the answer phrase surviving from the final pied-piped bigger constituent is located at its left edge. Now we turn to examine whether the answer phrase can be embedded further within the final pied-piped bigger constituent. First of all, the following two examples in (41) and (42) show that it can be. In other words, it does not have to be at the left periphery of the final pied-piped bigger constituent:

(41) Q: cheli-nun nwukwu-eykey [minswu-ka] etten umsik-ul
 Cheli-Top who-Dat Minswu-Nom which food-Acc
 mekesste-n kos-ul] sokayhayss-no?
 ate-Rel place-Acc recommended-Q[+WH]

‘To whom did Cheli recommend a place where Minswu ate which food?’

A: yengi-eykey pwulkoki-lul.
 Yengi-Dat grilled beef-Acc

‘Chel recommended to Yengi a place where Minswu had eaten grilled beef.’

(42) Q: cheli-nun nwukwu-eykey [sensayngnim-i] eti-eyse palphyohasin
 Cheli-Top who-Dat professor-Nom where-in presented-Rel
 nonmwun-ul] chwuchenhayss-no?
 paper-Acc recommended-Q[+WH]

‘To whom did Cheli recommend a paper that his professor presented where?’

A: minswu-eykey SICOGG-eyse
minswu-Dat SICOGG-at

‘Cheli recommended to Minswu a paper that his professor presented at SICOGG.’

These examples show that the Nominative Case-marked phrase does not constitute an intervener within an island when the answer phrase in it is QRed to the left edge of the island.

After its QR, meeting the condition in (25) the first answer phrase in (41) and (42) undergoes post-QR absorption together with the second pied-piped bigger constituent, afterwards being fed into PE.

However, when the answer phrase within the final pied-piped bigger constituent is embedded further into the finite embedded clause, the resultant MF sentence becomes degraded substantially, as in (43) and (44).

(43) Q: ?*cheli-nun nwukwu-eykey [minswu-ka] [sensayngnim-i] eti-eyse
 Cheli-Top who-Dat Miswu-Nom professor-Nom where-in
 palphyohasyess-tako] malha-n nonmwun-ul] chwuchenhayss-no?
 presented-Subord said-Rel paper-Acc recommended-Q[+WH]

‘To whom did Cheli recommend a paper that Miswu said that his professor presented where?’

A: *yengi-eykey SICOGG-eyse.
 Yengi-Dat SICOGG-at

‘Cheli recommended to Yengi a paper that Miswu said that his professor presented at SICOGG.’

(44) Q: ?*tamtangkemsa-nun nwukwu-eykey [[[yongcwuni-ka
 prosecutor-in-charge-Top who-Dat Yongcwun-Nom
 [nwukwu-wa kyelhonhantanun] kisa-lul yuphohan]
 who-with get married-REL article-Acc circulated-Rel
 salam-ul chacko issnun] kyengchalkwan-ul mannakey hayss-no?
 person-Acc look for-Rel policeman-Acc meet did-Q[+WH]

‘For whom did the prosecutor in charge arrange to meet the policeman who was looking for the person who circulated the newspaper article that Yongcwun was going to get married to whom?’

A: *maynice-eykey swucin-iwa.
 manager-Dat Swucin-with

‘The prosecutor in charge arranged for the manager to meet the policeman who was looking for the person who circulated the newspaper article that Yongcwun was going to get married to Swucin.’

Since the preceding question sentences in (43) and (44) themselves are difficult to process, it is not easy to determine why the resultant MF answers in (43) and (44) become worse in acceptability. It suffices to note that the final pied-piped bigger constituent does not have to house the answer phrase at its left periphery, but it is obligatory to put it at the highest level of clause. We suggest that, like its corresponding QP, the answer phrase inside the final pied-piped bigger constituent is also quantificational, thus being clause-bounded (May, 1977, 1985;

Reinhart, 1991; Fox, 2000). In other words, the final pied-piped constituent that is one of the elements for the MF formation is quantificational, and its quantificational features stem from the answer phrase in it. Indeed the answer phrase in it is quantificational and is clause-bounded in QR. Thus, the degradedness of (43) and (44) is due to the fact that the final pied-piped bigger constituent cannot inherit quantificational features from the QP inside it.

Pursuing this line of analysis for MF formation in Korean, we now return to (22Q) and (22A1), which are repeated as (45Q) and (45A1), with (45A2) and (45A3) newly added:

(45) Q: **nwu-ka** [cheli-ka **nwukwu-lul** ttaylyess-ta-ko] malhayss-no?
 who-Nom Cheli-Nom who-Acc hit-Decl-Subord said-Q[+WH]

‘Who said Cheli hit who?’

A1: *yengi-ka cinswu-lul
 Yengi-Nom Cinswu-Acc

‘(Lit.) Yengi said Cheli hit Cinswu.’

A2: [yengi-ka] [cheli-ka cinswu-lul ttaylyesstako]

A3: [yengi-ka] [cinswu-lul eheli-ka ttaylyesstako]

The problematic aspect of (45A1) goes as follows. Suppose that the matrix subject answer phrase and the embedded complement clause are paired together to form the MF answer as in (45A2), which is fine. Note at this point that the embedded object answer phrase would serve as the second FA survivor if PE elided the right periphery of the embedded complement clause, as in (45A3). If these steps of operation were permitted, (45A1) would be ruled in, contrary to fact.

To address this problem, we suggest following Higginbotham and May (1981)¹² that, as have been assumed up to now, two (or more) quantificational NPs including pied-piped ones undergo QR and feed further into syntactic absorption, but an embedded complement clause is not quantificational, thus not undergoing QR nor subsequently feeding into absorption. This means that there is a crucial difference between a pied-piped answer NP/PP (such as the ones that have been used in the examples throughout the paper) and a pied-piped answer CP (such as the embedded complement clause in (45A2)). On the one hand, the pied-piped answer phrase such as the relative head NP may inherit quantificational features via QR-driven percolation from the answer phrase embedded within the RC. On the other hand, the pied-piped complement clause answer CP fails to do so from the answer phrase embedded within it. This

¹² Higginbotham and May (1981) propose a mechanism that forms at LF an "absorbed" NP that binds two trace positions. Schematically, syntactic absorption builds one NP from two adjoined NP's at LF. This syntactic operation is formulated in (i) below.

(i) Syntactic Absorption: ... [NP_i [NP_j ... ==> ... [NP_i NP_j]_{i, j} ...

failure is reasonably rooted in the mismatch between the answer phrase and the embedded complement clause in terms of semantic denotation. The relative head NP denotes an entity, but the complement clause CP denotes a proposition. There is no mismatch of such kind between the relative head NP and the answer phrase embedded within the relative clause; they are entity-denoting. Note that feature percolation via QR also has a consequence on the application of PE. Since the QR-driven feature percolation connects the relative clause-internal answer phrase with the relative head NP, only the former phrase part of the resultant MF answer is sufficient enough to recover (the content of) the latter. Thus, in compliance with the recoverability condition on ellipsis, the latter together with its neighboring elements may be part of the portion undergoing PE.

Remember, however, that though percolation-triggered PE cannot apply to (45A2) to derive (45A3), the following MF answer (repeated from (22A2)) responding to (45Q) improves substantially in acceptability:

- (46) ?cinswu-lul yengi-ka
 Cinswu-Acc Yengi-Nom
 ‘(Lit.) Yengi said Cheli hit Cinswu.’

We have argued that (46), where the first potential FA survivor is switched around in word order with the second one, is derived by scrambling the latter over the former, as scrambling out of the complement clause of non-island structure is allowed.

4. Conclusion

This paper has provided an analysis of fragment answers (FA(s)) in Korean in the single FA construction and the multiple FA construction alike. The key ingredient governing the distribution of FAs in the two constructions is the (scope) parallelism condition on ellipsis that dictates that the syntactic behavior of answer phrases is parallel to that of their QP correlates. In the single FA construction, the argument QP can be associated in a long-distance way, even over an island, with the Q particle in the matrix clause. In a parallel fashion, the answer phrase responding to it can undergo a long-distance movement out of the clause to be deleted. By contrast, in the multiple FA construction, two or more question phrases (QPs)/answer phrases are quantificational, thus being in principle clause-bounded in their scope-taking/ellipsis-escaping movement. In other words, multiple answer phrases (and their QP correlates) initially undergo overt QR, followed by absorption. Since QR feeding into absorption is clause-bounded, when an answer phrase is embedded within an island structure like a RC, it can take advantage of the so-called pied-piping strategy. Thus the pied-piped bigger constituent containing it enters into post-QR absorption with another answer phrase. This is the usual derivation of MF answers in Korean, but two additional operations apply and change the resulting forms of MF answers in Korean. One is peripheral ellipsis (PE), which applies to the final potential answer phrase constituent, eliding its right periphery. As now generally agreed,

Fragmenting is an operation of eliding TP, but PE can apply to elide additional elements immediately to the left of the elided TP. The other is scrambling that is readily available to Korean. One feature that distinguishes scrambling from QR-driven absorption is that in the MF formation, the former is word order changing, but the latter is word order-preserving. To boot, though scrambling is island-sensitive, it is not governed by the clause-mate condition that QR-driven absorption respects. All in all, in the MF formation both QR-driven absorption and scrambling combine together (the constituents containing) answer phrases, and the final answer phrase may undergo an additional process of PE.

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