Identity and Locality in Ellipsis

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This thesis investigates ellipsis phenomena. One of the goals of this thesis is to formulate proper identity conditions. One of such conditions that this thesis focuses on is often referred to as Parallelism in the literature. Under the standard assumption, Parallelism as a syntactic condition must be satisfied in order to license ellipsis. Parallelism requires that there be a parallel dependency between the antecedent and the elliptical clause (Fiengo and May 1994). It is standardly assumed that Parallelism needs to be satisfied outside the elliptical constituents. In contrast to this assumption, I argue that Parallelism needs to be satisfied only within the elided constituents. I also argue that Parallelism needs to be combined with certain semantic conditions. Examining various scope interactions in elliptical constructions in Korean, I maintain that focus effects play a crucial role in licensing ellipsis.

Another goal of this thesis is to use ellipsis to investigate the locality of movement and explores properties of chains. It is shown that while locality-violating movement is allowed in some elliptical contexts, certain types of movement that intermingle locality-observing movement and locality-violating movement are not allowed. I argue that these types of movement are ruled out by a version of Chain Uniformity (Chomsky 1991, Chomsky and Lasnik 1993). This thesis also shows that Chain Uniformity, combined with Parallelism, provides an account of the contrasts among various elliptical constructions in English and Korean with respect to island-(in)sensitivity (cf. Ross 1969, Merchant 2001).

Finally, this thesis examines Superiority. First, it is shown that examples like *What do you think who bought?* constitutes a problem for any analysis that assumes movement to the intermediate Spec of C before the matrix interrogative C enters the structure (whether or not feature checking with the intermediate head C is involved). The same problem arises in multiple wh-fronting languages such as Bulgarian and Serbo-Croatian. It is also shown that contra the standard assumption (Stjepanović 1999a, Merchant 2001), Superiority violations can be repaired by a later operation. On the basis of Chain Uniformity, I propose a novel analysis of Superiority. Under this analysis, Superiority has both derivational and representational aspect, which enables us to account for the possibility of repairing Superiority violations.

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Chapter 1: Introduction

Natural languages make use of ellipsis. However, not just any expression can undergo ellipsis. In Chomsky's (1965) terms, ellipsis must be recoverable. It is recoverable only when certain identity conditions are satisfied. Although the intuition is clear, formulating identity conditions is not an easy task since what is elided is not phonologically realized. It appears that strict identity is not required for licensing ellipsis. Consider (1):

(1) Bill called $Mary_i$, and she_i thinks that John did, too.

As Fiengo and May (1994) point out, if a strict identity must hold between the antecedent VP and the elided VP, we would incorrectly predict (1) to have the same status as (2):

(2) *Bill called $Mary_i$, and she_i thinks that John called $Mary_i$, too.

One of the goals of the dissertation is to investigate various ellipsis phenomena and attempt to formulate proper identity conditions.[1] One of such conditions that the dissertation focuses on is often referred to as Parallelism. Parallelism requires that there be a certain parallel dependency between the antecedent and the elliptical clauses (Fiengo and May 1994, Fox and Lasnik 2003 among others). Bringing new data into the picture, Chapter 2 of the dissertation is proposing a proper formulations of Parallelism.

Another goal of the dissertation is to use ellipsis to investigate the locality of movement. We will see that this is possible because Parallelism requirements specific to ellipsis interact with

[1] The framework of the dissertation is the Minimalist Program (Chomsky 1993, 1995, 1999, 2000, 2001).

movement in an interesting way. More specifically, the dissertation will show that ellipsis makes possible certain types of movement that are otherwise not allowed. Investigating ellipsis, then, enables us to indirectly investigate the nature of movement.

Based on elliptical constructions such as (3), the dissertation also explores properties of chains. Investigating interactions of Parallelism and locality of movement in these constructions will reveal how chains are formed. This is also a topic of chapter 2:

(3) a. John suspected Mary, who Bill did as well.

b. John suspected Mary, but I don't know who Bill did.

Constructions like (3) also enables us to investigate the issue of whether or not focused elements can undergo (covert) movement. Discussing the issue in detail, Chapter 2 will show that focused elements can undergo movement but that the movement is restricted by certain locality constraints.

Chapter 3 investigates certain contrasts between Sluicing in English and Sluicing in Korean. As observed by Ross (1969), certain island violations are ameliorated in Sluicing in English. [A constituent with strikethrough is elided]:

(4) a. I believe the claim that he bit someone, but they don't know who ~~I believe the claim that he bit.~~ (Complex NP Constraint, noun complement)

b. Irv and someone were dancing together, but I don't know who ~~Irv and were dancing together~~. (Coordinate Structure Constraint)

c. She kissed a man who bit one of my friends, but Tom doesn't realize which one of my friends ~~she kissed a man who bit~~. (Complex NP Constraint, relative clause)

In contrast to English, however, such amelioration effects do not show up in Korean, as in (5):

(5) ?*John-un [Bill-ekey mwuenka-lul cwun salam]-ul manassnun-tey,
John-Top Bill-Dat something-Acc gave person-Acc met:but
na-nun [mwuess-ul i-nci] molukesse
I-Top what-Acc Cop-Q not know
'John met a person who gave something to Bill, but I don't know what.'

Given a recent approach to amelioration effects of island violations in Sluicing which argues that certain islands are PF-islands hence their violations can be repaired by ellipsis at PF (Merchant 2001, Lasnik 2001b), one might hypothesize that islands in Korean are not PF-islands but LF-islands and thus cannot be repaired by ellipsis at PF. The dissertation will argue against this hypothesis by demonstrating that amelioration effects of island violations do show up in other elliptical construction in Korean. The relevant construction involves fragment answers. Arguing that fragment answers involve ellipsis, I observe that island violations in this construction are ameliorated, as in (6):

(6) Speaker A: John-un [Bill-ekey mwuess-ul cwun salam]-ul manass-ni?
John-Top Bill-Dat what-Acc gave person-Acc met-Q?
'lit What did John meet a person who gave to Bill?'
Speaker B: sakwa-lul
apple-Acc
'An apple.'

On the surface, the contrast between Sluicing and fragment answers in Korean on one hand, and the one between English Sluicing and Korean Sluicing on the other hand, is puzzling. In

Chapter 3, it will be argued that the contrasts between the constructions result from syntactic differences between them. More specifically, it will be argued that the contrast between English Sluicing and Korean Sluicing is due to my claim that in the latter, but not in the former, the wh-phrase in the elliptical clause moves to a position below CP in overt syntax. On the other hand, the contrast between fragment answers and Sluicing in Korean will be shown to be due to the fact that the former does not involve a wh-phrase.

Chapter 4 discusses Superiority. It will be shown that examples like (7) constitute a serious problem for <u>any</u> analysis that assumes movement to the intermediate Spec of C before the matrix interrogative C enters the structure (whether or not feature checking with the intermediate head C is involved). If we assume that CP is a phase, (7) at one point has the intermediate structure in (8):

(7) *What do you think who bought?

(8) $[_{CP}$ $[_{C'}$ C $[_{IP}$ who bought what]]]

The problem is that because the final attractor, the +wh C, is not yet present at the point of derivation in (8), we cannot enforce the Attract Closest +wh requirement, as standardly assumed. We cannot avoid the problem by assuming that the intermediate C is always assigned the +wh feature so that only *who* in (8) can be attracted to its Spec. This assumption cannot be adopted for various reasons. First, under this assumption, it would incorrectly be expected that other types of movement such as focus movement and topicalization would not drop by the intermediate Spec of CP. Simply saying that the intermediate C must attract the closest phrase would not work, either, since the closest phrase is the IP. One way or another, it looks like that in a system where movement to the intermediate Spec of CP in (7) takes place before the matrix +wh C enters the structure, the Attract Closest account of Superiority cannot be maintained. It will also be shown that the same problem arises in multiple wh-fronting languages such as Bulgarian and Serbo-

Croatian. Based on the chain (formation) condition proposed in Chapter 3, a novel analysis of Superiority will be proposed in depth that overcomes the problems noted above.

Another topic of Chapter 4 concerns (ir)reparability of Superiority violations. In contrast to (certain) island violations, Superiority violations cannot be repaired under ellipsis. This has been used to argue for a derivational approach to Superiority (Stjepanović 1999a, Merchant 2001): if a violation takes place during the derivation, it cannot be repaired by a later operation. However, it will be shown that in some contexts, Superiority violations can be repaired by a later operation in Serbo-Croatian. On the basis of this, I will argue for a mixed derivational/representational approach to Superiority.

As briefly mentioned, it is argued in Chapter 2 of this dissertation that Parallelism as a syntactic condition must be satisfied to license ellipsis. However, investigating a wider range of data will show that this syntactic condition needs to be combined with certain semantic identity conditions. This is another goal of this dissertation, which is taken up in Chapter 5. The arguments come from certain elliptical constructions in Korean, illustrated in (9):

(9) A: John-i chayk-ul ilkesse
John-Nom book-Acc read
'John read a book.'
B: nonmwun-to (ya)
paper-also be
'John read a paper too.'

Combined with the fact that Korean is subject to Scope Rigidity effects, the elliptical construction in (9) constitutes an excellent testing case to see whether or not semantic conditions are needed independently of syntactic identity conditions. Examining various scope interactions in elliptical constructions will lead me to conclude that certain semantic conditions are indeed independently needed.

Chapter 2: Appositive Antecedent Contained Deletion

1 Introduction

Various analyses have been proposed as to how to resolve ellipsis in Antecedent Contained Deletion (ACD), as illustrated in (1):[1]

(1) John suspected everyone that Bill did.

Under the standard assumption, the elided VP in (1) is contained within the matrix antecedent VP at some level of representation. If the content of the elided VP is supplied by copying the matrix VP, this will result in infinite regress since the copied VP contains the elided VP, as illustrated in (2) [The bold letters indicated that the element in question is copied]:

(2) John suspected everyone that Bill did **[suspect everyone that Bill did].**

A similar problem arises under the PF-deletion approach to ellipsis. Under this approach, an elided constituent is generated with full-fledged structure and terminal elements in overt syntax, and ellipsis process takes place at PF under identity. Here, the problem is that the ellipsis site is still contained within the antecedent, as shown in (3), hence the infinite regress re-emerges (i.e., the underlying source is infinite):

(3) John [$_{VP}$ suspected everyone that Bill did [$_{VP}$ suspect everyone that Bill did …]

[1] See Bouton (1970) for the earliest investigation of this construction.

To resolve ellipsis in ACD, it has been proposed that the ellipsis site is not contained within its antecedent at some level of representation. For instance, May (1985) argues that the infinite regress problem can be resolved by applying Quantifier Raising (QR) in LF to the constituent *everyone that Bill did* in (1) before copying takes place. After QR, the ellipsis site is not antecedent-contained anymore, and thus copying can take place without inducing infinite regress.[2] On the other hand, Baltin (1987) argues that the relative clause in (3) undergoes extraposition in overt syntax and thus the ellipsis site is not antecedent-contained at this level.

There is another type of ACD, as shown in (4):

(4) John suspected Mary, who Bill did, as well.

Unlike the ACD in (1), where the elided VP appears in a restrictive relative clause, the elided VP in (4) appears in an appositive relative clause. Let us call the latter Appositive Antecedent Contained Deletion (AACD), and the former Restrictive Antecedent Contained Deletion (RACD) (borrowing the terms from Lasnik 1995). The fact that the RACD in (1) and the AACD in (4) show the same grammaticality might suggest that whatever accounts for the RACD in (1) also accounts for the AACD in (4). However, as Lasnik (1995) points out, the two types of ACD show different patterns, when a broader range of data are taken into consideration. Some of the examples are given below:

(5) a. John stood near everyone that Bill did.

b. *John stood near Mary, who Bill did, as well.

(6) a. John selected a picture of everyone that Bill did.

b. *John selected a picture of Mary, who Bill did, as well.

[2] See section 2.1 for detailed discussion.

Given the contrast in (5) and (6), one might argue that unlike the case of RACD, an elided VP in AACD remains antecedent-contained (provided that (4) may involve an escape hatch, like object shift of the head of the relative together with the relative, that will allow the elided VP not to be antecedent-contained at some level of representation[3]).

However, this chapter will show that the elided VP in AACD is not contained within its antecedent VP at a relevant level of representation where ellipsis resolution can take place, just as in the case of RACD. Then, the question is why AACD contrasts with RACD, as in (5) and (6). In this chapter, it will be argued that the ungrammaticality of AACD in (5) and (6) is due to a violation of a Parallelism condition on ellipsis (cf. Fiengo and May 1994, Fox and Lasnik 2003). However, in order to account for a wider range of data, I will propose a modification of Parallelism. Under the standard assumption, at least in some cases, Parallelism needs to be checked outside the elided constituents. Contra the standard assumption, this chapter will argue that it suffices to check Parallelism within the elided constituent. The modified Parallelism will, however, require that certain types of movement be prevented independently. The chapter will argue that such movement is ruled out independently by a version of the Chain Uniformity condition (Chomsky 1991, Chomsky and Lasnik 1993). The proposals made in this chapter will set the stage for the chapters to follow.

The organization of this chapter is as follows. Section 2 reviews previous analyses of AACD. Section 3 sets the stage for an analysis of AACD. Section 4 provides an analysis of AACD and discusses other ellipsis phenomena. Section 5 provides an account of speaker variation regarding AACD. Section 6 discusses RACD. Section 7 concludes the chapter.

[3] See Lasnik (1995) and Hornstein (1995) for this line of analysis and section 2.2 for detailed discussion.

2. Appositive ACD

2.1 Two Types of ACD

The main concern of this chapter is AACD, as in (7). I will also, to some extent, discuss RACD constructions, as in (8), which have received more attention in the literature. Comparing these two types of ACD will help us understand AACD better.[4] (The constituent with strikethrough intends to mean it is elided.)

(7) a. John suspected Mary, who Bill did ~~suspect~~ as well.

b. John believed Mary, who Bill did ~~believe to be a genius~~ as well, to be a genius.

(8) a. John suspected everyone Bill did ~~suspect.~~

b. John believed everyone Bill did ~~believe to be a genius~~ to be a genius.

One of the major differences that will concern us later in this chapter is that in AACD, the head of the relative clause is a referential expression, for example, a name, whereas in RACD, it is usually a quantificational expression, such as a strong quantifier.[5]

As briefly introduced in section 1, there are two main approaches to ellipsis regarding how the elided constituent is generated. On one approach, the elided constituent is generated with full-fledged structure and terminal elements before Spell-Out (i.e., DS in pre-minimalist framework) and the ellipsis process takes place at PF. This approach is called PF-deletion approach (cf. Tancredi 1992, Chomsky and Lasnik 1993). On the alternative approach, the elided constituent is

[4] For some speakers (7b) and (8b) are slightly marginal, judged with ?.
[5] See Emonds (1979) and McCawley (1998) among others for syntactic and semantic differences between appositive relative clauses and restrictive relative clauses.

generated without terminal elements. The relevant terminal elements are produced at LF via copying the antecedent into the elided constituent. This approach is called LF-copying approach (cf. Wasow 1972, Williams 1977, May 1985, Hornstein 1995). Although the two different approaches may have different implications on the study of ellipsis, this chapter is neutral between the two.[6] For presentational purposes, however, the analysis to be proposed (section 3 and thereafter) assumes the PF-deletion approach.[7] The LF-copying approach is also discussed when necessary.

Adopting the LF-copying approach to ellipsis, May (1985) points out that RACD will involve infinite regress at LF if the elided VP remains contained within its antecedent VP.[8] Let us consider (9a), where the elided VP is indicated as [$_{VP}$ e]. If the antecedent VP is copied into the elided VP, the copied VP would include another empty [$_{VP}$ e] inside it, as shown in (9b). This representation is not interpretable at LF. Then, another copy operation would be required, but the result would also involve another empty VP, as shown in (9c). This will result in infinite regress:

(9) a. John suspected everyone that Bill did [$_{VP}$ e]

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[6] But see Lasnik (1972), Tancredi (1992), Chomsky and Lasnik (1993), and Merchant (2001) for arguments for the PF-deletion. See also chapter 3 for arguments for PF-deletion.

[7] As will be discussed in section 4, however, this chapter assumes that LF plays a certain role in licensing ellipsis (cf. Sag 1976, Williams 1977, Fiengo and May 1994, Fox 2000, Fox and Lasnik 2003). More accurately, it assumes, in line with Fiengo and May (1994) and Fox and Lasnik (2003), that LF is the level of representation where certain (structural) Parallelism conditions hold as licensing conditions on ellipsis. Under Chomsky's (1995) framework, this assumption might be a problem since LF cannot give any instructions to PF operations. This problem can be avoided if we assume that any VP or IP can in principle be elided at PF (provided that VP and IP are constituents that may undergo ellipsis in English) but ellipsis itself must be licensed by satisfying Parallelism at LF. This can be instantiated in various ways. For example, one could assume that in overt syntax, a constituent, say VP, is marked in a certain way specific for ellipsis. When spelled out to PF, the marking on VP instructs that VP may be elided at PF. At LF, the marking instructs that VP must be checked for Parallelism. If it satisfies Parallelism, the derivation survives. If it doesn't, it crashes. Note, incidentally, that under this assumption, Parallelism is checked only within the elided constituent. This is in fact what I propose in section 4. Of course, satisfying Parallelism cannot be sufficient for licensing ellipsis. There are other conditions needed for licensing ellipsis (e.g, Rooth's (1992a) semantic conditions based on Alternative Semantics for Focus (Rooth 1985) or Merchant's (2001) e-Giveness); see chapter 5 for a review of these conditions.

Note also that the problem does not arise under the assumption that the relevant movement that needs to be checked for Parallelism at LF in fact takes place covertly in overt syntax. Under this assumption, Parallelism is checked in overt syntax.

[8] See Sag (1976) for an earlier analysis which formed May's (1985) proposals to be presented below.

b. John suspected everyone that Bill $[_{VP}$ **suspected everyone that Bill did** $[_{VP}$ **e]]**

c. John suspected everyone that Bill $[_{VP}$ suspected everyone that Bill $[_{VP}$ **suspected everyone that Bill did** $[_{VP}$ **e]]**

May (1985) argues that the infinite regress problem can be resolved if we assume that the quantificational phrase (QP) undergoes quantifier raising (QR) together with the restrictive relative clause. He assumes that QR is an LF operation that adjoins QP to IP, as shown in (10a). At this point, the antecedent VP can be successfully copied into the elided VP, without inducing infinite regress (10b):

(10) a. [everyone Op Bill $[_{VP}$ e]]$_i$ [John $[_{VP}$ suspected t_i]]

b. [everyone Op_i Bill $[_{VP}$ **suspected** t_i]]$_i$ [John $[_{VP}$ suspected t_i]]

May (1985) also discusses AACD, based on data such as (11):

(11) *John suspected Mary, who Bill did

He argues that the ungrammaticality of (11) is due to the fact that names cannot undergo QR. Since they do not undergo QR, (11) will involve infinite regress if the antecedent VP is copied into the elided VP, as shown in (12):

(12) a. *John suspected Mary, who Bill did $[_{VP}$ e]

b. John suspected Mary, who Bill $[_{VP}$ **suspected Mary, who Bill did** $[_{VP}$ **e]]**

. However, as Wyngaerd and Zwart (1991) note, a minor adjustment to this example markedly improves its status, as shown in (13):

(13) a. John suspected Mary, who Bill did as well.

b. John suspected Mary, who Bill did not.

The grammaticality of the AACD in (13) raises the infinite regress problem again. If we assume, with May (1985), that names do not undergo QR,[9] infinite regress would arise and we would incorrectly predict the examples in (13) to be ungrammatical. If we assume that names undergo QR, we would expect AACD to show parallel grammaticality with RACD. However, as we will see in the following section, the expectation is not born out.

In this section, May's (1985) analysis of AACD was discussed. The following section will review other analyses of AACD and consider how they fare with respect to a wider range of AACD constructions.

2.2 Some Other Previous Analyses

2.2.1 Hornstein (1995)

Reviewing various problems for the QR approach for RACD, Hornstein (1995) offers a rather different approach to ACD. Hornstein argues that the operation that resolves the infinite regress problem is raising to Spec of AgroP, which moves an object NP/DP out of the VP to check its Case feature in LF.[10] As a result, elided VP contained inside that NP moves out of its antecedent. Hornstein takes it for granted that this type of ellipsis involves LF-copying, based on the assumption that LF is the relevant level where the raising takes place. Under this analysis, the

[9] If we assume that referential expressions can also undergo QR (cf. May 1991, Heim and Kratzer 1998), AACD would not involve infinite regress. However, this assumption cannot be maintained. See section 6 for discussion.

[10] See also Kitahara 1994, Pica and Snyder 1995.

infinite regress problem does not arise, as shown in (14b). In (14b), *everyone that Bill did* has raised to Spec of Agro, followed by LF-copying of the antecedent VP into the elided VP.

(14) a. John suspected everyone that Bill did $[_{VP}$ e]

b. John $[_{AgroP}$[everyone Op_i Bill **$[_{VP}$ suspected t_i]**]$_i$ $[_{Agro}[_{VP}$ suspected t_i]]

The LF raising analysis provides the same account for AACD, since it does not distinguish referential expressions from QPs in the relevant respect. The object NP in AACD also raises to Spec of AgroP together with the appositive relative to check its Case feature. After the raising, the antecedent VP can be copied into the elided VP, without inducing infinite regress, as in (15b):

(15) a. John suspected Mary, who Bill did $[_{VP}$ e] as well.

b. John $[_{AgroP}$[Mary, who_i Bill **$[_{VP}$ suspected t_i]**]$_i$ $[_{Agro}[_{VP}$ suspected t_i]]]

Hornstein argues that the contrast in (16) constitutes evidence for the LF raising analysis:

(16) a. John believed Mary, who Bill did as well, to be a spy.

b. *John believed Mary, who Bill did as well, is a spy.

(16a) is an ECM construction. Hornstein argues that (16a) is grammatical since the head of the appositive relative and the appositive relative raise to the matrix Spec of AgroP for Case checking. After the raising, the elided VP is not contained within the antecedent VP. Then, the antecedent VP can be copied into the elided VP, without inducing infinite regress. (16b) is ungrammatical since the option of raising to Spec of AgroP is simply unavailable.[11]

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[11]The RACDs that correspond to the examples in (16) show the same grammaticality, as in (i):

However, the LF raising analysis of both RACD and AACD faces certain problems. As pointed out by Lasnik (1993, 1995), this approach fails to account for the grammaticality of the following RACD:

(17) John stood near everyone that Bill did ~~stand near~~.

(18) John showed Mary everyone Bill did ~~show Mary~~.

Given the standard analysis of Case checking, the Case of *everyone* in (17) is checked by the preposition *near*. Then, *everyone* cannot raise to Spec of Agro to check its Case feature. Since it remains inside the antecedent VP, LF-copying of the antecedent VP will give rise to infinite regress.[12] The same problem arises with respect to (18) too. Discussing Pseudogapping in double object constructions, Lasnik argues that the Case checking position for the direct object is below the indirect object, which is dictated by Relativized Minimality.[13] Given that the direct object is

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(i) a. John believed everyone that Bill did to be a spy.
b. *John believed everyone that Bill did is a spy.

Under Hornstein's analysis, the ungrammaticality of (ib) is due to the fact that *everyone* cannot raise to Spec of AgroP, as in the case of (16b). It should be noted here that Larson and May (1990) argue that the contrast in (i) is due to restrictions on QR. Assuming the QR approach to ACD, they argue that (ib) is ungrammatical since the QP *everyone that Bill did* can not undergo QR out of a tensed clause. This will result in infinite regress at LF if LF-copying takes place. If we assume that names behave in the same way as QP does, the contrast in (16) can be straightforwardly accounted for. Note, however, that this analysis faces the same problems as Hornstein's analysis does. More specifically, this analysis predicts that all else being equal, RACD and AACD should always exhibit the same grammaticality. But as can be seen from the discussion regarding (17)-(20), the prediction is not borne out.

[12] Kennedy (1997) points out similar problems for the (LF) raising analysis.

[13] Considering various scopal phenomena in double object constructions, Hornstein (1995, Ch 8) suggests that the indirect object (NP_1) is adjoined to the direct object (NP_2) in the base position and they move to the Spec of AgroP to check Case as shown in (i):

(i) $[\ldots[_{IP} \ldots [_{AgroP} [NP_1 [NP_2]]_i \underline{[V{+}AgrO [VP \ldots V\ t_i]]}]]]]$

He argues that (i) is also a licit representation for ACD such as (18), since the constituent with the elided VP is moved out of VP and therefore infinite regress does not arise. However, (i) cannot be the right representation for ACD in (18) because with the representation in (i), the indirect object cannot be copied into the elided VP: in (i), what can be copied is the underlined constituent and this constituent does not include the indirect object. One might suggest there is a way out of this problem. For instance, we could partially delete the link in the A-chain in (i) in such a way that the indirect object remains in the tail of the chain while the direct object remains in the head of the chain. Then, the indirect object would be copied below the indirect object, the ellipsis cannot be resolved when LF-copying is applied. Nonetheless, (14) is grammatical.

Furthermore, the contrast between (17)-(18) and (19)-(20) suggests that AACD and RACD should be distinguished, as pointed out by Fiengo and May (1992) and Lasnik (1995) [data adapted from Lasnik (1995)]:

(19) *John stood near Mary, who Bill did ~~stand near~~ as well.

(20) *John showed Mary the new teacher, who Bill did ~~show Mary~~ as well.

The contrast strongly suggests that different analyses are needed for the two types of ACD.

Let us now consider one of the crucial assumptions made for AACD under the LF raising analysis. The LF raising analysis assumes that the head and the appositive relative form a constituent in LF and thus they together raise to Spec of AgroP. This would account for the contrast between *John suspected Mary, who Bill did as well* (14a) and **John stood near Mary, who Bill did as well* (19). Under this assumption, the latter is ungrammatical since the elided VP remains contained within its antecedent VP at LF due to the lack of raising to Spec of AgroP and thus LF-copying induces infinite regress. However, it is well known that unlike the restrictive relative clause, the appositive relative clause is not contained within the matrix clause at LF (see Emonds 1979, McCawley 1982, 1998, Safir 1986).[14] Let us first consider the examples in (21), which involve a restrictive relative clause:

(21) a. *He_i suspected everyone Bill_i's wife blamed.

b. Every scientist_i suspected everyone his_i wife blamed.

into the elided VP. However, Hornstein himself argues that partial deletion of the A-chain in (i) is not allowed, in order to account for scopal relations between the indirect and the direct object.

[14] This means that at LF, the matrix clause is not located higher than the appositive relative. Neverthless, I will keep using the term matrix clause, for ease of exposition. .

(21a) is ungrammatical due to a Condition C violation. (21b) shows that bound pronoun reading is possible. The same grammaticality is observed with ellipsis (=RACD), as shown in (22):

(22) a. *He_i suspected everyone Bill_i's wife did.

b. Every scientist_i suspected everyone his_i wife did.

The grammaticality in (22) can be accounted for if we assume, with Hornstein (1995), that the head and the restrictive relative form a constituent and move together to Spec of AgroP, avoiding the infinite regress problem. Given that the restrictive relative is still below the matrix subject after the movement, the grammaticality of (22) is accounted for.

However, the appositive relative clause contrasts with the restrictive relative clause in this respect:

(23) a. He_i suspected Mary, who Bill_i's wife blamed.

b. ??Every scientist suspected Mary, who his_i wife blamed.

In (23a), the Condition C violation is obviated. In (23b), bound reading is hard to get. Exactly the same pattern is observed with ellipsis (=AACD):

(24) a. He_i suspected Mary, who Bill_i's wife did as well.

b. ??Every scientist_i suspected Mary, who his_i wife did as well.

If the appositive relative clause moves (together with the head) to the Spec of AgroP and stays there, the grammaticality of AACD in (24) is unexpected. These facts suggest that the appositive relative is outside the matrix clause at LF.

One might argue that the appositive has to adjoin to an IP in the matrix clause at LF. This would account for why the matrix subject cannot bind into the relative clause in (24). However, the following examples show that this is not the case:

(25) a. He$_i$ thinks that John suspected Mary, who Bill$_i$'s wife blamed.

b. ??Every scientist$_i$ thinks that John suspected Mary, who his$_i$ wife blamed.

The examples in (25) involve another level of embedding. Still, the subject of the embedded clause cannot bind into the appositive relative. If the appositive relative can adjoin to the lower IP in the matrix clause, we would incorrectly expect the bound pronoun reading in (25b) to possible. If the analysis is on the right track, it follows that the head NP does not form a constituent with the appositive since the latter is not contained within the matrix clause.[15]

The examples in (26) also suggest that the appositive relative is not contained within the matrix clause:

(26) a. Who suspected Mary, who Bill's wife introduced to Max?

b. *Who suspected Mary, who Bill's wife introduced to whom?

[15] Potts (2002a, 2002b), however, argues that the head and the appositive relative form a constituent throughout the derivation. Potts proposes that the content of the appositive relative (nonrestrictive relative in his term) is contributed solely as a condition on felicitous contexts: it exists only as a conventional implicature or presupposition. Potts argues scope/binding effects, as discussed above, are straightforwardly accounted for under the analysis. This analysis would not lead one to expect that quantified expressions could be modified nonrestrivtively; it also makes no provision for the appositive relative being able to provide antecedents for pronouns, since the relative is not part of the projected truth-theoretic content. Working in the framework of Dynamic Syntax (Kempson, Meyer-Viol and Gabbay 2001), however, Kempson (2003) argue against Potts's analysis by providing examples like (i), where the appositive relative modifies a quantified expression and provides an antecedent for a pronoun:

(i) I saw a friend, who I ran up to with a book. He didn't want it (Kempson's (20))

I leave for future research evaluating these approaches with respect to AACD.

The contrast in (26) shows that the wh-in-situ phrase in (26b) renders the example ungrammatical. This can be straightforwardly accounted for if we assume that the appositive relative is not contained within the matrix clause, and thus cannot be c-commanded by the matrix C. Given that the interrogative C does not c-command the wh-in-situ, the wh-in-situ phrase cannot be licensed.

The claim that AACD is not antecedent-contained at LF raises a question: how can we account for the ungrammatical AACDs, such as **John stood near Mary, who Bill did as well?*. Since the elided VP is not antecedent-contained, all else being equal, it should be grammatical.

2.2.2 Lasnik (1995, 1999)

Lasnik (1995, 1999) proposes an overt raising (to Spec of AgroP) analysis of AACD. The analysis is based on his observation that there is a correlation between Pseudogapping and AACD.[16] The relevant examples are shown in (27)-(29), where (a) examples are Pseudogapping constructions:

(27) a. John suspected Mary and Bill did ~~suspect~~ Sue.

b. John suspected Mary, who Bill did ~~suspect~~ as well.

(28) a. *John stood near Mary and Bill did ~~stand near~~ Sue.

b. *John stood near Mary, who Bill did ~~stand near~~ as well.

(29) a. *John showed Mary the new teacher and Bill did ~~show Mary~~ the new student.

b. *John showed Mary the new teacher, who Bill did ~~show Mary~~ as well.

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[16] See also Lasnik (1993).

Adopting Koizumi's (1993, 1995) split-VP hypothesis, Lasnik argues that in overt syntax, the object *Sue* in (27a) raises to Spec of Agro to check the EPP feature. The relevant structure at this point of derivation is shown in (30):

(30) … and Bill_j did $[_{VP1}\ t_j\ [_{AgroP}\ \text{Sue}_i\ [_{VP2}\ \text{suspect}\ t_i\ ]]]$

If the structure is sent to PF at this point, the verb within VP2 can be elided.[17] The resulting construction is Pseudogapping. Lasnik further notes that when Pseudogapping is allowed, the corresponding AACD is also allowed, as shown in (27b). (28a) is ungrammatical, since the object of preposition *Sue* does not undergo overt A-movement to Spec of Agro. The claim that the object of the preposition *near* does not undergo A-movement is supported by the impossibility of Pseudopassive in (31):

(31) *Mary was stood near by John.

(31) shows that the object of the preposition *near* cannot undergo A-movement to Spec of Agrs. Given that the object of the preposition *near* cannot undergo A-movement, it follows that it cannot undergo A-movement to Spec of Agro either. This is why (28a) is ungrammatical. Note that the corresponding AACD in (28b) is also ungrammatical.

The analysis predicts that if in some cases the object of preposition can undergo A-movement in Pseudopassive, Pseudogapping should also be allowed. It makes a further prediction that if Pseudogapping is allowed, the corresponding AACD construction should also be allowed. As observed in Lasnik (1995), these predictions are borne out, as in (32):

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[17] Lasnik (1995) assumes the PF-deletion approach to ellipsis. Thus, for him, terminal elements in the elided constituent are present in overt syntax and ellipsis takes place at PF.

(32) a. Mary was spoken to by John.

b. John spoke to Mary and Bill did Sue.

c. ?John spoke to Mary, who Bill did as well.

The Pseudopassive construction in (32a) is acceptable, which means that preposition can be reanalyzed with the verb, hence can be stranded. Given that the object of a reanalyzing preposition can undergo A-movement, it can undergo overt A-movement to Spec of Agro to check the EPP feature, licensing Pseudogapping constructions such as (32b). And the possibility of Pseudogapping in (32b) correlates with the possibility of AACD in (32c).

In the double object construction in (29a), Relativized Minimality guarantees that the first object remains higher than the second object. Then, the first object cannot be elided without eliding the second object. This explains why (29a) is ungrammatical. The ungrammaticality of (29a) correlates with that of (29b). Under this analysis, it is correctly predicted that the first object can be a Pseudogapping remnant, as shown in (33a). Again, we find a correlation between Pseudogapping (33a) and AACD (33b):[18]

(33) a. ?John showed Mary the new teacher and Bill did ~~show~~ Susan ~~the new teacher~~.

b. ??John showed Mary, who Bill did ~~show the new teacher~~ as well, the new teacher.

[18]The marginal status of (33b) may be due to the fact that the wh-phrase in the appositive relative clause has moved from the indirect object position. This type of movement in general causes marginality. For instance, wh-movement of indirect object leads to the same marginality, as shown in (i):

(i) ??Who did Mary show t the new teacher?

Note also that the marginal status of (33b) also shows that the marginality caused by the wh-movement is not repaired by ellipsis.

Given the correlation between Pseudogapping and AACD, Lasnik suggests that AACD can be reduced to Pseudogapping. The relevant structure of (27b) is (34b), with irrelevant parts suppressed:

(34) a. John suspected Mary, who Bill did as well.

b. John $[_{VP1}$ $[_{AgroP}$ $[_{NP}$ Mary who Bill $[_{VP1}$ $[_{Agro}$ t_i $[_{VP2}$ suspected t_i $]]]]_j$ $[_{VP2}$ suspected t_j $]]]$

In (34b), the appositive relative and the head form a constituent and they raise to Spec of Agro in overt syntax. At this point, the VP2 in the appositive is not within its antecedent VP (VP2 in the matrix clause), hence VP2 can be elided.

This analysis accounts for the ungrammaticality of (28b). Since the object of the preposition cannot raise to Spec of Agro, the VP in the appositive ACD remains within the matrix VP, as shown in (35b):

(35) a. *John stood near Mary, who Bill did as well. (=(28b))

b. [John $[_{VP}$ stood $[_{PP}$ near $[_{NP}$ Mary [who Bill $[_{VP}$ stood $[_{PP}$ near t_i $]]]]]]]$

Given that the matrix VP is different from the VP inside the appositive relative, deleting the latter is not allowed. The ungrammaticality of (29b) can be accounted for in the same way.

Observing the contrast between AACD and RACD in (36)-(37), Lasnik further notes that while Pseudogapping is the sole process responsible for resolving the infinite regress problem in AACD, this cannot be the case in RACD. If the Pseudogapping were the sole process for RACD, RACD in (36b) and (37b) would be ungrammatical, contrary to fact:

(36) a. *John stood near Mary, who Bill did as well.

b. John stood near everyone Bill did.

(37) a. *John showed Bill the new teacher, who Mary did as well.

b. John showed Bill everyone Mary did.

However, if we assume following the standard assumption (cf. Sag 1976, May 1985, Fiengo and May 1994, Fox 2000) that ellipsis can be resolved at LF, the contrast between AACD and RACD above remain obscure, since as discussed above the elided VP in AACD is not contained within its antecedent at LF, as in the case of RACD. Later in this chapter, I will argue that a modification of Fox and Lasnik (2003) provides an account for the contrast between AACD and RACD.

2.2.3 Fiengo and May (1994)

Following May (1985), Fiengo and May (1994) adopts the QR analysis of RACD. For AACD, they propose Vehicle Change analysis.[19] Vehicle Change permits LF-copying/reconstruction to alter a value of some features, as in (38):

(38) a. They arrested $Bill_i$, though he_i thought they wouldn't.

b. They arrested $Bill_i$, though he_i thought they wouldn't [$_{VP}$ arrested $Bill_i$]

c. *He_i thought they wouldn't arrest $Bill_i$.

In (38), when the antecedent VP *[arrest $Bill_i$]* is copied into the elided VP, it would violate Condition C since Bill is c-commanded by its coindexed antecedent *he*, as in (38b). Then, we would incorrectly predict (38a) to be as ungrammatical as (38c). The operation of Vehicle

[19] See also Wyngaerd and Zwart (1991) for a Vehicle Change analysis of RACD.

Change, however, allows LF-copying to change the R-expression *Bill* specified as [-pronoun] into the pronoun *him*, satisfying Condition C.

Following Emonds (1979), Fiengo and May (1994) assume that the appositive is not part of the matrix clauses at LF. Then, they claim that the object of the matrix verb, *Mary*, in (39) is copied as a variable under Vehicle Change.

(39) [John suspected Mary] [who Bill did **[suspect t]** as well]

However, Vehicle Change fails to capture the ungrammatical AACDs in (40):

(40) a. *John stood near Mary, who Bill did as well

b. *John showed Bill the new teacher, who Mary did as well

c. *John selected a picture of Mary, who Bill did as well

If the appositive relative is not contained within its matrix in LF, the matrix VP can be copied into the elided VP under Vehicle Change. This means that in (40b), for example, *Mary* is copied as a variable under vehicle change. Then, all else being equal, (40b) should be grammatical, contrary to fact.

2.2.4 Abe and Hoshi (1999)

Abe and Hoshi (1999) propose a unified analysis for RACD and AACD. They argue that infinite regress can be resolved via rightward movement of the relevant XP (Heavy NP Shift (HNPS) or Extraposition). Adopting the LF-copying approach, they argue that RACD can involve either HNPS of the head and the restrictive relative, or Extraposition of the restrictive relative. RACD in (41a) can be represented as (41b) and (41c), respectively:

(41) a. John suspected everyone Bill did.

b. John [suspected t_i] [everyone Op Bill did [$_{VP}$ e]]$_i$[20]

c. [everyone$_i$ [John [suspected t_i] [$_{CP}$ Op Bill did [$_{VP}$ e]]]]]

In (41b), the head *everyone* and the relative undergo HNPS. After this operation, the elided VP is not contained within the antecedent VP and thus the latter can be copied into the former, without inducing infinite regress. (41c) involves Extraposition of the relative and QR of the head *everyone*. The QR of the head is necessary in (41c) since the QR of the head leaves a variable in the antecedent VP and then after LF-copying, the copied variable is bound by the operator of the relative clause. Again, the LF-copying in this case does not induce infinite regress. They further argue that of the two options HNPS and Extraposition, the latter is chosen since it is more economical. They first assume that extraposed elements such as the one (41c) are in fact base generated in their surface position since if it were to move, there would be trace/copy of them, hence the infinite regress problem could not be resolved. (41c) is then more economical than (41b) since it does not involve any movement.[21]

Abe and Hoshi provide an empirical argument for the claim that extraposition is chosen over HNPS. Consider (42):

(42) a. I saw a book that you did [$_{VP}$ e].

b. ??I saw John's book that you did [$_{VP}$ e].

[20] For Abe and Hoshi, the elided category is V' not VP. This difference is immaterial.
[21] It is not clear whether (41c) is in fact more economical than (41b). (41c) also involves a movement operation, namely, QR of the universal quantifier.

(42b) involves an NP modified with a possessor and is degraded compared to (42a). Under Abe and Hoshi's analysis, two options are, in principle, available for the RACD in (42), as shown in (43):

(43) a. I [saw t_i] [a/John's book that you did [$_{VP}$ e]]$_i$

b. I [saw a/John's book][that you did [$_{VP}$ e]]

(43a) involves HNPS, and (43b) extraposition. Of the two options, Economy dictates that the latter be chosen over the former. Then, they suggest that the contrast in (42) is due to a condition that prohibits extraposed relative clauses from modifying NPs with possessors. The examples in (44) show that extraposition causes a week violation when it applies to a relative clause that modifies an NP with a possessor NP, as shown below:

(44) a. I saw a book yesterday that the reviewers liked.

b. ??I saw John's book yesterday that the reviewers liked.

Crucially, extraposition should be chosen in (42b). Otherwise, we would incorrectly expect it to be grammatical.

As for AACD, Abe and Hoshi argue that it can only involve HNPS operation. This is because the appositive relative cannot be extraposed, unlike the restrictive relative, as shown in (45):

(45) a. A woman arrived who was wearing a read hat

b. *John arrived who was wearing a read hat

Under the analysis, AACD in (46a) has the representation in (46b) after HNPS applies:

(46) a. John suspected Mary, who Bill did as well

b. John [suspected t_i] [$_{NP}$ Mary who Bill did [$_{VP}$ e]]

In (46b), the antecedent VP can be copied into the elided VP, without inducing infinite regress. They suggest that in this case, Economy does not dictate that extraposition be chosen over HNPS since Economy chooses among convergent derivations. They assume that extraposed appositive relatives do not converge since they violate Full Interpretation.

It seems that for Abe and Hoshi, HNPS is generalized in such a way that it can take place at LF. Let us consider (47), repeated from (28b):

(47) John spoke to Mary, who Bill did as well.

As Lasnik (1995) observed, the object of the preposition *to,* which can undergo reanalysis with the verb *spoke*, does not allow (overt) HNPS, as shown in (48)

(48) *John spoke to yesterday [the man he met at the beach]

Under the HNPS analysis, then, (47) is incorrectly predicted to be ungrammatical. As for this case, Abe and Hoshi suggest that HNPS is allowed at LF when reanalysis is possible, and that the ungrammaticality of (48) is due to some PF reasons. Given that HNPS is possible at LF, LF-copying applies without involving infinite regress. Thus, for them, ellipsis can be resolved at least at LF. The ungrammaticality of (49a) is then due to the impossibility of HNPS at LF when reanalysis is not possible. [(49a) is repeated from (28b)]:

(49) a. *John stood near Mary, who Bill did as well

b. *John stood near yesterday [the man he met at the beach]

Such an analysis, however, cannot be maintained, since, as discussed in the previous section (section 2.1), appositive relative clauses are in fact outside of their matrix clause at LF. If LF is where ellipsis is resolved, as Abe and Hoshi argue, then there would be no difference between (47) and (49a): they should be both grammatical.

The analysis faces additional empirical problems. It predicts that the possibility of HNPS should correlate with the possibility of AACD. However, as Lasnik (1995, 1999) shows, the correlation does not always hold:

(50) a. *John showed Mary the new teacher, who Bill did as well

b. John gave Bill t yesterday more money than he had ever seen

In (50b) the second object in a double object construction can undergo HNPS. However, the corresponding AACD is not grammatical, as shown in (50a).[22]

3 Towards an Analysis

In this section, I will review Fox and Lasnik (2003)'s recent analyses of ellipsis and examine whether their analysis can provide an account for AACD. I will argue that their analysis in fact cannot apply to AACD as it is and propose a modification of it.

3.1 Fox and Lasnik (2003)

[22] Facing this problem, Abe and Hoshi report that there are speakers who find (50a) grammatical. Some of my informants also tend to share the judgments. Yet, other informants find it ungrammatical, sharing Lasnik's judgment. See section 5 for discussion of the speaker variation in this regard.

Typical Sluicing constructions involve IP-ellipsis preceded by wh-movement to Spec CP, as shown in (51):

(51) He saw someone, but I don't know who ~~he saw~~.

Ross (1969) observed that Sluicing can repair island violations. Some of the examples are provided below.[23] [In (52), elided parts are indicated with angled brackets.]

(52) a. I believe the claim that hi bit someone, but they don't know who <* I believe the claim that he bit>
(Complex NP Constraint, noun complement)

b. Irv and someone were dancing together, but I don't know who <*Irv and were dancing together>
(Coordinate Structure Constraint)

c. She kissed a man who bit one of my friends, but Tom doesn't realize which one of my friends <*she kissed a man who bit>
(Complex NP Constraint, relative clause)

d. That he'll hire someone is possible, but I won't divulge who <*that he'll hire is possible>
(Sentential Subject Constraint)

Merchant (2001) argues that certain island violations can be repaired by ellipsis (which, Merchant assumes, takes place at PF) since they are PF-islands. However, he shows that in Sluicing environments, VP-ellipsis(VPE) does not repair relative clause island violations, as in (53a):

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[23] Ross gives the examples in (52) ??, but many speakers find them (almost) grammatical.

(53) a. *They want to hire someone who speaks a Balkan language, but I don't know which (Balkan language) they do ~~want to hire someone who speaks~~.

b. They want to hire someone who speaks a Balkan language, but I don't know which (Balkan language) ~~they want to hire someone who speaks~~.

For (53a), he assumes that relative clause islands are LF islands, thus cannot be repaired by ellipsis. For the corresponding good Sluicing cases like (53b), he argues that it is grammatical since it may involve a derivation that does not involve an island in the first place, as shown in (54):

(54) They want to hire someone who speaks a Balkan language, but I don't know [$_{CP}$ which (Balkan language) ~~[$_{IP}$ she should speak]~~]

However, Lasnik (2001b) observes that VPE does not repair other island violations that Merchant called PF-islands, as shown in (55):

(55) a. *It appears that a certain senator will resign, but which senator it does ~~appear t will resign~~ is still a secrete.

b. *Sally asked if somebody was going to fail Syntax One, but I can't remember who she did ~~ask if t was going to fail Syntax One~~.

Lasnik also observed that even without an island, VPE is still severely degraded:

(56) a. They said they heard about a Balkan language, but I don't know which Balkan language ~~they said they heard about~~.

b. *They said they heard about a Balkan language, but I don't know which Balkan language they did ~~say they heard about~~.

(57) a. They heard a lecture about a Balkan language, but I don't know which Balkan language ~~they heard a lecture about~~.

b. *They heard a lecture about a Balkan language, but I don't know which Balkan language they did ~~hear a lecture about~~.

So the contrast between VPE and Sluicing appears whether or not an island is involved in the elliptical site. In order to account for the contrast, following Chomsky 1986, Fox and Lasnik (2003) propose that all maximal projections are potential barriers (see also Takahashi 1994).[24] As a result, wh-movement must take place in a successive cyclic way, adjoining to every intermediate maximal projection. If wh-movement takes place in one fell swoop, all the intermediate projections become islands since the one-fell-swoop movement skips the intermediate projections (i.e. islands in Fox and Lasnik (2003) are different from the traditional islands in that every maximal projection is a potential barrier.) They argue that in Sluicing environments, a Parallelism condition on ellipsis (Fiengo and May 1994) makes intermediate landing sites of wh-movement unavailable. Avoiding the intermediate landing sites would result in many island violations unless they are repaired by ellipsis. The repair is possible in the case of Sluicing because every intermediate projection is elided. However, in the case of VPE, some projection(s) remain unelided, resulting in an island violation.[25] More specifically, Fox and

[24] It should be noted here that according to Chomsky (1986), IP(=TP) is not a potential barrier. However, under Takahashi (1994) and Manzini (1994)'s analysis, IP is a potential barrier. Pointing out potential problems for Chomsky's (1986) barriers system, Takahashi (1994) proposes that the barriers system be replaced with Shortest Move, proposed by Chomsky and Lasnik (1991). According to Shortest Move, wh-movement must take place successive cyclically, adjoining to every intermediate maximal projection including IP. In a similar vein, building on Chomsky (1993), Manzini (1994) proposes a locality condition on movement, according to which movement must pass through the checking domain of each head. (See also Boeckx 2003 and Bošković 2002c, 2005).

[25] The analysis requires that there be a certain ordering between copy-deletion and checking Parallelism at LF, i.e., Parallelism must be checked before copy-deletion takes place. If Parallelism could be checked after copy-deletion takes place, the contrast between IP-ellipsis (IPE) and VP-ellipsis (VPE) in (56) and

Lasnik assume following Reinhart (1997) that the indefinite in the antecedent clause does not move but is bound by existential closure. In Sluicing environments, then, the wh-movement in the elliptical clause must be one fell swoop to satisfies Parallelism. With one-fell-swoop movement, Parallelism is satisfied since the variable in the antecedent and the elided clause are bound from parallel positions. Adopting the choice function analysis of wh-phrases and indefinites, the sluicing construction (58a) can be represented as (58b):

(58) a. Fred said that I talked to a certain girl, but I don't know which girl ~~Fred said I talked to t~~.

b. $\exists f\, \lambda f'$ [Fred said that I talked to f'(girl)]

which g ~~girl~~ $\lambda g'$ [Fred said that I talked to g'(girl)]

Although this one-fell-swoop movement of wh-phrase brings about many island violations on skipped projections, they can be repaired by IP-ellipsis (Sluicing). This is what happens in Sluicing constructions such as (52). Under this analysis, VPE is predicted to be ungrammatical since it elides a smaller constituent and thus there are always some projection(s) remaining unelided. Fox and Lasnik assume that AspP is located between VP and IP.[26] Then, AspP and IP will remain after VPE takes place. These remaining projections bring about island violations. This explains the ungrammaticality of the corresponding VPE of (58a) and the VPE in (55)-(57). To see this more clearly, consider (58a). The corresponding VPE of (58a) is ungrammatical, as represented in (59):

(57), for instance, would be lost, since there would be no intermediate traces in either constructions and intermediate traces play a crucial role in checking Parallelism. This would be the case if we adopt the position that intermediate traces of argument wh-phrases are deleted at LF (Lasnik and Saito 1984, Chomsky 1991, Chomsky and Lasnik 1993). However, under Fox and Lasnik (2003)'s framework, no such ordering is required since it is assumed that intermediate traces are always present in the final representations (cf. Fox 2000, Nissenbaum 2000).

[26] See also Bošković (2004b) for arguments that there is additional structures between VP and IP.

(59) a. *Fred said that I talked to a certain girl, but I don't know which girl he did <say I talked to t>

b. $\exists f\, \lambda f'$ [Fred said that I talked to f'(girl)]

which g ~~girl~~ $\lambda g'$ *[$_{IP}$ he *[$_{AspP}$ did <say that I talked to g'(girl)>]

In (59a), wh-movement takes place in one-fell swoop, and as a result, Parallelism is satisfied. The one-fell-swoop movement, however, induces island violations. The subsequent VP ellipsis, indicated with the angled brackets, does not repair the violations induced on IP and AspP (as marked with *, which is mine). These unrepaired violations result in ungrammaticality. Note here that under Fox and Lasnik's analysis, the derivation where a wh-phrase in the elliptical clause first adjoins to AspP (or IP) in one-fell swoop and undergoes further movement to Spec of CP successive cyclically. Parallelism prevents this movement since under Fox and Lasnik's analysis, Parallelism applies outside of an elliptical constituent.

An immediate prediction of the analysis is that if the antecedent clause is replaced with the one that involves parallel movement, the ungrammatical VPE construction in (60a) should become grammatical, as shown in (60b) [from Fox and Lasnik (2003)]:

(60) a. *I know that John said that Mary read a certain book, but I don't know which one he did.

b. ??I know which book John said that Mary read, but YOU don't know which one he did.

(60b) involves successive cyclic movement of the wh-phrase in both conjuncts and hence Parallelism is satisfied, without inducing island violations.

In the following section, we will consider how Fox and Lasnik (2003)'s analysis would treat AACD.

3.2 Parallelism and AACD

Let us start this section by reintroducing AACD constructions with relevant focus marking, which is indicated in capital letters:

(61) a. JOHN suspected MARY, who BILL did as well.

b. JOHN spoke to MARY, who BILL did as well.

c. *JOHN stood near MARY, who BILL did as well.

d. *JOHN selected a picture of MARY, who BILL did as well.

e. ??JOHN showed MARY, who BILL did as well, the new teacher.

f. *JOHN showed Mary the NEW TEACHER, who BILL did as well.

In (61), the matrix subject and the subject inside the appositive are focused. The NP correlate that corresponds to the wh-phrase is also focused. I assume that the appositive relative is not inside of the matrix clause at LF, as discussed in section 2. More concretely, following Emonds (1976), I assume that the appositive relative is separate from the matrix clause, that they behave as LF-conjuncts. With this in mind, let us first consider (61c). Under Fox and Lasnik (2003)'s analysis, the wh-phrase in the relative clause (61c) may move either successive cyclically or in one fell swoop fashion.

Notice here that the NP correlate that corresponds to the wh-phrase is focused. Before getting into any analysis in detail, we first need to decide what to do with the focused correlate. Two options come to mind. Following Chomsky (1976), one could assume that focused constituents undergo focus movement. Or one could assume that focused constituents do not move. If we assume that the focused correlate moves, we have two possible representations, as shown schematically below:

(62) a. MARY$_i$ $[_{IP}$ t$_i$ $[_{IP}$ John $[_{AspP}$ t$_i$ $[_{AspP}$ $[_{VP}$ t$_i$ $[_{VP}$ stood $[_{PP}$ t$_i$ $[_{PP}$ near t$_i$]]]]]]]]

b. who$_i$ *$[_{IP}$ Bill *$[_{AspP}$ did ~~*$[_{VP}$ stand *$[_{PP}$ near t$_i$]]~~]]]]]]

⇒ *Parallelism, √ island (violations)

(63) a. MARY$_i$ $[_{IP}$ t$_i$ $[_{IP}$ John $[_{AspP}$ t$_i$ $[_{AspP}$ $[_{VP}$ t$_i$ $[_{VP}$ stood $[_{PP}$ t$_i$ $[_{PP}$ near t$_i$]]]]]]]]

b. who$_i$ $[_{IP}$ t$_i$ $[_{IP}$ Bill $[_{AspP}$ t$_i$ $[_{AspP}$ did ~~$[_{VP}$ t$_i$ $[_{VP}$ stand $[_{PP}$ t$_i$ $[_{PP}$ near t$_i$]]]]~~]]]]

⇒ √Parallelism, * island (violations) [= no island violations]

In (62), the focused correlate *MARY* in the matrix clause undergoes successive cyclic focus movement. In the appositive relative clause, the wh-phrase undergoes one-fell-swoop movement. This movement induces island violations, and some island violations remain (on IP and AspP) unrepaired when VP is elided. Furthermore, Parallelism is not satisfied in (62), given that there are traces in the antecedent clause that are absent from the elliptical clause. However, there is at least one good representation available, as shown in (63), hence in both the matrix and the appositive relative clause, successive cyclic movement is involved. This movement satisfies Parallelism and no island violations occur. Given this option is available, we would incorrectly expect (61c) to be grammatical. The ungrammatical sentences in (61) face the same problem.

Let us now consider the possibility that focused constituents do not move at LF. In fact, there is some doubt about the assumption that focused constituents move at LF in the literature.

As observed by Anderson (1972) and Jackendoff (1972), focus movement, if it exists, does not show island sensitivity, which other quantifiers seem to show:

(64) a. The professor only rejected [the proposal to fail JOHN].

b. #The professor rejected [the proposal to fail most students].

(For most student x: the professor rejected the proposal to fail x.)

c. *Who did the professor reject [the proposal to fail t]?

In (64a), the focused NP can be associated with the focus particle *only* outside of the complex noun phrase island. If the association with the particle *only* comes about by movement of the focused NP (to the sister position of the particle), this movement must be insensitive to islands. However, this seems unexpected since other types of movement are sensitive to islands. The quantifier in (64b) cannot scope out of the island. Likewise, the wh-phrase in (64c) cannot move out of the island. The island insensitivity of focused constituents can be easily accounted for,[27] if we assume with Rooth (1985) that they do not need to move since they can be interpreted in situ.

If we assume that focused constituents do not move in LF, then two representations are available for (61c), depending on how the wh-phrase moves, as shown in (65):

(65) a. [$_{IP}$ John [$_{AspP}$ [$_{VP}$ stood [$_{PP}$ near MARY]]]]

b. who$_i$ *[$_{IP}$ Bill *[$_{AspP}$ did ~~*[$_{VP}$ stand *[$_{PP}$ near t$_i$]]~~]]]]]

⇒ *Parallelism, * island (violation)

[27] Wh-arguments that stay in situ in English are also island-insensitive, as in *Who rejected the proposal to fail who?* If we assume that wh-phrases move in LF universally, this suggests that LF movement (of argument) does not obey islands (cf. Huang 1982). Then, it may well be the case that being LF movement, focus movement would not obey islands either. But see Bošković (1998b) for arguments that LF wh-movement of argument is subject to a locality constraint (when it does take place).

(66) a. $[_{IP}$ John $[_{AspP}$ $[_{VP}$ stood $[_{PP}$ near MARY]]]]

b. who$_i$ $[_{IP}$ t_i $[_{IP}$ Bill $[_{AspP}$ t_i $[_{AspP}$ did ~~$[_{VP}$ t_i $[_{VP}$ stand $[_{PP}$ t_i $[_{PP}$ near t_i]]]]~~]]]]]

⇒ *Parallelism, √ island (violation)

Both (65) and (66) violate Parallelism since nothing moved in the matrix clause, while the wh-phrase moved in the relative clause. Given that Parallelism is violated, ellipsis is not allowed.

The analysis, however, faces two problems. First, it is unclear how the grammatical AACD in (61a), *JOHN suspected MARY, who BILL did as well*, can be accounted for. The analysis incorrectly predicts that the example should be ungrammatical, since it induces a Parallelism violation.[28]

Another, more serious problem comes from the following ellipsis constructions:

(67) a. John suspected MARY, but I don't know who else ~~John suspected t~~.

b. John spoke to MARY, but I don't know who else ~~John spoke to t~~.

c. John stood near MARY, but I don't know who else ~~John stood near t~~.

d. John selected a picture of MARY, but I don't know who else ~~John selected a picture of t~~.

e. ?(?)John showed MARY the new teacher, but I don't know who else ~~John showed t the new teacher~~.

f. John showed Mary the NEW TEACHER, but I don't know who else ~~John showed Mary t~~.

[28] This is not an entirely correct statement, given that the NP *MARY* can undergo movement to Spec AgroP in overt syntax to check the EPP feature (Lasnik 1995, 1999). However, movement to Spec AgroP will not help satisfy Parallelism in this case, since for Parallelism to be satisfied, *MARY* should move to the position that is parallel to Spec of CP to which the wh-phrase (in the appositive relative) moves. See section 4 for relevant discussion.

The examples in (67) involve IP-ellipsis, preceded by wh-movement. Let us call the constructions IP-Ellipsis with focused NPs as correlates (IPEN). In the IPEN constructions above, if the focused NP *MARY* does not move in the matrix clause in (67), Parallelism is violated. Then, the examples in (67) should all be ungrammatical, contrary to fact.

Notice here that the grammaticality of the sentences in (67) shows that the focused correlates can be considered nondistinct with the trace of the wh-phrase for the purpose of ellipsis (see Chung, Ladusaw and McClosky 1995, Romero 1998, Merchant 2001 for discussion). This suggests that the focused correlate and the trace of the wh-phrase in AACD should be considered nondistinct as well. Then, the ungrammaticality of some AACDs (e.g., **JOHN stood near MARY, who BILL did [$_{VP}$ stand near t], as well*) must be due to something else.

In this section, as an attempt to account for AACD, two approaches to focused constituents were considered: the movement approach and the non-movement approach. We have seen that both of these approaches, as they are, fail to account for AACD. In the following section, I will argue that a modification of Parallelism successfully accounts for AACD under the assumption that focused constituents do not undergo focus movement.[29]

4 Parallelism and Locality

4.1 Parallelism

As discussed in section 3.1, Fox and Lasnik's Parallelism, which is adapted from Fiengo and May (1994), has a global property, in that in certain contexts it needs to be checked outside of the elliptical site. Recall that under the analysis, Parallelism requires that a wh-phrase in the elliptical clause in Sluicing contexts undergo one-fell swoop movement, so that a parallel dependency is established in the antecedent and the elliptical clause. Obviously, in this case, Parallelism needs

[29] As will be discussed in section 5, focus movement is assumed to be possible for some speakers.

to be checked outside of the elliptical site in both clauses. Let us call this type of Parallelism Global Parallelism. However, as discussed in section 3.2, Global Parallelism, as it is, faces some problems in accounting for AACD. In this section, I propose to modify Parallelism. In particular, I propose that Parallelism needs to be satisfied only within elided constituents such as VP and IP. I call the modified Parallelism Local Parallelism, as stated in (68):

(68) **Local Parallelism**

Parallelism needs to be satisfied only within elided constituents (VP/IP)

Following the standard assumption (Fiengo and May 1994), I assume that Parallelism is defined in terms of parallel dependency in the antecedent and the elliptical clause. According to Local Parallelism, only the elided constituent and its corresponding antecedent constituent are considered for checking Parallelism. In other words, Local Parallelism ensures that a parallel dependency be established within the elided constituent and its corresponding antecedent constituent. For instance, in Sluicing contexts, if there are intermediate traces within IP in one clause, there should be intermediate traces with the corresponding IP in parallel positions in the other, as well. If there is none within IP in one clause, there should also be none within the corresponding IP in the other clause. When no dependency is established within both antecedent and elliptical constituent, as in the case of VPE in (69), where presumably nothing moves VP-internally, Local Parallelism is irrelevant. Since Local Parallelism is not violated, VP can be elided under identity.

(69) John will sing and Bill will ~~$[_{VP}$ sing$]$~~, too.

Local Parallelism accounts for Sluicing straightforwardly. One of the examples is repeated here for convenience:

(70) They said they heard about a Balkan language, but I don't know which Balkan language ~~they said they heard about~~.

If we assume that the indefinite in the antecedent clause does not move but is bound by existential closure (Reinhart 1997, Fox and Lasnik 2003), Local Parallelism prevents the wh-phrase in the elliptical clause from undergoing successive cyclic movement, dropping by every intermediate maximal projection. Otherwise, Local Parallelism would be violated since there would be intermediate traces within IP of the elliptical clause, which are absent in the antecedent clause. When the wh-phrase undergoes one-fell swoop movement, Local Parallelism becomes irrelevant within the antecedent IP and the elided IP since no dependency is established within the IPs. The island violations will be repaired by ellipsis at PF (Fox and Lasnik 2003).

Local Parallelism also accounts for the ungrammaticality of VPE in Sluicing contexts, as repeated in (71):

(71) *They said they heard about a Balkan language, but I don't know which Balkan language they did ~~say they heard about~~.

If the wh-phrase moves successive cyclically, Local Parallelism will be violated, as some intermediate traces will be present within the elided VP but not within the antecedent VP. If the wh-phrase in the elliptical clause undergoes one-fell swoop movement to Spec of CP, no intermediate traces exist within the elided VP and thus no dependency is established within this constituent. Thus, no issue of satisfying Local Parallelism arises. However, If we follow Fox and Lasnik (2003), the one-fell swoop movement leaves a * on every skipped projection, and some of them, such as the ones left on AspP and IP, will survive VPE. This results in the ungrammaticality of (71).

In some cases, Local Parallelism and Global Parallelism make different predictions. Let us consider the following examples in (72):

(72) a. I wonder who John stood near and who Bill thinks that Sally did ~~stand near t~~.

b. I wonder who John selected a picture of and who Bill thinks that Sally did ~~select a picture of t~~.

The relevant representations of (72a) are shown in (73):

(73) a. $\text{who}_i\ [_{IP}\ t_i\ [_{IP}\ \text{John}\ \mathbf{[_{VP}\ t_i\ [_{VP}\ stood\ near\ t_i]]}]]$

b. $\text{who}_i\ [_{IP}\ t_i\ [_{IP}\ \text{Bill}\ [_{VP}\ t_i\ [_{VP}\ [\text{thinks}\ [_{CP}\ t_i\ [_{CP}\ t_i\ [_{IP}\ t_i\ [_{IP}\ \text{Sally}\ \cancel{\mathbf{[_{VP}\ t_i\ [_{VP}\ stood\ near\ t_i]]}}]]]]]]]]]$

In both clauses, the wh-phrase has moved successive cyclically. (73) would not satisfy Global Parallelism, since not every trace is located in parallel positions in both conjuncts. There are intermediate traces between the matrix CP and the embedded IP in the elliptical clause, which are absent in the first conjunct. However, Local Parallelism is satisfied within the higher VP, allowing it to be elided.[30]

Local Parallelism also provides a straightforward account for AACD. The relevant AACD constructions are repeated in (74) for convenience:

(74) a. JOHN suspected MARY, who BILL did as well.

b. JOHN spoke to MARY, who BILL did as well.

[30] Note also that Local Parallelism is irrelevant within the lower VP since within the lower VP, no relevant dependency is established. Given that Local Parallelism is not violated, the lower VP may be elided under identity.

c. *JOHN stood near MARY, who BILL did as well.

d. *JOHN selected a picture of MARY, who BILL did as well.

e. ??JOHN showed MARY, who BILL did as well, the new student.

f. *JOHN showed Mary the NEW TEACHER, who BILL did as well.

Before providing an analysis, some assumptions need to be made. The first assumption is that, following Emonds (1976), the appositive relative clause is separate from the matrix clause, as discussed in section 2.2.1, behaving as LF-conjuncts (see section 2.2 for discussion). Second, in line with Fox and Lasnik (2003), the wh-phrase in the appositive relative undergoes successive cyclic movement, adjoining to every intermediate maximal projection. Third, as discussed in section 3.2, the head and the trace left by the wh-phrase in the appositive relative are nondistinct for the purpose of ellipsis. Finally, the focused correlate above does not undergo (focus) movement.

Let us first consider the ungrammatical AACDs. (74c) is ungrammatical because it violates either Local Parallelism or islands, depending on how the wh-phrase moves. If it undergoes one-fell-swoop movement, as shown in (75), Local Parallelism is not violated. But island violations are induced:

(75) a. [$_{IP}$ John [$_{AspP}$ **[$_{VP}$ stood [$_{PP}$ near MARY]]]]**

b. who$_i$ *[$_{IP}$ Bill *[$_{AspP}$ did ~~***[$_{VP}$ stand *[$_{PP}$ near t_i]]**~~]]

⇒ √Local Parallelism, √ island

In (75b), the one-fell-swoop movement of the wh-phrase induces island violations on the intermediate projections, and not every island violation is repaired by VP-ellipsis.

If the wh-phrase in the relative clause undergoes successive cyclic movement as in (76), no island violations occur. However, Local Parallelism will be violated, since not every trace appears in parallel positions within both VPs. The presence of the intermediate trace adjoined to PP in (76b) is responsible for the violation since no such trace appears in the (76a). The ungrammatical AACD in (74d) is accounted for in the same way:

(76) a. [$_{IP}$ John [$_{AspP}$ **[$_{VP}$ stood [$_{PP}$ near MARY]]]]**

b. who$_i$ [$_{IP}$ t$_i$ [$_{IP}$ Bill [$_{AspP}$ t$_i$ [$_{AspP}$ did [$_{VP}$ t$_i$ **[$_{VP}$ stand [$_{PP}$ t$_i$ [$_{PP}$ near t$_i$]]]]]]]]]**

⇒ *Local Parallelism, * island

So far, the proposed analysis does not seem to have any advantages over the one based on Global Parallelism with respect to AACD. Global Parallelism would also correctly account for the ungrammaticality of (74c), since global Parallelism is violated in both representation in (75) and (76). However, as discussed in section 3.2, the IPEN constructions such as (67c), *John stood near MARY, but I don't know who else ~~John stood near t~~* raise a problem for global Parallelism. Recall that Global Parallelism is violated in this sentence, since movement takes place only in the elliptical clause. Yet, the sentence is grammatical.

This problem does not arise under the proposed analysis. Let us consider the representations in (77), where the wh-phrase moves in one fell swoop:

(77) a. **[$_{IP}$ John [$_{AspP}$ [$_{VP}$ stood [$_{PP}$ near MARY]]]]**

b. who else$_i$ **~~*[$_{IP}$ John *[$_{AspP}$ *[$_{VP}$ stood *[$_{PP}$ near t$_i$]]]]~~**

⇒ √Local Parallelism, * island

In (77), the wh-phrase in the elliptical clause moves in one-fell swoop, inducing island violations. The violations, however, will be repaired by IP-ellipsis. Crucially, Local Parallelism is not violated since there is no relevant dependency established within IP in either clauses.

The grammaticality of the AACDs in (74a) and (74b) is also straightforwardly accounted for by Local Parallelism. (74a) and (74b) are repeated in (78):

(78) a. JOHN suspected MARY, who BILL did as well.

b. JOHN spoke to MARY, who BILL did as well.

Let us first consider (78a). If we adopt Lasnik's (1995, 1999) analysis of Pseudogapping (cf. section 2.2.2), (78a) is represented as (79):

(79) a. $[_{IP}\ \text{John}\ [_{AgrsP}\ [_{VP1}\ [_{AgroP}\ \text{MARY}_1\ [_{VP2}\ \textbf{suspect}\ \mathbf{t_1}]]]]]]$

b. $\text{who}_i\ [_{IP}\ t_i\ [_{IP}\ \text{Bill}\ [_{AspP}\ t_i\ [_{AspP}\ \text{did}\ [_{VP1}\ t_i\ [_{VP1}\ [_{AgroP}\ t_i\ [_{AgroP}\ t_i\ \cancel{[_{VP2}\ \textbf{suspect}\ \mathbf{t_i}]}]]]]]]]$

In the appositive relative clause, the wh-phrase undergoes overt raising to Spec of AgroP to check the EPP feature, as in the case of Pseudogapping. It further moves to Spec of CP, adjoining to every intermediate maximal projection, as schematically represented in (79b). Note here that the movement from Spec of AgroP to Spec of CP must not be one fell swoop. Otherwise, it would induce island violations on IP, AspP, VP1, and AgroP, which will survive VPE. Let us assume that the focused NP in the matrix clause also overtly raises to Spec of AgroP to check the EPP feature, as represented in (79a). With the representations, Local Parallelism is not violated within VP2.

The grammaticality of (78a) constitutes a potential problem for Global Parallelism. Global Parallelism would incorrectly prevent VP2 from being elided, since not every trace appears in parallel positions in both clauses.

The grammatical AACD in (78b) is also accounted for in the same way as (78a). The preposition and the object in the first clause undergo reanalysis and thus the object can raise to Spec of AgroP (section 2.2.2). Likewise, the wh-phrase in the second clause can undergo Spec of AgroP. As a result, Local Parallelism is not violated.

Finally, let us consider the contrast between (74e) and (74f), repeated in (80):

(80) a. ??JOHN showed MARY, who BILL did as well, the new teacher.

b. *JOHN showed Mary the NEW TEACHER, who BILL did as well.

The contrast between the two AACDs can be accounted for if we adopt Lasnik's (1995, 1999) analysis of double object construction. According to the analysis, (80a) is represented as shown in (81):

(81) a. $[_{IP}$ John $[_{VP1}$ $[_{AgroP1}$ MARY$_i$ **$[_{VP2}$ t_i $[_{AgroP2}$ tnt$_j$ $[_{VP3}$ showed $t_j]]]]]]$**

b. who$_i$ $[_{IP}$ $t_i[_{IP}$ Bill $[_{VP1}$ t_i $[_{VP1}[_{AgroP1}$ t_i $[_{AgroP1}$ t_i **$[_{VP2}$ t_i $[_{AgroP2}$ tnt$_j$ $[_{VP3}$ showed $t_j]]]]]]]]]$**

In (81a), the second object, *the new teacher* (= *tnt*), is generated within VP3 and moves to Spec of AgroP to check the EPP feature. The first object, *MARY*, is generated in VP2, and moves to Spec of AgroP to check the EPP feature. In the appositive relative clause in (81b), the wh-phrase first moves to Spec of AgroP and moves further to Spec of CP, adjoining to every intermediate projection between them. Local Parallelism is satisfied VP2. Therefore, either VP2 or VP3 can be elided.

Local Parallelism also accounts for the ungrammatical AACD in (80b), whose representations are shown in (82):

(82) a. $[_{\mathrm{IP}}$ JOHN $[_{\mathrm{VP1}}$ $[_{\mathrm{AgroP1}}$ Mary$_i$ **$[_{\mathrm{VP2}}$ t$_i$ $[_{\mathrm{AgroP2}}$ TNT$_j$ $[_{\mathrm{VP3}}$ showed t$_j$]]]]]]**

b. who$_i$ $[_{\mathrm{IP}}$ t$_j$$[_{\mathrm{IP}}$BILL$[_{\mathrm{VP1}}$ t$_j$ $[_{\mathrm{VP1}}$$[_{\mathrm{AgroP1}}$ t$_j$ $[_{\mathrm{AgroP1}}$ Mary$_i$ $[_{\mathrm{VP2}}$ t$_j$ **$[_{\mathrm{VP2}}$ t$_i$ $[_{\mathrm{AgroP2}}$ t$_j$ $[_{\mathrm{VP3}}$ showed t$_j$]]]]]]]]]**

(82a) is the same representation as (81a). In the appositive relative clause in (82b), the wh-phrase first moves to Spec of AgroP and moves further to Spec of CP, adjoining to every intermediate projection between them. Local Parallelism is satisfied within VP2, indicated in bold. Either VP2 or VP3 can be elided. But eliding VP2 or VP3 will not yield (80b), as it will exclude *MARY.* To include *MARY* in the ellipsis site, VP1 must be elided. However, VP1 cannot be elided since Local Parallelism is violated within VP1.[31]

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[31] Under the analysis, VP3 in (82b) can be elided, resulting in the ungrammatical sentence in (i):

(i) *JOHN showed Mary the NEW TEACHER, who BILL did Mary as well.

The source of the ungrammaticality should be something other than the violation of Local Parallelism. One might suggest that the ungrammaticality is due to a violation of Merchant's (in press) MaxElide, which requires that if ellipsis applies in a structure with a wh-trace, ellipsis should target the largest constituent (see section 5.1). Eliding VP3 seems to violate MaxElide. This cannot be the whole story, however. The example in (ii) observes MaxElide but it is still ungrammatical.

(ii) *JOHN showed MARY the NEW TEACHER, who BILL did SUE as well.

See B.-S. Park (1997) for relevant discussion.

The analysis predicts that if the antecedent clause involves successive cyclic movement, VP-ellipsis will be possible in the appositive relative clauses. The prediction is borne out, as in (83):

(83) a. John, who$_i$ Bill suspected t_i, but who Max didn't, was a mole.

b. John, who$_i$ Bill stood near t_i, but who Max didn't, was a mole.

c. John, who$_i$ Bill selected a picture of t_i, but who Max didn't, was a mole.

d. John, who$_i$ Bill showed Mary t_i, but who Max didn't, was a mole.

In (83b)-(83d), parallel successive cyclic movement is involved in the antecedent and the elliptical clause. To see this more clearly, let us consider (83b). The two appositive relative clauses are represented in (84), with irrelevant parts suppressed:

(84) a. who$_i$ [$_{IP}$ t_i [$_{IP}$ Bill [$_{AspP}$ t_i [$_{AspP}$ **[$_{VP}$ t_i [$_{VP}$ stood [$_{PP}$ t_i [$_{PP}$ near t_i]]]]]]]]**

b. who$_i$ [$_{IP}$ t_i [$_{IP}$ Max [$_{AspP}$ t_i [$_{AspP}$ did [$_{NegP}$ t_i [$_{NegP}$ not ~~[$_{VP}$ t_i [$_{VP}$ stand [$_{PP}$ t_i [$_{PP}$ near t_i]]]]~~]]]]]]

Local Parallelism is satisfied up to the higher VP, indicated in bold. Thus, VPE is allowed. Note here that the grammaticality of (83b) is a potential problem for Global Parallelism if we assume that the wh-phrase adjoins to NegP on its way to Spec of CP. The intermediate trace in the NegP-adjoined position in (84b) does not exist in (84a), hence Global Parallelism will be violated.

The analysis also accounts for the following constructions in (85):

(85) [VPEN]

a. JOHN suspected MARY, but I don't know who BILL did ~~suspect~~.

b. *JOHN stood near MARY, but I don't know who BILL did ~~stand near~~.

c. *JOHN selected a picture of MARY, but I don't know who BILL did ~~select a picture of~~.

d. ?(?)JOHN showed MARY the new teacher, but I don't know who BILL did ~~show the new teacher~~.

e. *JOHN showed Mary the NEW TEACHER, but I don't know who BILL did ~~show Mary~~.

In (85), the wh-phrase correlates with a focused NP in the antecedent clause. Let us call this type of construction VP-Ellipsis with focused NPs as correlates (VPEN). Interestingly, the grammaticality of VPENs in (85) patterns with AACDs in (74), which are repeated in (86):

(86) [AACD]

a. JOHN suspected MARY, who BILL did as well.

b. JOHN spoke to MARY, who BILL did as well.

c. *JOHN stood near MARY, who BILL did as well.

d. *JOHN selected a picture of MARY, who BILL did as well.

e. ??JOHN showed MARY, who BILL did as well, the new student.

f. *JOHN showed Mary the NEW TEACHER, who BILL did as well.

The proposed analysis provides a unified account for VPEN and AACD. What they have in common is that the elided VP is not antecedent-contained within the antecedent clause at LF. Another common property is that the NP correlate that corresponds to the wh-phrase is focused in both VPEN and AACD. These common properties allow us to account for VPEN in the same way as we did for AACD. In particular, the ungrammaticality of (85b) is due to a violation of either islands or Local Parallelism, depending on how the wh-phrase moves. If the wh-phrase in the second conjunct moves successive cyclically, it will violate Local Parallelism. If the wh-phrase moves in one fell swoop, followed by VPE, island violations occur for the unelided (and thus unrepaired) maximal projections, such as IP and AspP. Recall that (85a) and (85d) are grammatical since the option of raising to Spec of AgroP is available in both conjuncts, making Local Parallelism irrelevant.

The proposed analysis also provides a straightforward account of the grammaticality of the examples in (87). In contrast to AACD and VPEN, wh-movement is involved in the antecedent clauses in the examples in (87), satisfying Local Parallelism.

(87) a. I wonder who JOHN suspected and who BILL did ~~suspect t~~.

b. ?I wonder who JOHN stood near and who BILL did ~~stood near t~~.

c. ?I wonder who JOHN selected a picture of and who BILL did ~~select a picture of t~~.

d. ?I wonder who JOHN showed Mary t and who BILL did ~~show Mary t~~.

4.2 Locality in Ellipsis

In the previous section, it was proposed that Parallelism needs to be satisfied locally. However, the analysis faces a potential problem. Let us consider again the following AACD and VPEN in (88):

(88) a. *JOHN stood near MARY, who BILL did ~~[$_{VP}$ stand near]~~, as well.

b. *JOHN stood near MARY, but I don't know who BILL did ~~[$_{VP}$ stand near]~~

Recall that according to the analysis, the sentences are ungrammatical since they will result in a violation of either islands or Local Parallelism, depending on how wh-phrase in the elliptical clause moves. However, there is an alternative derivation where neither islands nor Local Parallelism are violated. First, let us assume that the wh-phrase in the appositive relative clause undergoes one-fell swoop movement to the next available position above VP, which is assumed to be AspP-adjoined position, followed by successive cyclic movement to Spec of CP. The representations are shown below:

(89) a. [$_{IP}$ John [$_{AspP}$ [$_{VP}$ **stood** [$_{PP}$ **near MARY**]]]]

b. who$_i$ [$_{IP}$ t$_i$ [$_{IP}$ Bill [$_{AspP}$ t$_i$ [$_{AspP}$ did ~~*[$_{VP}$ **stand** *[$_{PP}$ **near** t$_i$]]~~]]]]

⇒ √Local Parallelism, * islands

In (89b), the movement to AgrsP-adjoined position induces island violations on VP and PP, as indicated with *. These island violations will be repaired by the subsequent ellipsis process. Note also that Local Parallelism is not violated within VP, as the focused correlate, *MARY,* in the antecedent clause does not move. Yet, the sentence is ungrammatical.

At first glance, the problem seems to be an unfortunate consequence of Local Parallelism. In contrast, under Fox and Lasnik's (2003) analysis, the problem does not arise. Discussing VPE in Sluicing contexts, repeated here in (90), they argue that Parallelism, which is dubbed Global Parallelism in this chapter, correctly prevents the derivation that involves one-fell swoop movement, followed by successive cyclic movement.

(90) *They said they heard about a Balkan language, but I don't know which Balkan language they did ~~[$_{VP}$ say they heard about]~~.

If the wh-phrase, *which Balkan language*, in the elliptical clause undergoes one-fell swoop movement to AspP, followed by successive cyclic movement to Spec of CP, it will violate Global

Parallelism, since nothing moves in the antecedent clause.[32] However, as discussed in section 3.2, Global Parallelism fails to account for AACD and VPEN.

Given the state of the affairs, I would like to suggest that the derivation that involves one-fell swoop movement, followed by successive cyclic movement, can be ruled out independently. More specifically, I propose that such derivational steps are ruled out by a version of Chain Uniformity (Chomsky 1991, Chomsky and Lasnik 1991, Takahashi 1994b). Chomsky (1991) and Chomsky and Lasnik (1993) propose Chain Uniformity, according to which a chain C is a legitimate LF object only if it is uniform (see also Browning 1987). They assume that uniformity is a relational notion: the chain C is uniform with respect to P if each member of chain has property P or it has non-P. Takahashi (1994b) adopts a version of Chain Uniformity. He argues that if something adjoins only to the head α_1 of the chain $(\alpha_1 \ldots, \alpha_n)$, then α_1 becomes distinct from the rest of the chain, resulting in a nonuniform chain.[33] The chain uniformity condition, if combined with the VP-internal subject hypothesis, has the effect of excluding adjunction to subjects that have raised out of VP. In languages like English, subjects move to Spec of IP in overt syntax, heading a nontrivial chain, and hence cannot host adjunction. If combined with the Shortest Movement Condition/Minimal Link Condition (=SMC/MLC), which requires that movement land at the nearest target, the Subject condition can be deduced from the Chain Uniformity condition. Let us consider the following examples:

(91) a. ?*Who did [a picture of *t*] please you?

b. ?*Who was [a picture of *t*] selected?

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[32] Fox and Lasnik (2003) also suggest that the derivation that involves one-fell swoop movement, followed by successive cyclic movement, might violate possible generalization of the ban on improper movement.

[33] The definition of Takahashi's Chain Uniformity is given in (i):

(i) If $(\alpha_1 \ldots, \alpha_n)$ is a chain $(1 \leq n)$, then for any i $(1 \leq i \leq n)$, $P(\alpha_1)$.
where $P(\alpha) = \alpha$ has property P and P = 'is adjoined by X' or 'is not adjoined to'

The derivation of (91a) involves raising of the subject DP from Spec of VP to Spec of IP. When *who* is extracted from Spec of IP, it first needs to adjoin to DP due to the MLC. However, this is not allowed due to the Chain Uniformity condition, as the chain from Spec of VP to Spec of IP results in a nonuniform chain. The same account applies to (91b).

To instantiate Chain Uniformity for the elliptical constructions in question, I propose that locality-violating movement not only leaves a * on the crossed projections (Fox and Lasnik 2003), which is only relevant at PF, but also on the moved element and its trace. In fact, as a way of marking certain violations, *-marking has a long history in various guises. For example, Chomsky (1972) suggests that * (# in his presentation) is marked on an island when it is crossed by a movement operation. Chomsky (1991) and Chomsky and Lasnik (1993) suggest that * is assigned to traces that are left by ECP-violating movement. Lasnik and Saito's (1984, 1992) γ-marking can be understood in a similar way.

I further propose that chains be uniform with respect to *. More specifically, if a member of a chain is marked with a *, then every member of the chain should also be marked with a *, or none of the members should be marked with a *. This can be put as in (92):

(92) If $(\alpha_1 \ldots, \alpha_n)$ is a chain $(1 \leq n)$, then for any i $(1 \leq i \leq n)$, $P(\alpha_1)$.

[where $P(\alpha) = \alpha$ has property P and P = 'is marked with *' or 'is not marked with *]

The Chain Uniformity condition in (92) allows successive cyclic movement, as no member of the chain would be marked with a *. It also allows the derivation that involves only one instance of one-fell swoop movement. The derivation satisfies the Chain Uniformity condition, as every member of the chain is marked with a *. This is what happens in English Sluicing, as schematically shown in (93):

(93) John saw someone, but I don't know *who *~~[$_{IP}$ he *[$_{AspP}$ *[$_{VP}$ saw *t]]~~]

In (93), the wh-phrase undergoes one-fell swoop movement to the Spec of CP, to satisfy Parallelism. According to Fox and Lasnik (2003), this leaves a * on VP, AspP and IP, which will be eliminated by ellipsis at PF. The one-fell swoop movement also induces a * on the head and the tail of the chain, yielding (*who, *t). The chain (*who, *t) is uniform, since every member of the chain is marked with a *. Hence, the chain is legitimate at LF.

The Chain Uniformity condition, however, rules out the derivation that intermingles successive cyclic movement with non-successive cyclic movement. For example, the Chain Uniformity condition blocks the derivation in (89b) that involves one-fell swoop movement of the wh-phrase to AspP, followed by successive cyclic movement to Spec CP. Let us consider the point of the derivation where the wh-phrase has undergone one-fell swoop movement to the AgrsP-adjoined position, as in (94a). In (94a), the one-fell swoop movement to the AspP-adjoined position leaves * on *who* in AgrsP-adjoined position and its trace, as well as the skipped projections. VP and PP. Subsequently, the wh-phrase moves to Spec CP successive cyclically. First, it drops by the IP-adjoined position, as shown in (94b). Being local, this instance of movement, however, does not leave a * on the head *who* in the IP-adjoined position. Subsequently, *who* further moves locally to Spec CP, as shown in (94c). This instance of movement does not leave any * on *who*:

(94) a. [$_{CP}$ [$_{IP}$ Bill [$_{AgrsP}$ *who$_i$ [$_{AspP}$ did *[$_{VP}$ stand *[$_{PP}$ near *t$_i$]]]]

b. [$_{CP}$ [$_{IP}$ who$_i$ [$_{IP}$ Bill [$_{AgrsP}$ *t$_i$ [$_{AspP}$ did *[$_{VP}$ stand *[$_{PP}$ near *t$_i$]]]]]

c. [$_{CP}$ who$_i$ [$_{IP}$ t$_i$ [$_{IP}$ Bill [$_{AgrsP}$ *t$_i$ [$_{AspP}$ did ~~*[$_{VP}$ stand *[$_{PP}$ near *t$_i$]]~~]]]

When VPE takes place, the *'s marked on VP and PP are eliminated. However, the sentence remains ungrammatical because the chain (who$_i$, t$_i$, *t$_i$, *t$_i$) is not uniform at LF.

So far, we have seen that the Uniformity condition together with Local Parallelism successfully accounted for AACD and VPEN. In the following section, I will discuss speaker variation regarding these constructions and provide an account based on Uniformity and Local Parallelism.

5. Focus Movement

5.1 VPEN and AACD Revisited

This section discusses speaker variation regarding VPEN (=VP-ellipsis with NPs as correlates) and AACD and provides an account for it. Let us first consider the VPEN constructions. The relevant examples are reproduced below:

(95) **[VPEN]**

a. JOHN suspected MARY, but I don't know who BILL did ~~suspect~~.

b. *JOHN stood near MARY, but I don't know who BILL did ~~stand near~~.

c. *JOHN selected a picture of MARY, but I don't know who BILL did ~~select a picture of~~.

d. ?(?)JOHN showed MARY the new teacher, but I don't know who BILL did ~~show the new teacher~~.

e. *JOHN showed Mary the NEW TEACHER, but I don't know who BILL did ~~show Mary~~.

There are speakers who find the VPENs that are marked ungrammatical in (95) grammatical. Let us refer to these speakers as Speakers A. Let us refer to the speakers who find the contrast in (95) as Speakers B.[34]

For the variation among speakers, I would like to suggest that it hinges on the availability of focus movement. More specifically, I would like to suggest that for Speakers B, focus movement is available (though not obligatorily, see the discussion below), while for Speakers A, focus movement is not available. For Speakers A, (95b) violates either islands or Local Parallelism, depending on how the wh-phrase moves, as discussed in section 4 (i.e., the judgments on the data that were discussed in section 1 through 4 are consistent with Speakers A). On the other hand, for Speakers B, focused constituents may move. If we assume that focused constituents can move in the same way as wh-phrases move, Local Parallelism is satisfied in the VPENs in (95) and they are all grammatical for these speakers.

Given the somewhat controversial state of LF A'-movement with respect to traditional islandhood, the claim that focus movement is available for Speakers B could allow us to run an interesting test to see whether or not focus movement observes islands for these speakers. The test could be run with the VPEN constructions that involve an island, as in (96):

(96) a. *JOHN saw someone who stood near MARY, but I don't know who BILL did ~~see someone who stood near~~.

b. *JOHN likes someone who selected a picture of MARY, but I don't know who BILL does ~~like someone who selected a picture of~~.

The prediction is that if focus movement does not observe islands, Local Parallelism will be satisfied. Then, all else being equal, we would predict the sentences in (96) to be grammatical. On

[34] Among five speakers who provide systematic judgments with respect to AACD and VPEN constructions discussed in this chapter, two of them belong to Speakers B.

the other hand, if focus movement observes islands, it is predicted that the sentences is ungrammatical, since Local Parallelism will be violated. The fact that the sentences in (96) are ungrammatical seems to suggest that focus movement observes islands. However, the prediction turns out to be untestable in this case, as focus movement appears to be clause-bounded, just like QR. Let us consider the following examples:

(97) a. *JOHN said that Frank suspected MARY, but I don't know who BILL did ~~say that Frank suspected~~.

b. *JOHN said that Frank stood near MARY, but I don't know who BILL did ~~say that Frank stood near~~.

c. *JOHN said that Frank selected a picture of MARY, but I don't know who BILL did ~~say that Frank selected a picture of~~.

The sentences in (97) are all ungrammatical for Speakers B.[35] The ungrammaticality of these sentences suggests that focus movement is clause-bounded for these Speakers. Let us consider (97a). The ungrammaticality of (97a) can be accounted for if we assume that the focused NP, *MARY,* cannot move out of the embedded clause, while the wh-phrase in the second clause moves successive cyclically out of the embedded clause. This results in a violation of Local Parallelism, prohibiting ellipsis. The same analysis holds for (97b) and (97c).

Let us now consider the possibility that for Speakers B, focused NPs can stay in situ (cf. Rooth 1985, Kratzer 1991). Under this option, the ungrammaticality of the examples in (97) can be accounted for by island violations. If focused NPs stay in situ and the wh-phrase moves in one fell swoop, Local Parallelism is not violated. However, as Fox and Lasnik argue, this kind of one-fell-swoop movement induces island violations, unless all island violating projections are elided.

[35] As expected, Speakers A also find the sentences in (97) ungrammatical.

The sentences in (97) involve VPE and thus some island violating projections, such as AspP and IP, will remain unelided.

The following IPEN constructions suggest that focused NPs can stay in situ for Speakers B:

(98) a. John said that Frank kissed MARY, but I don't know who else ~~John said that Frank kissed~~.

b. John said that Frank stood near MARY, but I don't know who else ~~John said that Frank stood near~~.

c. John said that Frank selected a picture of MARY, but I don't know who else ~~John said that Frank selected a picture of~~.

Speakers B, as well as Speakers A, find the constructions in (98) all grammatical. This can be straightforwardly accounted for if we assume that focused NPs can stay in situ for Speakers B. When the focused NP in the antecedent clause in (98) stays in situ and the wh-phrase in the elliptical clause moves to Spec CP in one fell swoop, Local Parallelism is not violated, allowing IP-ellipsis.

If focused NPs were to undergo focus movement obligatorily, Local Parallelism would be violated. Let us first consider the option that the wh-phrase in the elliptical clause undergoes successive cyclic movement. To satisfy Local Parallelism, the focused NP must undergo movement in the same way as the wh-phrase does. However, as discussed above, focus movement is subject to clause-boundness and hence cannot take place out of the embedded clause in the first place. The same result is obtained when the wh-phrase undergoes one-fell swoop movement. If the focused NP must move but is subject to clause-boundness, the movement presumably takes place only within the embedded clause. The movement, however, will create dependencies that do not exist in the elliptical clause, violating Local Parallelism. This suggests that for Speakers B, focused NP can stay in situ.[36]

Let us now consider AACD. In section 4, a unified analysis was proposed that captures the correlation between VPEN and AACD. If the analysis is on the right track, we predict that AACD should exhibit the same pattern as VPEN with respect to speaker variation. And the prediction is borne out. The relevant AACD constructions are reproduced in (99) for convenience:

(99) **[AACD]**

a. JOHN suspected MARY, who BILL did as well.

b. *JOHN stood near MARY, who BILL did as well.

c. *JOHN selected a picture of MARY, who BILL did as well.

d. ??JOHN showed MARY, who BILL did as well, the new teacher.

e. *JOHN showed Mary the NEW TEACHER, who BILL did as well.

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[36] Since focused NPs can stay in situ for Speakers A and B, a prediction is made about IPEN constructions that involve islands, as shown in (i) and (ii). Note that Local Parallelism is not violated in (i) and (ii) when the focused NP can stay in situ and the wh-phrase undergoes one-fell swoop movement to Spec of CP. If we assume, following Merchant (2001) and Fox and Lasnik (2003), that PF-deletion can repair island violations, we predict that (i) and (ii) would be grammatical. However, the prediction doesn't seem to be borne out. For instance, Merchant (in press) observes that island effects are still observed in (i) and (ii):

(i) (*)Abby wants to hire someone who speaks GREEK, but I don't remember what other languages ~~she wants to hire someone who speaks t.~~

(ii) (*)The radio played a song that RINGO wrote, but I don't know who else ~~the radio played a song that t wrote~~.

At the moment, I don't have an account of the ungrammaticality of (i) and (ii). But I would like to point out that there are speakers who find (i) and (ii) almost grammatical. (See also Fukaya 2003 for a similar observation.) These speakers also find the following ellipsis construction grammatical:

(iii) Sally asked if JOHN came to the party, but I don't know who else ~~Sally asked if t came to the party~~

Note, however, that the speakers who find (i)-(iii) grammatical still find their corresponding VP-ellipsis constructions degraded:

(i)' *Abby wants to hire someone who speaks GREEK, but I don't remember what other languages she does ~~want to hire someone who speaks t~~

(ii)' *The radio played a song that RINGO wrote, but I don't know who else it did ~~play a song that t wrote~~.

(iii)' ??Sally asked if JOHN came to the party, but I don't know who else she did ~~ask if t came to the party~~.

The speakers (=Speakers A) who find the contrast in VPENs in (95) also find the same contrast in AACDs in (99). Likewise, the speakers (=Speakers B) who find the VPENs in (95) all grammatical also find the AACDs in (99) all grammatical. The variation is expected, since it hinges on the availability of focus movement, as they do in AACD.

Finally, note that the AACDs in (100) also pattern with the VPENs in (97) for Speakers A and B:

(100) a. *JOHN said that Frank suspected MARY, who BILL did ~~say that Frank suspected~~.

b. *JOHN said that Frank stood near MARY, who BILL did ~~say that Frank stood near~~.

c. *JOHN said that Frank selected a picture of MARY, who BILL did ~~say that Frank selected a picture of~~.

As discussed in section 4, for Speakers A, focus movement is not allowed and thus either a violation of Local Parallelism or island violations are induced, depending on how the wh-phrase moves. For Speakers B, the account that applied to (97) extends to (100).

5.2 MaxElide and Locality

Merchant (to appear) offers a different analysis of VP-ellipsis in Sluicing environments. The relevant examples are given in (101b):

(101) a. They heard a lecture about a Balkan language, but I don't know which Balkan language ~~they heard a lecture about~~.

b. *They heard a lecture about a Balkan language, but I don't know which Balkan language they did ~~hear a lecture about~~.

Recall that in section 4.1, modifying Fox and Lasnik (2003), I argued that (101b) violates either islands or Local Parallelism (section 4.1). Merchant (to appear), however, argues that (101b) is ungrammatical since it violates a constraint which he calls MaxElide. The constraint states that if ellipsis applies in a structure with a wh-trace, ellipsis should target the largest constituent possible. More accurately, it requires that if ellipsis targets an XP containing an A'-trace, XP must not be properly contained in any YP that is a possible target for ellipsis. The definition is given below:

(102) MaxElide [Definition]

Let XP be an elided constituent containing an A'-trace

Let YP be a possible target for deletion

YP must not properly contain XP (XP $\not\subset$ YP)

Under this analysis, (101b) is ungrammatical because VP is targeted for ellipsis even though IP, which contains VP, is a possible target for ellipsis.

In what follows, I will argue that Fox and Lasnik's analysis (as adopted in this chapter) and Merchant's analysis are both needed to account for a wider range of data. First, let us consider (103) and (104):

(103) a. John stood near MARY, but I don't know who else.

b. ?*John stood near MARY, but I don't know who else he did.

(104) a. John selected a picture of MARY, but I don't know who else.

b. *John selected a picture of MARY, but I don't know who else he did.

Speakers B find the contrast in (103) and (104).[37] The fact that (103b) and (104b) are ungrammatical for these speakers constitutes an argument for MaxElide. Note that the ungrammaticality is not due to a violation of Local Parallelism, since for Speakers B, the focused NP *Mary* can move, hence Local Parallelism is satisfied. I suggest that the ungrammaticality of (103b) and (104b) is due to a violation of MaxElide. In (103b) and (104b), ellipsis didn't target the largest constituent possible for ellipsis, which is IP.

On the other hand, the examples in (105) constitutes an argument for Fox and Lasnik's (2003) analysis of ellipsis:

(105) a. *JOHN stood near MARY, but I don't know who BILL did.

b. *JOHN selected a picture of MARY, but I don't know who BILL did.

As discussed in the previous section, Speakers A find the examples in (105) ungrammatical. The ungrammaticality cannot be accounted for by MaxElide. MaxElide is observed in this case since ellipsis targeted the largest constituent possible for ellipsis, namely VP. However, as discussed in section 4.1, the ungrammaticality of the examples in (105) is straightforwardly accounted for by Fox and Lasnik's analysis. Recall that for Speakers A, focus movement is not available. Then, in order not to violate Local Parallelism, the wh-phrase in the elliptical clause must undergo one-fell swoop movement. The movement, however, induces island violations on the skipped projections. Furthermore, not all skipped projections are eliminated by VPE.

The ellipsis constructions in (103), (104) and (105) suggest that both Fox and Lasnik's analysis and Merchant's analysis are needed independently. If the analysis is on the right track, (101b) not only violate MaxElide, but also violates either islands or Local Parallelism.[38]

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[37] Speakers A find the same contrast in (103) and (104).
[38] As pointed out by Howard Lasnik (p.c.), under this analysis, it is predicted that for Speakers B sentences like (101b) is worse than the (b) examples in (103)-(105), since it induces double violations. I leave exploring this for future research.

5.3 Focus Movement Parameter

As discussed in section 5.1, the availability of focus movement for some speakers gives rise to speaker variation with respect to AACD and VPEN. In this section, I discuss how the focus movement parameter is set in language acquisition. One obvious suggestion would be that the parameter is lexical. Suppose that a focused element, say Foc, is ambiguous between Foc_1 and Foc_2. Let us assume that Foc_1 can undergo movement (focus movement), whereas Foc_2 cannot. Then, it follows that Speakers B, who allow focus movement, acquired both Foc_1 and Foc_2, and Speakers A, who do not allow focus movement, acquired only Foc_2. Although not implausible, this suggestion, as it is, entails that every focalized lexical item is ambiguous in the way described above (for Speakers B).

Alternatively, we can assume that lexical items are constant and there exists two types of focus features, F_1 and F_2, which can be added to lexical items. Let us assume that lexical items with F_1 can undergo movement, whereas lexical items with F_2 cannot. Then, for Speakers B, the option of adding either F_1 or F_2 to lexical items is available, and for Speakers A, only the option of adding F2 is available. Under this approach, the lexical items are constant among speakers (with respect to focalization), and the parameter results from the options of adding different features to lexical items. Furthermore, we do not need to considerably expand the lexicon to account for the speaker variation in question.

We can find similar systematic variation among speakers with respect to scope interpretations of quantifier phrases:

(106) Some boy loves every girl.

It is well known that the availability of the wide scope of universal quantifiers in examples such as (106) is not universal among speakers. For some speakers it is available, but for others, it is hard to get. Significantly, the same pattern is found among Speakers A and Speakers B. For Speakers B, the wide scope of the universal quantifier is (106) is available. For Speakers A, the wide scope of the universal quantifier is hard to get. Under the standard assumption, the wide scope of the universal quantifier is obtained via Quantifier Raising (QR) of the universal quantifier over the indefinite subject. Then, the variation can be accounted for if we assume that QR is available for Speakers B, but not for Speakers A.

A remark on QR is in order. QR of an object universal quantifier is different from focus movement in a significant way. Being a type of <et, t>, a quantifier cannot stay in situ due to type mismatch (cf. Heim and Kratzer (1998)). To avoid type mismatch, let us assume that it must move to VP-adjoined position, which is of type <t>. I assume that this operation must apply invariably for all speakers. Then, for both speakers A and B, the universal quantifier in (106) is adjoined to VP. Let us call this type of obligatory operation Quantifier raising for Coherence (QC). (The assumption that QR to VP applies invariably for all speakers has further consequences. We will discuss them in the next section where we discuss Restrictive ACD.) From this position, it may, but need not, undergo further movement to the IP-adjoined position, which is of type of <t>. If it does, the wide scope of the universal quantifier is obtained. Let us call this type of operation Quantifier Raising (QR). The parametric variations can be accounted for if we assume that QR is available for Speakers B, while it is not for Speakers A.

As in the case of the focus movement parameter, the QR parameter may be attributed to lexical properties. This can be done by assuming that the universal quantifier is ambiguous between, say, Q_1 and Q_2, and that the former can undergo QR, while the latter cannot. For Speakers A, only Q_2 is available, while for Speakers B, both Q_1 and Q_2 are available.

Alternatively, we can assume that there is a +Q feature that can be added to universal quantifiers, and that quantifiers with this feature undergo QR. The options of adding this feature yields to two different quantifiers, say Q_1 and Q_2. Then, for Speakers A, who allow only the narrow scope reading of the universal quantifier, the option of adding +Q is not available and thus QR is not allowed. On the other hand, for Speakers B, who allow the wide scope of the universal quantifier, the option of adding +Q is available, and thus QR is allowed.

It might well be the case that focus movement and QR are not different operations. As discussed above, they are available only for Speakers B. Furthermore, they share another common property, namely, clause-boundness. As discussed in section 5.1, focus movement is subject to clause-boundness, and QR is also known to be subject to clause-boundness. If this is indeed the case, we can assume that there is a feature, say, Scope Raising feature (SR) that can be added to focused elements and universal quantifiers, allowing focus movement and QR, respectively. Under this assumption, they are expected to behave in the same way. Of course. this possibly needs to be investigated further.[39]

Before leaving this section, let us consider another related phenomenon. We can find similar, but not the same, variation among speakers in the following examples:

(107) a. It's clear that they COULD invite someone, but I don't know who they ever WOULD ~~invite~~. [from Schuyler (2001)]

b. It's clear that they COULD stand near something, but I don't know what they ever WOULD ~~stand near~~.

[39] Note that the focus movement parameter does not seem to be consistent with Chomsky and Lasnik's (1993) suggestion that it is unlikely that there are parameters that affect the form of LF representation given that little or no evidence is available to the language learner bearing on the matters. Note, however, that this learnability problem may not arise in the cases considered here, since in fact relevant linguistic input is available for language learners. More specifically, for Speakers B, the linguistic input such as AACD and VPEN may have been cues for acquiring lexical items with F_1 (in addition to F_2), whereas such cues may not have been available for Speakers A when they underwent the language acquisition process.

If focus movement and QR are the same operation, we can expect that the QR parameter plays a role in setting the focus parameter, and vice versa. More specifically, if language learners acquire +QR value from the linguistic input such as (106), they also acquire +focus movement value, simultaneously, and vise versa. Then, it follows that at least three types of linguistic cues are available for setting the focus movement parameter, viz., AACD, VPEN, and utterances that involve QR like (106).

Although the judgments are subtle, Speakers B tend to find both sentences in (107) grammatical. However, Speakers A find some contrasts between the sentences. For them, (107b) is degraded compared to (107a), which is grammatical. The variation can be accounted for if we assume that indefinites can move for Speakers B (cf. Legate (1999)) but not for Speakers A. Since indefinites move for Speakers B, Parallelism is satisfied, allowing ellipsis. Since this movement is not available for Speakers A, Parallelism cannot be satisfied, rendering (107b) degraded. Note that (107a) is grammatical, since the raising to Spec of AgroP option is available.

The parametric difference with respect to indefinite movement, however, may not be relatable to the one in the focus movement parameter. One of the differences is that for Speakers B, indefinites can move out of a finite clause, unlike focused elements, as suggested by (108):

(108) It's clear that they COULD argue that John injured someone, but I don't know who they ever WOULD ~~argue that John injured~~.

The grammaticality of (108) suggests that the indefinite in the first clause, *someone*, can move out of the embedded clause, and as a result, Local Parallelism is satisfied. Recall, however, that focus movement differs from indefinite movement in this regard. As we have seen in section 5.1, focus movement is subject to clause-boundness. I leave this for future research.

Note that since indefinites can move out of an embedded clause, we can run a test to see wheather the movement in question is sensitive to islands. (Recall that we couldn't do the same with focus movement since it is clause-bounded.) The relevant example is given in (109):

(109) ?*It is clear that they COULD hire someone who can speak a Balkan language, but I don't know which Balkan language they ever WOULD ~~hire someone who can speak~~.

Speakers B find (109) degraded. This suggests that indefinites observe islands. One way of accounting for the ungrammaticality of (109) is to assume that the indefinite, *someone*, cannot be extracted out of the island. Then, when the wh-phrase in the elliptical clause undergoes one-fell swoop movement, islands violations are induced. When the wh-phrase undergoes successive cyclic movement, Local Parallelism is violated within the matrix VPs.[40]

6. A Note on Restrictive ACD

This section discusses Restrictive ACDs (RACDs), such as (110), and considers how they fare with Local Parallelism:

(110) a. John suspected everyone that Bill did.

b. John stood near everyone that Bill did.

c. John selected a picture of everyone that Bill did.

It is a standard assumption in the literature (e.g. May 1985 and Fiengo and May 1994) that QR plays a crucial role in resolving the infinite regress problem in RACD. In RACD, QR is assumed to involve movement of the quantifier phrase together with the restrictive relative clause. Although adjunction to IP is possible, it seems not necessary to resolve ellipsis in RACD. If adjunction to IP were necessary to resolve ellipsis, we would incorrectly expect there to be no Condition C violation in (111a). Likewise, bound pronoun reading should not be available in (111b):

(111) a. *He$_i$ suspected everyone Bill$_i$'s wife did.

[40] Notice that (109) satisfies MaxElide, suggesting again that Fox and Lasnik (2003)'s analysis (as adopted in this chapter) is needed independently (section 5.3).

b. Every scientist$_i$ suspected everyone his$_i$ wife did.

Note also that as discussed in the previous section, QR (over the subject) is not available to Speakers A. However, for these Speakers, as well as Speakers B, examples in (110) are all grammatical, suggesting that adjunction to IP is not necessary to resolve ellipsis in RACD.

I suggest that adjunction to VP is sufficient to resolve RACD. Given that raising to the VP-adjoined position is available for both Speakers A and B (section 5.1), Local Parallelism is satisfied in the RACDs in (110). To appreciate how adjunction to VP resolves ellipsis more clearly, let us consider (110b). After adjunction to VP, the following representation is obtained:

(112) John [$_{VP}$ [everyone Op$_j$ that Bill [$_{VP}$ t$_{Bill}$ stood near t$_j$]]$_i$ [$_{VP}$ t$_{John}$ stood near t$_i$]]

Let us now consider whether the representation in (112) satisfies Local Parallelism. To see this, let us consider a more detailed representation, as in (113):

(113) a. John [$_{VP}$ [X]$_i$ [$_{VP}$ t$_{John}$ stood [$_{PP}$ t$_i$ [$_{PP}$ near t$_i$]]]]

(X = 'everyone that Bill stood near')

b. [everyone Op$_i$ that [$_{IP}$ t$_i$ [$_{IP}$ Bill [$_{VP}$ t$_i$ [$_{VP}$ t$_{Bill}$ stood [$_{PP}$ t$_i$ [$_{PP}$ near t$_i$]]]]]]] (=[X])

(113a) is the matrix clause where X represents the quantifier phrase with the relative clause that is adjoined to the matrix VP. (113b) is the quantifier phrase with the relative clause. Local Parallelism is satisfied in (113). It is satisfied within VPs in (113a) and (113b). Thus, VPE is allowed. Note incidentally that if Parallelism applied globally to the entire clause in (113a) and

(113b), it would not be satisfied in (113). Then we would predict that the RACD should be ungrammatical, contrary to fact.

One might suggest that adjunction to VP can be generalized to referential expression such as names, focused or not. However, this cannot be the case. If names were to adjoin to VP, we would incorrectly predict that for Speakers A, VPEN and AACD in (114) should be grammatical:

(114) a. *JOHN stood near MARY, but I don't know who BILL did.

b. *JOHN stood near MARY, who BILL did as well.

7. Conclusion

This chapter proposed a modification of Fox and Lasnik (2003)'s analysis of ellipsis to account for a wider range of data. It was proposed that Parallelism needs to be checked only within the elided constituent and its corresponding antecedent constituent. The modified Parallelism, referred to as Local Parallelism, allowed us to provide a uniform account for AACD, VPEN and IPEN. It was also proposed that certain types of movement that intermingle locality-observing movement and locality-violating movement is ruled out by a version of Chain Uniformity (cf. Chomsky 1991). Finally, positing the focus movement parameter, the chapter also provided an account for speaker variation regarding AACD and VPEN.

The chapter sets the stage for the subsequent chapters in this dissertation. Chapter 3 and 4 will discuss Local Parallelism and Chain Uniformity in more detail. More specifically, in chapter 3, more arguments for Local Parallelism will be provided and it will be shown that with a minor modification, Chain Uniformity successfully provides an account for other ellipsis phenomena, such as fragment answers and Sluicing in Korean. Chapter 4 will show that Chain Uniformity can be extended to account for Superiority effects in some Slavic languages. Finally, chapter 5 will discuss licensing conditions on Ellipsis.

Chapter 3: Island Repair in Fragment Answers and Sluicing

1 Introduction

This chapter investigates two types of elliptical constructions in Korean: fragment answers and Sluicing. As will be shown shortly, the two types of constructions exhibit similar behaviors in many relevant respects, but they contrast with each other in one important respect, viz. island-(in)sensitivity. Fragment answers in Korean are island-insensitive, whereas Sluicing in Korean is island-sensitive. The chapter will be centered on the contrast between the two and provide an account of it. In accounting for the contrast, Local Parallelism from chapter 2, which states that Parallelism needs to be satisfied within elided constituents, will play a crucial role. This chapter will also make a minor modification to the Chain Uniformity from chapter 2 and show that an interaction of Local Parallelism and the modified Chain Uniformity, which I will call Uniformity, successfully accounts not only for the contrast between fragment answers and Sluicing in Korean, but also for the contrast between Korean Sluicing and English Sluicing with respect to island (in)sensitivity. As will be discussed directly, Korean Sluicing, but not English Sluicing, exhibits island sensitivity. This chapter will argue that island sensitivity of Korean Sluicing is due to a violation of the modified Chain Uniformity. The rest of the section will provide an overview of the issues that will be discussed throughout the chapter.

Typical Sluicing involves wh-movement to Spec of CP, followed by IP-ellipsis (cf. Ross 1969), as shown in (1):[1]

(1) He saw someone, but I don't know who ~~[$_{IP}$ he saw]~~.

[1] The constituent with strikethrough intends to mean that it is elided.

One of the characteristics of Sluicing is that certain island violations are ameliorated in Sluicing environments, as Ross (1969) observed (See also Chung, Ladusaw, and McClosky 1995, Merchant 2001, Lasnik 2001b, Fox and Lasnik 2003, among others). Some of the examples are provided below:[2]

(2) a. I believe the claim that he bit someone, but they don't know who <* I believe the claim that he bit>.

(Complex NP Constraint, noun complement)

b. Irv and someone were dancing together, but I don't know who <*Irv and were dancing together>.

(Coordinate Structure Constraint)

c. She kissed a man who bit one of my friends, but Tom doesn't realize which one of my friends <*she kissed a man who bit>.

(Complex NP Constraint, relative clause)

d. That he'll hire someone is possible, but I won't divulge who <*that he'll hire is possible>.

(Sentential Subject Constraint)

Under the PF-deletion approach to ellipsis, amelioration of island effects may lead to the conclusion that (certain) islands are PF-islands, as argued by Merchant (2001).[3] According to the PF-deletion approach to ellipsis (cf. Chomsky and Lasnik 1993), an elided constituent is present with full-fledged structure and terminal elements in overt syntax, with ellipsis process taking

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[2] Ross gave the examples in (2) ??, but many speakers find them (almost) grammatical.

[3] Note that Merchant (2001) argues that only some islands are PF-islands. He argues that certain islands, like relative clause islands, are LF-islands and thus cannot be repaired by PF-deletion. But Lasnik (2001b) argues that relative clause island violations can be repaired. (See also Fox and Lasnik 2003 for a suggestion that no taxonomy of islands may be required.)

place at PF (in the above examples, the elided IP is represented with angled brackets).[4] Wh-movement to Spec of CP induces an island violation, but the violation is repaired by the ellipsis operation at PF[5].

Sluicing is also found in many other languages. If (certain) islands are universally PF-islands and ellipsis takes place at PF, we expect to find the same amelioration of island effects in these languages. However, this is not the case. For instance, Takahashi (1994a) and Fukaya and Hoji (1999) report that Japanese Sluicing is island-sensitive when wh-remnants are case-marked:[6]

(3) John-wa [[ottoto-ni nanika-o okuttekita] hito]-o (Fukaya and Hoji's (3))
-Top brother-Dat something-Acc sent person-Acc
syootaisita raiiga, boku-wa [nani(*-o) ka] siranai.
invited seem:but I-Top what –Acc Q know:not
'It seems that John invited a person who had sent something to his brother, but I don't know what.'

Korean Sluicing patterns with Japanese Sluicing in this respect, as shown in the following example:[7]

(4) John-un [casin-uy tongsayng-ekey mwuenka-lul cwun salam]-ul manassnun-tey,
John-Top self-Gen brother-Dat something-Acc gave person-Acc met:but
na-nun [mwuess(-?*ul) i-nci] molukesse
I-Top what-Acc Cop-Q not know
'John met a person who gave something to his brother, but I don't know what.'

[4] Throughout the thesis, I adopt the PF-deletion approach to ellipsis. See section 2.2.1 for discussion.
[5] Chung, Ladusaw, and McClosky (1995) adopt the LF-copying approach to Sluicing. But see Merchant (2001) for convincing arguments for the PF-deletion approach to ellipsis.
[6] Discussion of Sluicing with non-case marked wh-remnants will be postponed until section 3.3.2.
[7] İnce (2004) reporte that Turkish matrix Sluicing is also island-sensitive.

One of the goals of this chapter is to investigate Korean Sluicing and English Sluicing and provide an account of why only Korean Sluicing is island-sensitive. Before examining embedded Sluicing like (4), however, I will first examine matrix Sluicing. Matrix Sluicing patterns with embedded Sluicing in the relevant respect. In particular, matrix Sluicing also shows island sensitivity, as shown in (5). ((5) involves utterances between speaker A and B):

(5) A: John-un [casin –uy tongsayng-ekey mwuenka-lul cwun salam]-ul mannasse

John-Top self-Gen brother-Dat something-Acc gave person-with met

'John met someone who gave his brother something'

B: ?*mwuess-ul?

what-Acc

'What?'

One of the reasons to start with matrix Sluicing rather than embedded Sluicing is that we can avoid an unnecessary complication regarding how the embedded Sluicing is derived. Takahashi (1994a), Kim (1997), Fukaya and Hoji (1999) and Fukaya (2003) argue that it involves movement of wh-phrases to a left peripheral position, followed by IP-ellipsis. However, many other researchers argue that it is derived from a cleft(-like) construction (cf. Shimoyama 1995, Kizu 1997, Kuwabara 1996, M.-K. Park (1998)). As will be shown in later sections, these kinds of complications do not arise in matrix Sluicing.

Before discussing Sluicing in general, the chapter will first argue against the hypothesis that the parametric difference between English and Korean Sluicing with respect to island (in)sensitivity lies in the fact that islands in Koran are LF-islands and thus are not repairable by ellipsis at PF. This is a necessary step that needs to be taken first; Otherwise, the island sensitivity of Korean Sluicing could be accounted for trivially, i.e., it is island-sensitive because islands in

Korean are not PF-islands and thus cannot be repaired by ellipsis at PF. The arguments against the hypothesis are based on elliptical construction that show island insensitivity. If combined with the PF-deletion approach to ellipsis, island sensitivity of such elliptical constructions indicates that islands in Korean are also PF-islands and thus their violations can be repaired. The elliptical construction to be discussed in this respect is fragment answers, as shown in (6):

(6) A: John-un [casin-uy tongsayng-ekey mwuess-ul cwun salam]-ul manass-ni?[8]

John-Top self-Gen brother-Dat what-Acc gave person-Acc met-Q?

'*What did John meet a person who gave to his brother?'

B: sakwa-lul

apple-Acc

(C: ?*[sakwa-ul]$_i$ [John-un [casin-uy tongsayng-ekey t_i cwun salam]-ul manasse])

(6B) is a fragment answer and (6C) a full answer. Only the latter exhibits island-sensitivity. In section 2, I will demonstrate that the fragment answer in (6B) is derived from the full answer by ellipsis at PF. Then, given the discussion on English Sluicing above, the grammaticality of (6B) indicates that island violations can be repaired in fragment answers in Korean.

After discussing fragment answers in Korean, the chapter will discuss matrix Sluicing. It will be argued that matrix Sluicing is derived in the same way as fragment answers, but that the island sensitivity of matrix Sluicing in Korean is due to its involving overt movement of wh-phrases to a position between IP and CP, from which they need to establish some relation with an operator in CP at LF. Establishing such a relation will necessarily induce a violation of the modified Chain Uniformity at LF. Later sections of the chapter will show that the proposed analysis can be extended to embedded Sluicing.

[8] The Q-market *ni* is used in colloquial style.

The organization of the rest of the chapter is as follows: Section 2 discusses fragment answers in Korean and provides an account of their island insensitivity. Section 3 discusses matrix and embedded Sluicing in Korean. Section 4 concludes the chapter.

2 Fragment Answers and Ellipsis

2.1 Fragment Answers

Korean is a language that allows fragment answers, as illustrated below:

(7) A: John-i mwuess-ul mekess-ni?

John-Nom what-Acc ate-Q

'What did John eat?'

B: sakwa-lul

apple-Acc

'an apple'

(C: (John-i) sakwa-lul mekesse)

'John ate an apple.'

(8) A: nwu-ka sakwa-lul mekess-ni?

who-Nom apple-Acc ate-Q

'Who ate an apple?'

B: John-i

John-Nom

'John'

(C: John-i (sakwa-lul) mekesse)

'John ate an apple.'

(7) and (8) involve utterances between two speakers A, and B. The B utterance is an answer to the A utterance, and the answer is fragmentary in the sense that it is not a full-fledged sentence as in the C utterance.[9]

Before providing an analysis of fragment answers that include islands, it is necessary to consider how they are derived. One suggestion would be that fragments are derived by ellipsis, as advocated by Morgan (1973), Hankamer (1979), Stanley (2000), and recently Merchant (2004). Under the ellipsis approach, when a speaker utters a fragment, what she really produces is a complete sentence, and the fragment is derived by ellipsis. To see the point more clearly, let us consider (7). Under the ellipsis approach, the fragment in (7B) is generated with a full-fledged sentence as in (7C). The fragment is derived by eliding all other parts, except the object *sakwa-lul* 'an apple-Acc'.

There is a another view on fragments, advocated by Yanofsky (1978), Morgan (1989), Barton (1990), and Stainton (1993, 1994, 1995, 1997, 1998). According to this view, fragments do not

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[9] The fragment answers in (7B) and (8B) are also grammatical if the fragments are caseless. Although caseless and case-marked fragments exhibit similar patterns in many respects, this chapter only discusses case-marked fragments since case-marked fragments constitute clearer cases that involve ellipsis, as will be discussed in subsequent sections. Moreover, it is not clear whether caseless fragment answers can receive the same analysis as case-marked fragment answers, given that in some cases, caseless fragments behave differently from case-marked ones, as shown in (i):

(i) A: Bill-i nwukwu-lul-wuihayse nolay-lul puless-ni?
Bill-Nom who-Acc-for song-Acc sang-Q
'For whom did Bill sing a song?'
B: Mary-lul-*(wuihayse)
Mary-Acc-for
'For Mary'
C: Mary / Mary-(*wuihayse)
Mary / Mary-for
'For Mary'

(iB) shows that the fragment that correlates with the wh-phrase *nwukwu-lul-wuihayse* 'for whom' must appear with the postposition *wuihayse* 'for' when it is case-marked (see section 2.2.1 for discussion). However, as shown in (iC), when it is caseless, the postposition cannot appear. Note also that this chapter will show that similar asymmetry is also observed in Sluicing and argue that while case-marked fragments are derived by ellipsis, caseless fragment answers may not be derived by ellipsis (section 3). (See also Fukaya and Hoji (1999) for similar argument for Japanese Sluicing).

involve ellipsis. Under this view, certain fragments are generated as they are and can be interpreted as propositions, assertions and questions by themselves.

In the following section, it will be argued that fragment answers can be best accounted for by the ellipsis approach.[10]

2.1.1 Ellipsis Approach to Fragment Answers

Based on Hankamer and Sag (1976), Yanofsky (1978) and Staiton (1993, 1994, 1995, 1997, 1998) run tests to tease apart fragments that are derived by ellipsis and ones that are not. One of the tests that is worth mentioning but will not be adopted in this thesis is based on the claim that elliptical fragments require a linguistic antecedent (that is, they involve a 'surface anaphora' rather than a 'deep anaphora' in the typology of Hankamer and Sag 1976), while non-elliptical ones do not. For example, the construction in (9) shows that VP-ellipsis seems to require a linguistic antecedent, suggesting that it is derived by ellipsis:

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[10]One characteristic of fragment answers is that they cannot appear within subordination, as shown in (i):

(i) A: John-i mwuess-ul mekss-ni?
John-Nom what-Acc ate-Q
'What did John eat?'

B: *na-nun [$_{CP}$ sakwa-lul ila-ko] sayngkakhay
I-Top apple-Acc Cop-Com think
'I think that it was an apple.'

The exact nature of the ungrammaticality in (iB) is not yet clear. But notice that fragment answers are not alone in this respect. Stripping and Gapping cannot appear within subordination, either:

(i) a. John likes Mary, and Pam, too.
b. *John likes Mary, and I think Pam, too.

(ii) a. John likes Mary, and Bill Pam.
b. *John likes Mary, and I think Bill Pam.

(9) [At a party, watching Bill leave, one says]

*John will too.

'John will leave too.'

On the other hand, non-elliptical fragments do not seem to require a linguistic antecedent, as shown in (10) [From Staiton (1997)]:

(10) a. [Two people are talking at a party. One points to a man near the door and says]

John's father

b. [A student is receiving instruction in painting. The teacher looks at the current canvas and says]

Nice work.

c. [A boat speeds by. A spectator says]

Very fast.

The fragment answers in Korean seem to pattern with VP-ellipsis in English: they seem to require a linguistic antecedent, rather than a pragmatically supplied antecedent, as exemplified in (11):

(11) [John and Bill share an office. One day, John is trying to finish reading a report before a board meeting starts in a few minutes. Mary came in, but John is so concentrated and did not notice her presence. Being curious, Mary turns to Bill with a curious look in an attempt to get an answer to what John is reading. Bill says]

*pokose-lul

report-Acc

In the same situation, however, the fragment can be a perfect answer to the linguistic antecedent like *John-i mwuess-ul ilkoissni*? 'What is John reading?'

Note, however, that the test has not gone unchallenged in the literature. Stanley (2000) and Merchant (2004), argue that ellipsis is possible even in a context where a linguistic antecedent is not present. The following set of data, which are from Merchant (2004), show that VP-ellipsis is possible without a linguistic antecedent.[11] [(12a) is from Stanley (2000), (12b)-(12d) are from Schachter (1977, 1978), and (12e) is from Hankamer and Sag (1976)]:

(12) a. [Looking at someone about to jump off a bridge]

She won't.

b. [*Miss Clairol* advertisement]

Does she or doesn't she? Only her hairdresser knows.

c. [John attempts to kiss his wife while driving]

John, you mustn't.

d. [As a response to an offer of a second piece of chocolate cake]

I really shouldn't.

e. [Seeing someone who has dyed his hair green]

You didn't.

f. [Seeing someone about to light their head on fire]

Don't

[11] In all cases in (12), Merchant claims that the elided VP is *[$_{VP}$ do it]*.

Bošković (1994) also provides VP-ellipsis examples that do not require a linguistic antecedent, as shown in (13), which shows that the phenomena are not limited to questions, negations, and commands.

(13) a. [John is watching Peter juggle eggs and tells Jane]

?I can too!

b. [John and Mary are plotting a practical joke on Jane. They are watching Jim playing a particularly nasty and difficult to carry out joke on Bill. John turns to Mary and grins]

M: No, we shouldn't.

J: Yes, we should.

M: But we couldn't.

J: Yes, we could.

Thus, the presence/absence of a linguistic antecedent may not be a conclusive test to tell whether fragments are derived by ellipsis (=surface anaphora) or not.

. More conclusive tests come from connectivity effects. As Morgan (1973, 1989) and more recently Merchant (2004) point out, if fragments are derived from their sentential equivalent by ellipsis, we expect there to be grammatical dependencies, also known as connectivity. One aspect of the connectivity that concerns us is case-matching connectivity. The morphological case form of a fragment NP is always exactly the same as the one found on the corresponding NP in a fully sentential answer. Morgan (1989) presents the following set of data from Korean, which is a heavily case-marked language:

(14) A: nwu-ka ku chayk-ul sass-ni?

who-Nom that book-Acc bought-Q?

'Who bought that book?'

B: Youngswu-ka

Youngswu-Nom

C: *Youngswu-lul

Youngswu-Acc

D: Youngswu-ka sasse

Youngswu-Nom bought

'Youngswu bought it.'

(15) A: nwukwu-lul poass-ni?

who-Acc saw-Q?

'Who did you see?'

B: *Youngswu-ka

Youngswu-Nom

C: Youngswu-lul

Youngswu-Acc

D: Youngswu-Acc poasse

Youngswu-lul saw

'I saw Youngswu.'

We can also find other connectivity effects. One of them has to do with Binding Condition A. As Morgan (1989) points out, if a fragment is derived from a sentence by ellipsis, we would expect it to be possible to have an anaphor in the fragment bound by an antecedent in the elided material. (16) and (17) show that there is indeed parallelism between them:

(16) A: [Mary-wa-Sue]-ka nwukwu-lul pinanhayss-ni?

Mary-and-Sue-Nom who-Acc blamed-Q

'Who did Mary and Sue blame?'

B: [selo-uy pwumo]-lul

each other-Gen parents-Acc

'[Mary and Sue]$_i$ blamed each other$_i$'s parents.'

C: [Mary-wa-Sue]$_i$-ka [selo-uy pwumo]$_i$-lul pinanhaysse

Mary-and-Sue-Nom each other-Gen parents-Acc blamed

'[Mary and Sue]$_i$ blamed each other$_i$'s parents.'

The reciprocal fragment in (16B), which is an answer to (16A), is as grammatical as the non-elliptical sentence in (16C). On the other hand, the reciprocal fragment in (17B) is ungrammatical just like the non-elliptical sentence in (17C):

(17) A: nwu-ka [Bill-kwa-Max]-lul pinanhayss-ni?

who-Nom Bill-and-Max-Acc blamed-Q

'Who blamed Bill and Max?'

B: ?*[selo-uy pwumo]-ka

each other-Gen parents-Nom

'lit. Each other$_i$'s parents blamed [Bill and Max]$_i$.'

C: ?*[selo-uy pwumo]$_i$-ka [Bill-kwa-Max]$_i$-lul pinanhaysse

each other-Gen parents-Nom Bill-and Max-Acc blamed

'lit. Each other$_i$'s parents blamed [Bill and Max]$_i$.'

The facts in (16) and (17) are expected under the ellipsis approach. The same pattern is also observed with *casin* 'self':

(18) A: Bill_i-i nwukwu-lul pinanhayss-ni?

Bill-Nom who-Acc blamed-Q

'Who did Bill blame?'

B: (?)[casin-uy pwumo]-lul

self-Gen parents-Acc

'lit. Bill_i blamed self_i's parents.'

C: Bill_i-i [casin_i-uy pwumo]-lul pinanhaysse

Bill-Nom self-Gen parents-Acc blamed

'lit. Bill_i blamed self_i's parents.'

(19) A: nwu-ka Max-lul pinanhayss-ni?

who-Nom Max-Acc blamed-Q

'Who blamed Max?'

B: *[casin-uy pwumo]-ka

self-Gen parents-Nom

'lit. Self_i 's parents blamed Max_i.'

C: *[casin_i-uy pwumo]-ka Max_i-lul pinanhaysse

self-Gen parents-Nom Max-Acc blamed

'lit. Self_i's parents blamed Max_i.'

The connectivity effects considered so far can be accounted for straightforwardly under the ellipsis approach. However, under the non-ellipsis approach to fragments, more complicated analyses would have to be proposed in order to account for the parallelism as in Barton (1990).

2.1.2 Movement + Ellipsis

In the previous section, we have seen that fragment answers are derived by ellipsis. Under the ellipsis approach, there are two different views on how ellipsis takes place. One view assumes that the fragment/remnant stays in situ and the rest of the sentence is elided (Hankamer 1979, Morgan 1989).[12] In some cases, this would involve non-constituent ellipsis, as represented in (20):

(20) [~~X~~ Y-case ~~Z~~]

This view, however, is not consistent with the standard assumption that grammatical operations can only target constituents. The problem can be avoided if we adopt the view that the fragment first moves out of an elliptical site before ellipsis takes place. In particular, I assume that the fragment first undergoes movement to a position above the elliptical site, as recently argued by Kim (1997), Merchant (2004). The representation is shown in (21):

(21) [Y-case [~~X t Z~~]]

In what follows, I will provide arguments in favor of this view. Let us first consider the following data:

[12] Under the ellipsis approach, fragments are generated in a sentence. When they appear in a sentence, they are not fragments anymore, strictly speaking. Still, I will still refer them as fragments (or remnants).

(22) a. *[selo$_i$-uy pwumo]-ka [enu enu haksayng]$_i$-lul pinanhayess-ni?

each other-Gen parents-Nom which which student-Acc blamed-Q

'Which student x, y are such that x's parents blamed y and y's parents blamed x?'

b. [enu enu haksayng-i] [selo$_i$-uy pwumo]-lul pinanhayess-ni?

which which student-Nom each other-Gen parents-Acc blamed-Q

'Which student x, y are such that x blamed y's parents and y blamed x's parents?'

c. [enu enu haksayng]$_i$-lul [[selo$_i$-uy pwumo]-ka t_i pinanhayess-ni?]]

[which which student]-Acc each other-Gen parents-Nom blamed-Q

'Which student x, y are such that x's parents blamed y and y's parents blamed x?'

The contrast between (22a) and (22b) shows that *selo* 'each other' must be bound by a c-commanding antecedent. (22c) shows that it can be bound by the fronted wh-phrase, *enu enu haksayng* 'which which student' With this in mind, let us consider the following examples:

(23) A: [enuenu haksayng]$_i$-lul [[selo$_i$-uy pwumo]-ka t_i pinanhayess-ni?]]

[which which student]-Acc each other-Gen parents-Nom blamed-Q

'Which student x, y are such that x's parents blamed y and y's parents blamed x?'

B: [Bill-kwa-Sue]-lul

Mary-and-Sue-Acc

'lit. [Bill and Sue]$_i$, each other$_i$'s parents blamed.'

C: [Bill-kwa-Sue]$_i$-lul ~~[[selo$_i$-uy pwumo]-ka t_i pinanhayess]]~~

Bill-and-Sue-Acc each other's parents-Nom blamed.'

'lit. [Bill and Sue]$_i$, each other$_i$'s parents blamed.'

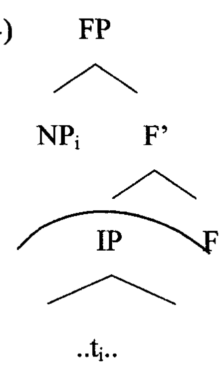
D: *[[selo$_i$-uy pwumo]-ka [Bill-kwa-Sue]$_i$-lul pinanhayess]

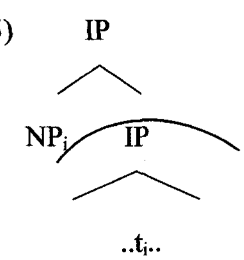
each other-Gen parents-Nom Bill-and-Sue-Acc blamed

'lit. Each other's parents blamed Bill and Sue.'

As a response to (23A), (23B) is grammatical. This can be straightforwardly accounted for under the assumption that ellipsis takes place after the object moves to a sentence initial position. In other words, the fragment is derived from the sentence in (23C), which by itself is also a perfect response. When the underlined constituent is elided, the fragment answer is derived. However, if ellipsis (of the underlined parts in (23D)) took place with the object staying in its canonical position, as shown in (23D), ungrammaticality would arise, contrary to fact.[13]

As for the exact position to which the fragment moves, I assume that it can be Spec of FP (=FocP), which is assumed to be located above IP (cf. Kim 1997), or the IP-adjoined position, which is identified as a position in which scrambled elements are located (Saito 1985). The two structures are given below, respectively:

(24)


(25)


For now, I have no conclusive evidence to choose one option over the other. For ease of exposition, I will only use the structure in (24) in what follows.[14]

[13] See section 2.2 for another argument for the ellipsis approach to fragment answers.
[14] I will also leave open the possibility that both options are available.

2.1.3 Against Cleft -Based Analyses

In the literature, it has been a controversial issue whether certain elliptical constructions in Japanese/Korean are derived from cleft(-like) constructions. For instance, Kuwabara (1996) and Kizu (1997) argue that Sluicing in Japanese is derived from a cleft construction. Nishiyama, Whitman, & Li (1996) argue that Japanese/Korean Sluicing resembles cleft sentences in a certain way and that it results from *pro* plus copula drop (see also Sohn 2000 for a similar proposal for Korean Sluicing). Hoji (1990) argues that Japanese Stripping is derived from a cleft construction.

In line with these, one might argue that fragment answers are derived from a cleft(-like) construction. In this section, I will show that fragment answers cannot be derived fromm a cleft(-like) construction. Let us consider (26):

(26) A John-i mwuess-ul mekess-ni?

John-Nom what-Acc ate-Q

'What did John eat?'

B sakwa-lul

an apple

C (?)[John-i mekun-kes]-un sakwa-lul-i-ta/ya

John-Nom ate-Nm-Top apple-Acc-Cop-Decl

'It was an apple that John ate.'

D *[John-i mekun-kes]-un sakwa-lul

John-Nom ate-Nm-Top apple-Acc

'It was an apple that John ate.'

E ?*sakwa-lul-i-ta/ya

apple-Acc-Cop-Decl

'It was an apple that John ate.'

(26B) constitutes a perfect answer to the question in (26A). The cleft in (26C) is also a good answer to the question.[15] Given this, one might argue that the fragment answer in (26B) is derived from the cleft in (26C). This could be achieved by assuming that the topic phrase can be *pro* (cf. Kuwabara (1995)). Note, however, that when a focused element appears with a case marker in the focused position in a cleft, it cannot appear alone. It must appear with the copular *i* and the declarative marker *ta/ya*, as shown in the contrast in (26C) and (26D). The ungrammaticality of (26E) shows that the topic phrase must appear. If (26C) were the source from which the fragment answer (26B) is derived, the derivational steps would involve (26D) and (26E) (order irrelevant), and that it would be incorrectly expected that the fragment answer would be ungrammatical.

2.2 Fragment Answers and Island Repair

As discussed in section 1, while (certain) island violations are ameliorated in Sluicing in English, such amelioration effects are not observed in Sluicing in Korean/Japanese. Given this, one might hypothesize that amelioration effects are not observed at all in these languages. However, as already pointed out in section 1, fragment answers pattern with Sluicing in English, exhibiting amelioration effects. In this section, I will discuss fragment answers in Korean in this regard and demonstrate that island violations are repaired by ellipsis. The study of this will constitute a stepping stone to account for why island violations are not ameliorated in Korean Sluicing (section 3).

2.2.1 Heading Towards PF

[15]For some speakers, (26C) is slightly deviant. The deviance is due to the presence of the case marker with the focused element. Without the case marker, the construction is perfect. The crucial point here is that for the same speakers, (26C) is clearly much better than (26D) or (26E).

(27) and (28) show that fragment answers in Korean are island-insensitive:

(27) A: John-un [casin-uy tongsayng-ekey mwuess-ul cwun salam]-ul manass-ni?

John-Top self-Gen brother-to what-Acc gave person-Acc met-Q?

'*What did John meet a person who gave to his brother?'

B: sakwa-lul

apple-Acc

'An apple'

C: ?*[sakwa-ul]$_i$ [John-un [casin-uy tongsayng-ekey t_i cwun salam]-ul manasse]

(28) A: John-un [nwu-ka cakokhan nolay]-lul puless-ni?

John-top who-Nom wrote song-Acc sang-Q

'*Who did John sing a song that wrote?'

B: Max-ka

Max-Nom

'Max'

C: ?*[Max-ka]$_i$ [John-un [t_i cakokhan nolay]-lul pulesse]

As a response to the question in (A), the fragment answer in (B) is perfect. As discussed in the previous sections, fragment answers involve movement of the remnant to a sentence initial position, followed by ellipsis. Before ellipsis takes place, we have the sentence in (C), which exhibits an island effect. The island effect disappears when ellipsis takes place. The absence of island effects in fragment answers can be accounted for if we assume, with Merchant (2001), Lasnik (2001b) and Fox and Lasnik (2003), that (certain) islands are PF-islands[16] and that ellipsis

[16] I would like to remind the reader again that Merchant (2001) argues that relative clause islands are not PF-islands but LF-islands (chapter 2, section 3.1).

takes place at PF. Then, it naturally follows that eliminating islands themselves at PF via ellipsis has the effect of repairing island violations.

In what follows, I will argue that ellipsis process in Korean takes place at PF. This is a necessary step to be taken, since under a competing approach to ellipsis, viz. LF-copying analysis, the island insensitivity of fragment answers can be accounted for trivially, as will be discussed shortly. I will first briefly introduce the two approaches. Under the PF-deletion approach, which is argued for in this thesis, an elided constituent is generated with a full-fledged structure and terminal elements in overt syntax and ellipsis takes place at PF (cf. Ross 1969, Sag 1976, Tancredi 1992, Chomsky and Lasnik 1993). On the other hand, the LF-copying approach assumes that an elided constituent is generated without terminal elements in overt syntax and a relevant antecedent is copied into the elided constituent (cf. Williams 1977, May 1985). Under the LF-copying approach, the island insensitivity of fragment answers may trivially be accounted for. If we adopt the standard assumption that island violations are induced by movement, the lack of island effects in fragment answers follows since no movement of the remnants is involved in the first place, as Chung, Ladusaw, and McClosky (1995) argue in order to account for the island insensitivity in English Sluicing. Of these two approaches, however, I will show that fragment answers in Korean can best be accounted for under the PF-deletion approach.

Merchant (2001) provides arguments for the PF-deletion approach. One of the arguments is based on preposition stranding (P-stranding) under wh-movement. In languages that allow P-stranding (such as English), the residue of Sluicing can be the bare object of a preposition; in languages that don't (such as Greek), it can't:

(29) Peter was taking with someone, but I don't know who.

(30) I Anna milise me kapjon, alla dhe kesero *(me) pjon
the Anna spoke with someone but no I.know with who
'Anna spoke with someone but I don't know who.'

This strongly suggests that Sluicing involves movement of the remnant wh-phrase in overt syntax, followed by deletion at PF.

Merchant provides another argument, which is based on case matching connectivity in Sluicing. In overtly case inflected languages such as German, the case of the remnant is just what the case of the fronted wh-phrases would have been in the non-elliptical form, as shown in the following example:

(31) Er will jemandem schmeicheln, aber sie wissen niche,

he wants someone.Dat flatter but they know not

*wer / *wen / wem

who.Nom who.Acc who.Dat

'He wants to flatter someone, but they don't know who.'

Merchant reasons that the case matching connectivity is straightforwardly accounted for under the assumption that the wh-phrase undergoes movement, followed by PF-deletion, but somewhat obscure on the LF-copying analysis to ellipsis.[17]

Korean Sluicing and fragment answers also exhibits the P-stranding connectivity in the relevant respect. First, notice that Korean does not have preposition but postposition and, as exemplified in (32) and (33), does not allow postposition stranding:

[17] The case-matching connectivity argument may not be so strong, since one might come up with a mechanism of matching case form under the LF-copying approach. However, it seems to me that such mechanism would involve additional assumptions and thus make the system more complex. (I am grateful to Howard Lasnik for clarifying this point).

(32) *nwukwu-lul$_i$, Bill-i t_i-wuihayse nolay-lul puless-ni?

who-Acc, Bill-Nom -for song-Acc sang

'Who did Bill sing a song for?'

(33) *Mary-lul$_i$, Bill-i t_i-wuihayse nolay-lul pulesse

Mary-Acc, Bill -for song-Acc sang

'Mary, Bill sang a song for.'

Let us now assume that the wh-remnant in Korean Sluicing moves to a sentence initial position (see section 3 for discussion), as the remnant NP in fragment answers does. Then, we expect that postposition stranding is not allowed in Sluicing or fragment answers, which is confirmed in the following examples:

(34) Bill-i nwukwunka-lul-wuihayse nolay-lul purenkes katun-tey

Bill-Nom someone-Acc-for song-Acc sing seem-but

na-nun nwukwu-lul-*(wuihayse) i-nci molukesse

I-Top who-Acc-for Cop-Q not:know

'It seems that Bill sang a song for someone but I don't know who.'

(35) A: Bill-i nwukwu-lul-wuihayse nolay-lul puless-ni?

Bill-Nom who'-Acc-for song-Acc sang-Q

'For whom did Bill sing a song?'

B: Mary-lul-*(wuihayse)

Mary-Acc-for

'For Mary'

Case matching connectivity is also observed in Sluicing in Korean, as shown in (36). And as discussed in section 2.1.1, it is also observed in fragment answers in Korean, as shown in (37):

(36) John-i mwuenka-lul messkun-kes kathen-tey, na-nun
John-Nom something-Acc ate-Nm seem:but, I-Top
mwuess-ul / *mwuess-i / *mwuess-ekey i-nci molukesse
what-Acc what-Nom what-Dat Cop-Q not:know
'It seems that John ate something, but I don't know what.'

(37) A: nwu-ka nolay-lul puless-ni?
who-Nom song-Acc sang-Q
'Who sang a song?'
B: Max-ka / *Max-Acc / *Max-ekey
Max-Nom Max-Acc Max-Dat
'Max'

The same case matching effects are observed when islands are involved in fragment answers:

(38) A: John-un [nwu-ka cakokhan nolay]-lul puless-ni?
John-top who-Nom wrote song-Acc sang-Q
'*Who did John sing a song that wrote?'
B: Max-ka /*Max-lul /*Max-ekey
Max-Nom Max-Acc Max-Dat
'Max'

The data discussed so far suggest that Sluicing and fragment answers are derived by ellipsis at PF.

Multiple Fragment Answers (MFA) also provide another argument against the LF-copying approach. MFA involves more than two remnants, as shown in (39) and (40):

(39) A: nwu-ka mwuess-ul sass-ni?
who-Nom what-Acc bought-Q
'Who bought what?'
B: John-i chayk-ul
John-Nom book-Acc
'John bought a book.'

(40) A: John-i nwukwu-ekey mwuess-ul cuess-ni?
John-Nom who-Dat what-Acc gave-Q
'What did John gave whom?'
B: Bill-ekey chayk-ul
Bill-Dat book-Acc
'John gave Bill a book.'

MFA is also possible with two remnants, extracted from the embedded and the matrix clause, respectively:[18]

[18]For some speakers MFA in these contexts sounds slightly degraded, which is marked as '(?)' in (41) and (42). However, it becomes better when multiple pair-list answers are provided. So as a continuation to (42B), one can keep saying *Max-ka nothu-lul* 'Max-Nom Notebook-Acc' and so on, listing a person-object pair, which makes the constructions perfect for those speakers. The same effects are also observed in Sluicing contexts, as observed by Nishigauchi (1998). Crucially, the contrast between (41)/(42) and (43)/(44) is significant even for those speakers.

(41) A: nwu-ka John-i ecey mwuess-ul sassta-ko malhayss-ni?

who-Nom John-Nom yesterday what-Acc bought-Comp said-Q

'Who said that John bought what yesterday?'

B: (?)Bill-i chayk-ul

Bill-Nom book-Acc

'Bill said that John bought a book yesterday.'

(42) A: John-i nwukwu-ekey Bill-i ecey mwuess-ul sassta-ko malhayss-ni?

John-Nom who-Dat Bill-Nom yesterday what-Acc bought-Comp said-Q

'Who did John tell that Bill bought what yesterday?'

B: (?)Max-ekey chayk-ul

Max-Dat book-Acc

'John told Max that Bill bough a book yesterday.'

Interestingly, when one remnant is extracted from inside an island and the other from outside of the island, the constructions are severely degraded, as shown in the following examples:

(43) A: nwu-ka ecey mwuess-ul san salam-ul manass-ni?

who-nom yesterday what-Acc bought person-Acc met-Q

'Who met a person who bought what yesterday?'

B: *John-i chayk-ul

John-Nom book-Acc

'John met a person who bought a book yesterday.'

(44) A: John-i nwukwu-ekey mwuess-ul calhanun salam-ul sokayhayss-ni?

John-Nom who-Dat what-Acc do-well person-Acc introduced-Q

'Who did John introduce to a person who is in good at what?'

B: *Bill-ekey yori-lul

Bill-Dat cooking-Acc

'John introduced Bill a person who is good at cooking.'

Under the LF-copying approach, the island effects in MFA seem to be problematic, since under the approach, there would be no movement involved and thus no island effects would arise in the first place. In section 3.3.1, it will be shown that the emergence of the island effects in MFA receives a natural account under the PF-deletion approach. More specifically, it will be argued that the ungrammaticality in (43) and (44) is due to the fact that the remnants in MFA undergo overt movement in a specific way, which results in a violation of Parallelism. The discussion on MFA will be continued after we make certain assumptions about Parallelism (2.2.3).

It is also worth noting here that the emergence of island effects in certain MFA contexts also constitutes evidence for ellipsis approach to fragments. If fragment answers were not generated from their sentential equivalent, followed by movement, the island effects in MFA would remain mysterious.

2.2.2 Island Repair in Fragment Answers and Parallelism

The island insensitivity in fragment answers in Korean patterns with Sluicing in English, as shown in (45):

(45) They want to hire someone who speaks a Balkan language, but I don't know [$_{CP}$ which (Balkan language) ~~[$_{IP}$ they want to hire someone who speaks t]~~]

Note, here, that Merchant (2001) argues that relative clause islands are not PF-islands but LF-islands, and thus they cannot be repaired by ellipsis. He suggests that (45) is grammatical since it involves a different derivation that does not involve an island in the first place, as shown in (46):

(46) They want to hire someone who speaks a Balkan language, but I don't know [$_{CP}$ which (Balkan language) ~~[$_{IP}$ she should speak]~~]

However, Lasnik (2001b) shows that island repair does take place with relative clause islands, based on data like (47):

(47) Every linguist$_i$ met a philosopher who criticized some of his$_i$ work, but I'm not sure how much of his$_i$ work ~~[$_{IP}$ every linguist$_i$ met a philosopher who criticized t]~~
(Lasnik's (52))

In (47), the pronoun *his* in the second conjunct is a variable bound by the universal quantifier *every linguist*, and ensures that the Sluicing site contains the relative clause island. This contrasts with an example lacking the relative clause:

(48) ??Every linguist$_i$ met a philosopher who criticized some of his$_i$ work, but I'm not sure how much of his$_i$ work the philosopher criticized t (Lasnik's (53))

Thus, one can safely conclude that the wh-phrase in (47) has moved out of the complex NP and the island violation is repaired by ellipsis.

The same conclusion can be reached with respect to fragment answers in Korean. The following example shows that the NP *casin-uy haksayng-ul* 'self's student' has moved out of the relative clause, and that the island violation caused by the movement is repaired by ellipsis:

(49) A: motun sensayng-nim-i [nwukwu-lul koyonghan hoysa]-ey cenhwahass-ni?
every teacher-Hon-Nom who-Acc hired company-to called-Q
'*Who did every teacher call the company that hired?'

B: [casin$_i$-uy haksayng-ul] ~~[motun sensayng-nim-i$_i$ [t koyonghan hoysa]-ey~~
self's student-Acc every teacher-Hon-Nom hired company-to
~~cenhwahasse]~~
called
'Every teacher$_i$ called the company that hired his$_i$ student'

Let us now consider how fragment answers are licensed. In accounting for fragment answers, I adopt Fox and Lasnik's (2003) analysis of ellipsis. The analysis intends to account for the ungrammaticality of VP-ellipsis in Sluicing environments, as in (50b):

(50) a. They said they heard about a Balkan language, but I don't know which Balkan language ~~[$_{IP}$ they said they heard about]~~

b. *They heard a lecture about a Balkan language, but I don't know which Balkan language they did ~~[$_{VP}$ hear about]~~

As discussed in Chapter 2, Fox and Lasnik assume following Fiengo and May (1994) that for ellipsis to be possible, Parallelism requirements must be satisfied. Parallelism requires that there be parallel dependencies between the antecedent and the elliptical clauses. To see how this works more clearly, let us consider (50a). In the first conjunct of (50a), the indefinite NP *a Balkan* *language* does not move but is bound by existential closure from outside of the entire clause. Parallelism requirements prevent the wh-phrase in the second conjunct from undergoing successive cyclic movement; the wh-phrase must undergo one-fell swoop movement to Spec of CP, so that variables in the antecedent and the elliptical clause are bound form parallel positions. They argue that the one-fell swoop movement induces "island" violations on every maximal projection that the wh-phrase would have to drop by. This movement leaves a * on every projection that is skipped by the one-fell swoop movement. This will lead to PF violations, unless all *'s are eliminated by ellipsis. All *'s are eliminated in the case of Sluicing as in (50a). However, not all *'s are eliminated in the case of VP-ellipsis. At least IP and AspP are left unelided, and thus a PF violation is induced. This is why (50b) is ungrammatical.

Fox and Lasnik's analysis allows us to account for fragment answers in Korean. Let us consider (28) again, which is repeated as (51), for convenience:

(51) A: John-un [nwu-ka cakokhan nolay]-lul puless-ni?
John-top who-Nom wrote song-Acc sang-Q
'*Who did John sing a song that wrote?'

B: Max-ka
Max-Nom
'Max'

C: ?*[Max-ka]$_i$ [John-un [t$_i$ cakokhan nolay]-lul pulesse]

First, I assume that in (51A), the wh-phrase in the antecedent phrase does not undergo covert movement but is unselectively bound by an Operator (cf. Pesetsky 1987, Nishigauchi 1986, 1990, Reinhart 1995, 1997, Aoun and Li 1993, Tsai 1994).[19] To satisfy Parallelism, the focused NP in

[19] One of the reasons to adopt the non-movement approach to (argument) wh-in-situ phrases in Korean is that they show island-insensitivity. This fact is straightforward under the non-movement approach but

(51B) should also undergo one-fell swoop movement to Spec of FP. The movement induces many "island" violations, however, as shown in (52):

(52) [Max-ka]$_i$ ~~*[$_{IP}$ John-un *[$_{VP}$ *[$_{NP}$ *[$_{CP}$ t_i cakokhan] nolay] lul pulesse]]~~

In (52), all of the offending projections marked with * are eliminated by ellipsis, resulting in grammaticality.

As discussed in chapter 2, Fox and Lasnik's Parallelism, which is adopted from Fiengo and May (1994), has a global property, in that it needs to be checked outside of the elliptical site. For example, in (50a), the dependency between the wh-phrase and its trace spans across the elided IP. In some cases, Fox and Lasnik's Parallelism also seems to induce clear effects outside of the elliptical constituent. For example, as Fox and Lasnik note, it correctly prevents a potential derivation for (50b) that would otherwise render the sentence grammatical. The derivation would involve one-fell swoop movement of the wh-phrase to the next available position above VP, which is assumed to be the AspP-adjoined position. Subsequently, the wh-phrase moves to Spec of CP successive cyclically. The one-fell swoop movement of the wh-phrase leaves a * on the skipped projections, which would all be eliminated by ellipsis at PF. It is Parallelism that prevents the derivation. Given that there are traces outside of the VP in the elliptical conjunct that are absent in the antecedent, Parallelism is not satisfied. This shows that traces outside of the elliptical constituent should be counted for checking Parallelism.

In chapter 2, however, it was argued that Parallelism need not be satisfied globally. It was proposed instead that it suffices that Parallelism be satisfied locally, which was stated as follows:

---

becomes unclear under a movement approach. As it will turn out, for purposes of the chapter, the choice between these two approaches is immaterial.

(53) Local Parallelism

Parallelism needs to be satisfied only within elided constituents (VP/IP)

Under Local Parallelism, only the elided constituent and its corresponding antecedent constituent are considered for checking Parallelism. In other words, Local Parallelism ensures that parallel dependency be established within an elided constituent and its corresponding antecedent constituent. What if no dependency is established within an elided constituent, as in (54), where presumably nothing moves VP-internally?

(54) John will sing and Bill will ~~[$_{VP}$ sing]~~ too.

If Parallelism is defined in terms of parallel dependency, as is assumed in this thesis, Local Parallelism is irrelevant in this case. Likewise, no Local Parallelism issues arise in (50a) when the wh-phrase undergoes one-fell swoop movement to Spec of CP, because no dependency is established within IP. Local Parallelism, however, correctly prevents successive cyclic movement of the wh-phrase from taking place. If successive cyclic movement took place, there would be a dependency established among traces within the elliptical IP, which are absent in the antecedent IP. Local Parallelism accounts for why the wh-phrase in (50b) cannot move successive cyclically. Of course, it is necessary to provide a way of preventing the potential derivation, discussed above, where the wh-phrase first moves to AspP in one-fell swoop, followed by successive cyclic movement. In chapter 2, I agued that an independent condition prevents this derivation. The condition was called Chain Uniformity, borrowing the term from Chomsky and Lasnik (1993). I will reintroduce the condition in section 3.3.1, where the relevant extension of the condition is discussed. In section 2.2.3. further arguments for adopting Local Parallelism are provided.

At this point, it is worth noting that Merchant (2004) shows that island violations are not ameliorated in fragment answers in English. He first provides ample evidence that fragment answers involve movement of the remnant, followed by ellipsis at PF. One of the argument that movement is involved comes from island sensitivities of fragment answers. Since the simple questions that would test for island sensitivities are themselves island violations, Merchant adopts ways out of this limitation. One of them that is relevant is to examine fragment answers to implicit salient questions (Morgan 1973, Hankamer 1979). Asking a yes-no question with an intonation rise on a particular constituent, as in (55), can give rise to an implicit constituent question where the appropriate wh-phrase replaces the accented constituent, indicated with italics. In (55), the answerer can take it that the questioner may be interested in the answer to the question *What language(s) did Abby claim she speaks fluently?,* in addition to the narrower answer to her yes-no question. Under this situation, the answerer can provide an answer like (55C) or its fragmentary form (55B):

(55) A: Did Abby claim she speaks *Greek* fluently? (Merchant's (85))

B: No, *Albanian.*

C: No, she claimed she speaks *Albanian* fluently.

Because the focused constituent may be embedded in an island, as in (56A), this can give rise to implicit questions in which the constituent corresponding to the informative part of the answer is itself inside an island, as in (56C). Under these circumstances, the fragment answer is impossible, as shown in (56B):

(56) A: Does Abby speak the same Balkan language that *Ben* speaks? (Merchant's (87))

B: *No, *Charlie.*

C: No, she speaks the same Balkan language that *Charlie* speaks.

Merchant provides an account of the ungrammaticality of (56B) by assuming an extra layer of structure, through which the fragment in question proceeds. For him, the extra layer is CP. The structure of the fragment answer in (56B) is shown below:

(57) ..FP

[$_{DP}$ Charlie]$_2$ F'

F CP

*t'$_2$ C'

C TP

[E]

Abby *v*P

speaks [$_{DP}$ [$_{DP}$ the same Balkan language] CP]

that t_2 speaks

In (57), the fragment moves to Spec of FP through Spec of CP, followed by TP/IP-ellipsis. He assumes that intermediate traces of island-escaping XPs are defective, marked with *, and that this * feature must be eliminated from the object interpreted by PF. Merchant further assumes that defective traces can be eliminated by ellipsis. However, in (57), the ellipsis process only targets TP/IP and does not eliminate the defective trace in Spec of CP. The remaining defective trace results in the ungrammaticality.

Unlike the case of English, fragment answers to yes-no questions in Korean are island-insensitive:

(58) A: Abby-nun [*Ben-i* sayonghanun Balkan ene]-lul sayongha-ni?[20]

Abby-Top Ben-Nom use Balkan-language-Acc use-Q

'Does Abby speaks a Balkan language that Ben speaks?'

B: (?)?ani, *Charlie-ka*

No, Chalie-Nom

C: ani, [Abby-nun [*Charlie-ka* sayonghanun Balkan ene]-lul sayonghay]

No, Abby-Top Chalie-Nom use Balkan language-Acc use

'No, Abby speaks a Balkan language that Charlie speaks.'

(59) A: Abby-nun [casin-uy tongsayng-ekey *banana-lul* cwun salam]-ul manass-ni?

Abby-Top self-Gen brother-to banana-Acc gave person-Acc met-Q?

'Did Abby meet a person who gave a banana to his brother?'

B: ?ani, *sakwa-lul*

No, apple-Acc

'No, an apple'

C: ani, [Abby-nun [casin-uy dongsayng-ekey *sakwa-lul* cwun salam]-ul manasse]

No, Abby-Top self-Gen brother-Dat apple-Acc gave person-Acc met

'No, Abby met a person who gave her brother an apple.'

[20] In (58A), the Korean word *katun* 'same' is omitted to make the sentence sound natural. Note also that for some speakers, the fragment answer in (58B) sounds a bit worse that the one in (59B). It is not clear why this is so, but this seems to have to do with tense. For example, a fragment answer to a question with past tense becomes better for the same speakers, as shown in (i):

(i) A: Abby-nun [*Ben-i* cakokhan nolay]-lul puless-ni?

Abby-Top Ben-Nom wrote song-ACC sang-Q

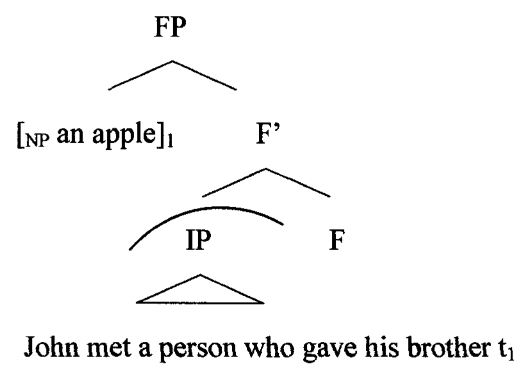
'Did Abby sang a song that Ben wrote?'

B: ?ani, *Charlie-ka*

No, Chalie-Nom

Under Merchant's analysis of fragment answers, the island insensitivity in Korean fragment answers can be explained if we assume that in Korean, the remnant moves to a projection that immediately dominates IP and stays there. The structure is already suggested in section 2.1.2, where it is suggested that the remnant moves to Spec of FP. The relevant structure for (49B) is given in (60), with English words used for simplicity:

(60)



When ellipsis targets IP in the structure above, no defective traces remain. Crucially, if there were an extra layer of the phrase between FP and IP, as Merchant (2004) suggests for English fragment answers, we would expect the fragment answer to be ungrammatical, contrary to fact.

Although Merchant's analysis seems to work with Korean fragment answers, this chapter only discusses fragment answers to wh-questions, because it is not obvious at this point what should be identified as a proper antecedent for the elided constituent. Is it a yes-no question or an implicit wh-question? If it is a yes-no question, what should we do with the focused correlate in order to check Parallelism? If it is an implicit wh-question, what should we do with the correlate wh-phrase? Especially, in the case of English, it is not clear what kinds of implicit wh-questions would be available when islands are involved: would the correlate wh-phrase stay in situ, which, under normal circumstances, would not be allowed? Recall that it is important to identify a proper antecedent in order to check Parallelism. But given that more questions arise than can be answered at this point, I will leave the issues open for future research.

2.2.3 A Note on Parallelism

In this section, I provide an argument for Local Parallelism. Given that the argument is based on scope interactions in certain contexts in Korean, I will first consider how scope interpretations come about in these contexts. As is well known, Korean is subject to scope rigidity effects (cf. Hoji 1985, Ahn (1990), Sohn (1995), among many others). (61) is a representative example:

(61) enu namhaksayng-i motun paywu-lul coahay
some male-student-Nom every actor-Acc like
'There is a male-student that likes every actor.'

In (61), the indefinite NP has wide scope over the universal quantifier and this is the only scopal interpretation available.[21] Traditionally, the term scope rigidity is used in comparison with the corresponding English sentence like *Some male-student likes every actor*, which for many speakers is ambiguous. Although the exact nature of scope rigidity effects remains to be discovered, for present purposes of discussion, I will assume that the effects are induced because Korean lacks an operation like Quantifier Raising (QR) (cf. Saito 1992). In (61), for example, the universal quantifier does not raise and adjoin to IP, yielding only narrow reading of the universal quantifier. The lack of QR can be instantiated if we assume that universal quantifiers in Korean lack features that drive such movement (See also chapter 2 for relevant discussion).

Note that when a universal quantifier appears as a subject and an indefinite as an object, as in (62), the sentence is ambiguous:

[21] For some speakers, (61) is ambiguous.

(62) motun namhaksayng-i enu paywu-lul coahay

every male-student-Nom some actor-Acc like

a. 'For every male-student, there is an actor that he likes.'

b. 'There is an actor that every male-student likes.'

The wide scope of the universal quantifier is straightforward. If we assume that the indefinite does not undergo QR across the universal quantifier, how can the wide scope of the indefinite be obtained? I assume that the wide scope (effect) of the indefinite is obtained since an indefinite can be interpreted as a choice function variable, which can be bound by a choice function operator anywhere in a sentence (Reinhart 1995,1997). When the operator is inserted above the universal quantifier, it yields an interpretation that is equivalent to the wide scope of the indefinite. (See chapter 5 for full paradigm and detailed discussion).

The sentence in (62) remains ambiguous when the indefinite is scrambled, as shown in (63):

(63) [enu paywu-lul]$_i$ motun namhaksayng-i t_i coahay

some actor-Acc every male-student-Nom like

a. 'For every male-student, there is an actor that he likes.'

b. 'There is an actor that every male-student likes.'

The wide scope of the indefinite is straightforward. However, if we assume that the universal quantifier cannot undergo QR over the indefinite, the question that arises now is how the narrow scope of the indefinite comes about. I assume, following Saito (1989, 1994) and Sohn (1994), that the scrambled indefinite can optionally undergo LF reconstruction. The narrow scope of the indefinite in (63) is obtained when it is reconstructed. Given that reconstruction is optional, the indefinite NP can also stay in its scrambled position at LF, yielding the wide scope reading of the indefinite.[22]

With this much as background, let us consider the fragment answer in (64):

(64) A: motun-namhaksayng-i nwukwu-lul coaha-ni?

every male-student-Nom who-Acc like-Q

'Who does every male-student like?'

B: enu-paywu-lul ~~[$_{IP}$ motun namhaksayng-i t coahay]~~

some actor-Acc every male-student-Nom like

'There is some actor that every male student likes.'

'For every male-student$_i$, there is an actor that he$_i$ likes.'

The fragment answer in (64B) is ambiguous. The wide scope of the indefinite is obtained when it stays in the fronted position. Given that ellipsis is possible, Parallelism must be satisfied. If we assume, in line with the discussion in section 2.2.2, that the wh-phrase in the antecedent sentence does not move but is (unselectively) bound by an operator, it must be the case that the indefinite in the elliptical sentence moves in one fell swoop. Then, Global Parallelism is satisfied. Note that Local Parallelism does not apply, since no relevant dependency is established within the two IPs.[23]

There is another derivation that yields the effect of the wide scope of the indefinite. The derivation involves reconstruction of the fronted indefinite, followed by binding of the indefinite

[22] Alternatively, we can account for the ambiguity in (63) if we adopt the copy-deletion approach to movement. Under this approach, the scrambled NP leaves behind a copy instead of a trace. Depending on which copy is deleted, we have two different LF representations. If the copy in the scrambled position is deleted, the narrow scope of the indefinite is obtained. If the copy in the scrambled position is kept, the wide scope the indefinite is obtained.

[23] If we assume that the wh-phrase moves successive cyclically, the indefinite must also move successive cyclically. In this case, both Global and Local parallelism are satisfied.

by a choice function operator from across the universal quantifier. With the representation, Global Parallelism is satisfied. Again, Local Parallelism is not an issue in this case.

However, the availability of narrow scope of the indefinite seems to pose a problem for Global Parallelism. For narrow scope of the indefinite to be possible, it is necessary that the fronted indefinite in (64B) be reconstructed below the universal quantifier, as represented in (65):

(65) [$_{IP}$ motun namhaksayng-i enu-paywu-lul coahay]
every male-student-Nom some actor-Acc like

When the reconstructed indefinite is interpreted as an existential quantifier, narrow scope of the indefinite is obtained.[24] Notice, however, that in the antecedent sentence in (64A), there is a dependency established between the wh-phrase and its operator (in the position of CP). Global Parallelism expects a parallel dependency to exist in the fragment answer across IP. But no such dependency is established with the representation in (65). Under Local Parallelism, on the other hand, the problem does not arise, because no dependency is established within both IPs and thus Parallelism is irrelevant.

2.3 Interim Summary

Section 2 has discussed fragment answers in Korean. It has been argued that fragment answers involve ellipsis, following movement of the remnant. It has also been shown that island violations are ameliorated in these constructions. Assuming that ellipsis takes place at PF, this suggests that islands in Korean are also PF-islands, as Merchant (2001) and Fox and Lasnik (2003) argue for

[24] I am assuming that indefinites in Korean are ambiguous between existential quantifiers and choice function variables (cf. Reinhart 1997). See chapter 5 for discussion.

English Sluicing. Finally, additional arguments for Local Parallelism have been provided. Based on the results obtained, the following section will discuss Sluicing in Korean.

3 Sluicing and Island Repair

3.1 Matrix Sluicing and Embedded Sluicing

As mentioned in section 1, Sluicing in Japanese exhibits island sensitivity when the remnant wh-phrase is case marked (Takahashi 1994a, Fukaya and Hoji 1999). This is also true of Korean:

(66) John-un [Bill-ekey mwuenka-lul cwun salam]-kwa manna-kes katen-tey,
John-Top Bill-to something-Acc gave person-with meet-Nm seem-but
Na-nun mwuess(-?*ul) i-nci molukesse
I-Top what-Acc Cop-Q not:know
'It seems that John met someone who gave Bill something, but I don't know what.'

Fukaya and Hoji derive the difference between case marked and non-case marked Sluicing with respect to islandhood by positing different derivations for the two types of Sluicing. For the case marked wh-phrase, Fukaya and Hoji assume that what is elided is IP and the wh-phrase is generated in the IP-adjoined position. Assuming the LF-copying approach to ellipsis, they assume that the elliptical IP is generated empty and needs to be copied from the antecedent IP. In the antecedent sentence, the indefinite NP that correlates with the wh-phrase must move out of the sentence in order to obtain a proper antecedent to be copied. If it stays in situ and is copied as such, the wh-phrase binds the indefinite NP, instead of a variable, resulting in an illegitimate representation at LF. This movement, however, must take place out of the island in (66), resulting in an island violation. For the non-case marked Sluicing, they assume that it does not involve ellipsis, but *pro*. Since no LF-copying is required, no island violations occur.

Fukaya and Hoji's analysis, however, seems to be problematic in accounting for the contrast between Korean Sluicing and English Sluicing. As noted in section 1, unlike Korean, Sluicing in English is island-insensitive. If we assume that LF-copying applies to English Sluicing as well, we would expect Sluicing in English to be island-sensitive, contrary to fact.[25] Note also that one cannot simply hypothesize that LF-copying applies to Korean, while PF-deletion applies to English. This would account for the island insensitivity in Sluicing in English, as discussed section 2.2.2. However, as we have seen in section 2.2.1 and 2.2.2, fragment answers in Korean are derived by PF-deletion. Then, we should expect that PF-deletion can be a viable option for Sluicing in Korean. The question that arises now is why island violations cannot be repaired in Sluicing in Korean.

In the following section, I will provide an account of the island sensitivity in Sluicing in Korean.[26] The discussion takes a little detour and starts with matrix Sluicing, which shows the same behavior as embedded Sluicing in the relevant respects. One of the reasons to investigate matrix sluicing first is that we can compare it with fragment answers that we discussed in the previous sections. As it will turn out, the similarities between these two types of constructions will help provide an account of the island sensitivity in Sluicing constructions.

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[25] It is worth noting here that Chung, Ladusaw and McClosky (1995) also adopt the LF-copying approach to Sluicing. However, unlike Fukaya and Hoji (1999), they adopt this approach to account for island insensitivity of Sluicing in English.

Fukaya (2003) reports that Japanese Sluicing counterpart to (66) is grammatical and argues that it is grammatical since there is a different derivation available that involves an E-type pronoun but does not involve any islands, as Merchant (2001: Ch 5) argues for the English counterpart. Fukaya concludes that the relative clause island in English and Japanese is an LF-island and hence is not repaired by ellipsis. However, to my informants and myself, Sluicing constructions such as (66) are pretty degraded, as Takahashi (1994a) and Fukaya and Hoji (1999) originally reported for the Japanese counterpart. Note also that Lasnik (2001b) convincingly showed that the amelioration effects are still observed in English Sluicing even in the contexts where the island itself is clearly included in the derivation (see discussion in section 2.2.2).

[26] Recall that Sluicing is island-insensitive when the wh-remnant is not case-marked. I will also provide an account of this fact in section 3.3 and 3.4.

3.2 Matrix Sluicing

3.2.1 Matrix Sluicing and Ellipsis

Lasnik (2001b) argues that English Sluicing is not confined to embedded clauses.[27] As shown in (67), it is also possible in matrix clauses:[28]

(67) A: John ate something.

B: What?

Certain similarity between matrix and embedded Sluicing strongly suggests that matrix Sluicing is derived in the same way as the corresponding embedded Sluicing, i.e. matrix Sluing also involves wh-movement to Spec of CP, followed by IP-ellipsis. Ross (1969) first observed that there is a curious prepositional phrase word order inversion in certain instances of Sluicing:

(68) a. Lois was talking, but I don't know to whom.

b. Lois was talking, but I don't know who to.

Merchant (2001) notes that just this same inverted word order is available in the matrix construction:

(69) a. A: Lois was taking. B: To whom?

b. A: Lois was taking. B: Who to?

[27] See also Lasnik (2001a).
[28] See Merchant (2001) for discussion on why no overt element appears in C in matrix Sluicing in (67B), in contrast to matrix questions.

The fact that the inversion shows up in both of these two constructions, and only in these, is strong evidence that the constructions are the same.

If matrix Sluicing involves the same derivation as embedded Sluicing, we would expect there to be an amelioration of island effects in matrix Sluicing. The prediction is borne out, as shown in (70):

(70) A: They want to hire someone who speaks a Balkan language.

B: Which (Balkan language)?

Matrix Sluicing is also observed in Korean, as exemplified in (71):

(71) A: John-i mwuenka-lul mekesse

John-Nom something-Acc ate

'John ate something.'

B: muess-ul?

what

'What?'

(72) A: Bill-un John-i mwuenka-lul mekessta-ko malhasse

Bill-Top John-Nom something-Acc ate-Com said

'Bill said John ate something.'

B: muess-ul?

'What?'

In this section, I will provide arguments that matrix Sluicing in Korean is derived by ellipsis at PF. Two arguments come from postposition stranding and case matching connectivity under Sluicing. Recall that these two arguments were already provided for fragment answers and embedded Sluicing in section 2.2.1. As shown in (73)-(74), matrix Sluicing is also well-behaved with postposition stranding and case matching connectivity:

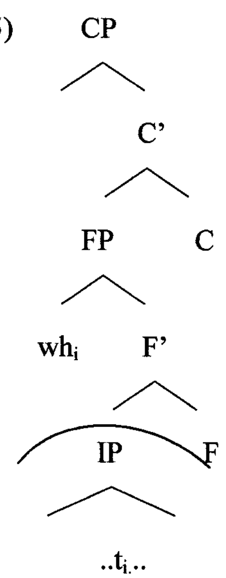
(73) A: Bill-i nwukwunka-lul-wuihayse nolay-lul pullesse
Bill-Nom someone-Acc-for song-Acc sang
B: nwukwu-lul-*(wuihayse)?
who-Acc-for
'For whom?'
(C: *nwukwu-lul$_i$ Bill-i t_i-wuihayse nolay-lul pullesse)
who-Acc-for Bill-Nom for sing-Acc sang

(74) A: John-i nwukwunka-lul coahay
John-Nom someone-Acc like
'John likes someone.'
B: nwukwu-lul? / *nwu-ka? / *nwukwu-ekey?
who-Acc who-Nom who-Dat
'Who?'
C: (nwukwu-lul / *nwu-ka / *nwukwu-ekey John-i t coahay?)
who-Acc who-Nom who-Dat John-Nom like

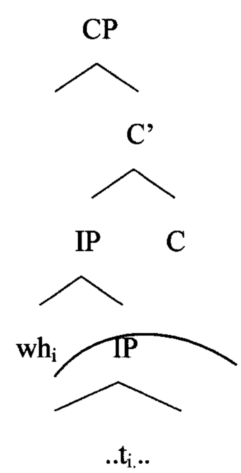
(73C) shows that a postposition cannot be stranded by movement. If matrix Sluicing is derived by ellipsis at PF, following movement, we expect that postposition stranding should not be allowed in matrix Sluicing. This is confirmed in (73B). (74B) and (74C) show that the case of the remnant is just what the case of the fronted wh-phrase would have been in the non-elliptical form, suggesting that (74C) is the source for (74B). These facts receive a natural account under PF-deletion.

Before providing an account of why Sluicing in Korean is island-sensitive in contrast to Sluicing in English (section 3.3), I will briefly discuss some related issues. First, I assume that the wh-phrase in Korean matrix Sluicing moves overtly to the same position that the remnant NP in the fragment answers moves to. In section 2.1.2, I suggested that there are two potential landing sites for the remnant in the fragment answers to move to: Spec of FP (=FocP) and the IP-adjoined position. Accordingly, we have two potential structures for matrix Sluicing, as shown in (75) and (76):[29]

(75)



(76)



[29] I assume that the wh-phrase does not move to Spec of CP in overt syntax (contra Takahashi 1994a). Note that Takahashi (1994a) argues that Japanese Sluicing involves the same derivational steps as English Sluicing; it involves overt movement to Spec of CP, followed by IP-ellipsis. However, if Korean matrix Sluicing is derived in the same way, we would incorrectly expect that there would be no island sensitivity, because island violations would be repaired. Given this problem, I assume the wh-phrase moves to some other position, as in (75) or (76). I will show belowy (section 3.3.) that assuming a structure as in (75) or (76) is crucial in accounting for island sensitivity of Sluicing in Korean.

When IP is deleted, Sluicing is derived. Since, as noted in section 2.1.2, I have no evidence to choose one option over the other, for presentational purposes, I will assume that fragment answers involve the structure in (75), unless it is necessary to discuss the other possibility.

Notice here that the Q-marker *ni*, which may appear in non-elliptical sentences, cannot appear in matrix Sluicing:[30]

(77) A: nwukwunka-ka Bill-ul coahay

someone-Nom Bill-Acc like

'John bought something.'

B: mwu-ka (-*ni)?

who-Nom -Q

'What?'

C: nwu-ka Bill-ul coaha-ni?

who-Nom Bill-Acc like-Q

'who likes Bill?'

D: *[$_{CP}$ [$_{FP}$ [nwu-ka]$_i$ ~~[$_{IP}$ t_i Bill-ul coaha]~~]-ni]

If the matrix Sluicing is derived from the question in (77C) by movement of the wh-phrase to Spec FP, followed by IP-ellipsis (as represented in (77D)), we would expect that the Q-marker would survive the ellipsis. However, the presence of the marker leads to ungrammaticality, as shown in (77B). Merchant (2001) also observes that elements in C cannot survive ellipsis in many languages such as English, Dutch, and Frisian. He suggests that this is because elements in C have inherent cliticization properties and thus must cliticize onto phonological elements. One possibility is to assume that *ni* is a verbal clitic that needs to be attached to a verbal element.

[30] *ni* is used in informal conversation. For example, it can be used among close friends, brothers and sisters, but it cannot be used to seniors, teachers and so on. Likewise, matrix Sluicing that is discussed in this chapter can only be used in informal conversation.

Under this assumption, (77D) is ungrammatical because *ni* is stranded. Note, however, *ni* cannot be a verbal clitic since in some cases *ni* can appear without a verb appearing next to it, as shown in (78):

(78) Bill-i coaha-nun-kes-un nwukwu-ni?

Bill-Nom like-Top-Nm-Top who-Q

'Who is it that Bill likes?'

We can account for the ungrammaticality of (77D) if we assume that *ni* is an enclitic that is cliticized to the wh-phrase, as in the case of *li* in Bulgarian. As discussed by Bošković (2001), the C *li* in Bulgarian does survive Sluicing. Bošković argues that *li* is a second position clitic that is cliticized to the wh-phrase in Spec of CP and thus survives Sluicing. The ungrammaticality of (77D) then can be accounted for if we assume that there is a +phrase boundary between the wh-phrase and *ni*, which seems to be the case.

Another possibility is suggested by Kim (1997). Kim suggests that (77C) is not the source for the matrix Sluicing. Instead, the matrix Sluicing is derived from a question without a Q-marker. In Korean, an informal question can be asked without an overt Q-marker. The question is felicitous with a rising intonation. According to this, the matrix Sluicing in (77B) is derived from the following question:

(79) nwu-ka Bill-ul coahay?

who-Nom Bill-Acc like

'Who likes Bill?'

(cf. Mary-ka Bill-ul coahay)

'Mary likes Bill.'

Kim further suggests that the ungrammaticality of (77D) is due to some constraint that prevents a case marker and the Q-marker from appearing next to each other.[31] In fact, such a constraint is also observed in clefts, which do not involve any ellipsis, as shown in (80a):

(80) a. *[Bill-ul coaha-nun-kes]-un nwu-ka-ni?

Bill-Acc like-Top-Nm-Top who-Nom-Q

'Who is it that likes Bill?'

b. [Bill-ul coaha-nun-kes]-un nwukwu-∅-ni?

As shown in (80b), when the case marker is not present (indicated as ∅), the sentence becomes grammatical.[32] In this chapter, for presentational purposes, I will assume that the source for the matrix Sluicing is a question without a Q-marker.

In the next section, we will consider the possibility of deriving matrix Sluicing from a cleft(-like) construction.

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[31] Kim (1997) suggests that the constraint is phonetic/phonological.

Note here that under this suggestion, it is predicted that when an adverb appears as a remnant, the fragment should be grammatical, since adverbs do not bear case-markers. However, it seems that the prediction is not borne out, as shown in (iB):

(i) A: John-i encenka Mary-ekey chenghonhalke-ya
John-Nom someday Mary-to propose-Decl
'John will propose to Mary someday.'
B: ence-(?*ni)?
when-Q
'When?'

The fact that *ni* cannot appear with an adverbial fragment seems to suggest that *ni* is a clitic and thus cannot survive ellipsis. Note, however, that it is not clear at this point whether (iB) is derived by ellipsis. As will be discussed in section 3.3.2, non-cased marked NP may not be derived by ellipsis (See also Fukaya and Hoji 1999). Then, it may be the case that (1B) is not derived by ellipsis, requiring an independent account for the ungrammaticality of (1B) with *ni*. I leave this for further research.

[32] When the subject case marker, *ka*, is not present, the morpheme *nwu* 'who' becomes *nwukwu*. Note also that in a cleft question, the presence of a Q-marker is obligatory. Thus, when a Q-marker is absent, the construction is degraded, with or without a case-marker.

3.2.2 Against Cleft-Based Analyses

Many researchers have argued that embedded Sluicing in Japanese/Korean involves a Cleft (cf. Shimoyama 1995, Kizu 1997, Kuwabara 1996, M.-K. Park (1998)). In the same vein, one might argue that case-marked matrix Sluicing is derived from a cleft. In this section, I argue that case-marked matrix Sluicing cannot be derived from a cleft construction.[33] Let us consider the matrix Sluicing in Korean (81):

(81) A: John-i mwuenka-lul sasse

John-Nom something-Acc bought

'John bought something.'

B: mwuess-ul?

what-Acc

'What?'

C: [John-i san-kes]-un mwuess-(?*/??ul)-i-ni?

John-Nom bought-Nm-Top what-Acc-Cop-Q

'What is it that John bought?'

D: *[John-i san-kes]-un mwuess-ul?

John-Nom bought-Nm-Top what-Acc

'What is it that John ate?'

E: ([John-i san-kes]-un) mwuess-(?*/??ul)-i-ni?

John-Nom bought-Nm-Top what-Acc-Cop-Q

(81B) is an instance of case-marked matrix Sluicing, and (81C) is a cleft that would be a source for (81B). (81C) shows that when a wh-phrase appears in the focus position in a cleft, a case

[33] See Merchant (2001) for similar but more extensive arguments for English and many other languages.

marker cannot appear. This suggests that case-marked matrix Sluicing is not derived from a cleft construction like (81C). (81D) shows that when the Q marker is omitted, it is even worse. If case-marked matrix Sluicing were derived from a cleft, we would expect (81B) to be ungrammatical, contrary to fact. One might argue that the ungrammaticality of (81C) and (81D) is because the presence of the topic phrase induces some violation and that ellipsis of the topic phrase results in repairing the violation, in a similar way ellipsis repairs island violations in Sluicing in English. This argument, however, cannot be maintained; as shown in (81E), with the null topic phrase, the construction is still ungrammatical.

3.3 Island Sensitivity in Matrix Sluicing

3.3.1 Locality under Ellipsis

This section provides an account of why island effects in (case-marked) matrix Sluicing in Korean are not ameliorated. I will propose that island effects in matrix Sluicing are detected not because island violations cannot be repaired by ellipsis in Korean, but because a violation of a version of Chain Uniformity is inevitably induced. In chapter 2, it was argued that Chain Uniformity must be observed at LF, and thus its violations cannot be repaired by ellipsis at PF. This section starts with a brief introduction of the Chain Uniformity condition.

Let us first consider the following VP-ellipsis constructions:

(82) a. *JOHN stood near MARY, who BILL did ~~[$_{VP}$ stand near]~~, as well.

b. *JOHN stood near MARY, but I don't know who BILL did ~~[$_{VP}$ stand near]~~

(82a) and (82b) involve Appositive Antecedent Deletion (AACD) and VP-Ellipsis with NPs as correlates (VPEN), respectively. In chapter 2, it was assumed that the focused NP *MARY*, does not move in LF for speakers who find the examples in (82) unacceptable. If it moved, Local Parallelism would be satisfied, and therefore, the sentences above would be incorrectly predicted to be grammatical.[34] However, there is an alternative derivation that would not violate Local Parallelism. Suppose that the wh-phrase, *who,* in the appositive relative clause undergoes one-fell swoop movement to the next available position above VP, which is assumed to be the AspP-adjoined position, followed by successive cyclic movement to Spec of CP. Local Parallelism is satisfied within VP, as the focused correlate *MARY* in the matrix clause does not move. Yet, the sentence is ungrammatical. In chapter 2, it was proposed that the ungrammaticality is due to a violation of Chain Uniformity (cf. Chomsky 1991, Chomsky and Lasnik 1993, Takahashi 1994b).

In what follows, I will briefly reintroduce Chain Uniformity proposed in chapter 2. Chomsky (1991) and Chomsky and Lasnik (1993) propose Chain Uniformity, according to which a chain C is a legitimate LF object only if it is uniform (see also Browning 1987). They propose that uniformity is a relational notion: the chain C is uniform with respect to P if each member of chain has property P or it has non-P. As noted in chapter 2, Takahashi (1994b) provides evidence for this. More specifically, based on Chain Uniformity, Takahashi deuces the Subject condition.

In chapter 2, I suggested that locality-violating movement not only leaves a * on the crossed projection (Fox and Lasnik 2003), which is only relevant at PF, but also on the moved element and its trace. In fact, as a way of marking certain violations, *-marking has a long history in various guises. For example, Chomsky (1972) suggests that * (# in his presentation) is marked on an island when it is crossed by a movement operation. Chomsky (1991) and Chomsky and Lasnik (1993) suggest that * is assigned to traces that are left by ECP-violating movement. Lasnik and Saito's (1984, 1992) γ-marking can also be understood in a similar way. Combining these two approaches, in chapter 2 I proposed that a locality-violating movement leaves a * on the moved element and its trace at the relevant point of derivation. Then, I proposed that chains must be uniform with respect to *. More specifically, if a member of a chain is marked with a *, then

[34] I argued that the appositive relative clause in (82a) is not antecedent-contained at LF.

every member of the chain should also be marked with a *, or none of the members are marked with a *. This can be put as in (83):

(83) If $(\alpha_1 \ldots, \alpha_n)$ is a chain $(1 \leq n)$, then for any i $(1 \leq i \leq n)$, $P(\alpha_1)$.

[where $P(\alpha) = \alpha$ has property P and P = 'is marked with *' or 'is not marked with *]

The Chain Uniformity condition in (83) allows successive cyclic movement, as no member of the chain is marked with a * (assuming not potential landing sites are skipped). It also allows a derivation that involves only one instance of one-fell swoop movement. The derivation satisfies the Chain Uniformity condition, as every member of the chain would be marked with a *. This is what happens in English Sluicing, as shown in (84):

(84) John saw someone, but I don't know *who ~~*[$_{IP}$ he *[$_{AspP}$ *[$_{VP}$ saw *t]]]~~

In (84), the wh-phrase undergoes one-fell swoop movement to Spec of CP to satisfy Parallelism. According to Fox and Lasnik (2003), this leaves a * on VP, AspP and IP, which would be eliminated by ellipsis at PF. The one-fell swoop movement also induces a * on the head and the tail of the chain, yielding (*who, *t). The chain (*who, *t) is uniform, since every member of the chain is marked with a *. Hence, the chain is legitimate at LF. The same analysis applies to fragment answers in Korean, as shown in (85):

(85) A: John-i mwuenka-lul sasse

John-Nom something-Acc bought

'John bought something.'

B: *mwuess-ul ~~*$[_{IP}$ John-i *$[_{VP}$ *t sasse]~~]?

what-Acc John-Nom bought

'What?'

The Chain Uniformity condition, however, rules out a derivation that involves an instance of one-fell swoop movement, followed or preceded by successive cyclic movement, as not every member of the chain would be marked with a *. For example, the Chain Uniformity condition blocks a potential derivation in (82) that involves one-fell swoop movement of the wh-phrase to AspP, followed by successive cyclic movement to Spec of CP. Let us consider the point of the derivation where the wh-phrase has undergone one-fell swoop movement to the AspP-adjoined position, as in (86a). In (86a), the one-fell swoop movement to the AspP-adjoined position leaves a * on *who* in AspP-adjoined position and its trace, as well as the skipped projections, VP and PP. Subsequently, the wh-phrase moves to Spec of CP successive cyclically. First, it drops by the IP-adjoined position, as shown in (86b). Being local, this instance of movement, however, does not leave a * on the head *who* in the IP-adjoined position (i.e., the trace in the IP-adjoined position). From this position, *who* further moves locally to Spec of CP, as shown in (86c). This instance of movement does not leave any * on *who*:

(86) a. $[_{CP}$ $[_{IP}$ Bill $[_{AgrsP}$ *who$_i$ $[_{AspP}$ did *$[_{VP}$ stand *$[_{PP}$ near *t_i]]]]

b. $[_{CP}$ $[_{IP}$ who$_i$ $[_{IP}$ Bill $[_{AgrsP}$ *t_i $[_{AspP}$ did *$[_{VP}$ stand *$[_{PP}$ near *t_i]]]]]

c. $[_{CP}$ who$_i$ $[_{IP}$ t_i $[_{IP}$ Bill $[_{AgrsP}$ *t_i $[_{AspP}$ did ~~*$[_{VP}$ stand *$[_{PP}$ near *t_i]]~~]]]]

When VP-ellipsis takes place, the *'s marked on VP and PP are eliminated. However, the sentence is ungrammatical because the chain (who$_i$, t_i, *t_i, *t_i) is not uniform at LF.

Let us now consider how Chain Uniformity works for matrix Sluicing in Korean. As discussed in section 3.1, matrix Sluicing is island-sensitive. With the relevant *-marking, the relevant examples are repeated below:

(87) A: John-un [Bill-ekey mwuenka-lul cwun salam]-kwa mannasse

John-Top Bill-Dat something-Acc gave person-with met

'John met someone who gave Bill something'

B: ?*/*[$_{CP}$ [$_{FP}$ *mwuess-ul$_i$ ~~*[$_{IP}$ John-un *[Bill-ekey *t$_i$ cwun salam]-kwa mannass-]~~]]

(88) A: John-un [nwukwunka-ka hwumchin mulken]-ul kwuiphaysse

John-Top someone-Nom stole thing-Acc bought

It seems that John bought something that someone had stolen

B: ?*/*[$_{CP}$ [$_{FP}$ *nwu-ka$_i$ ~~*[$_{IP}$ Johhn-un *[*t$_i$ hwumchin mulken]-ul kwuiphayss-]~~]]

The wh-phrase in the above examples undergoes overt one-fell swoop movement; otherwise, Parallelism would be violated. This leaves a * on the wh-phrase and its trace, as well as on the skipped projections. The *'s marked on the projections will all be eliminated by ellipsis at PF. Assuming that CP projects right above FP, in principle two options are available on how the wh-phrase in FP is associated with CP: it can either undergo movement to Spec of CP at LF or be unselectively bound by an operator in CP. If it undergoes movement, the result is straightforward: a violation of the Chain Uniformity condition is induced. For example, *mwuess-ul* in (87B) undergoes movement to Spec of CP, this will result in the chain (mwuess-ul, *t, *t), which violates the Chain Uniformity. However, although not uncontroversial, some doubts have been cast upon the movement approach in the literature. If the wh-phrase moves, we would naturally expect that it should be island-sensitive. However, as is well know, argument wh-phrases in Korean are island-insensitive.

Given the uncertainty around the movement approach, I assume a non-movement approach and will instead modify the Chain Uniformity condition to capture the ungrammaticality of (87) and (88). (But the reader should bear in mind that under the movement approach, Chain Uniformity straightforwardly accounts for the ungrammaticality of (87) and (88).) More concretely, I assume that a wh-phrase in Korean can be (unselectively) bound by an operator in CP. Various mechanisms of instantiating the binding approach have been proposed. For example, Pesetsky (1987) and Nishigauchi (1986, 1990) argue that the Q-marker in C binds a wh-variable. In a similar vein, Aoun and Li (1993) and Tsai (1994) propose that a null operator (Op) may be generated in Spec of CP, which unselectively binds a wh-variable in situ. Reinhart (1995, 1997) proposes a choice function approach, according to which wh-phrases that are not located in Spec of CP induce a choice function variable, which is bound by a choice function operator that can be introduced anywhere in the structure.

No matter which of the non-movement mechanisms is adopted, however, the Chain Uniformity condition as such does not seem to provide any account for the island sensitivity in matrix Sluicing. This is because the association between Op (in the position of CP) and the wh-phrase in FP by unselective binding or the choice function mechanism does not come about via movement and thus no chain is formed in the first place. The problem can be resolved, if we assume that a version of Chain Uniformity applies to the association between Op and wh-phrase as well since the relation between them is chain-like. In fact, in the literature, Uniformity is not limited to chain. For instance, Takahashi (1994b) extends it to conjunction of a coordination. Let us call this version of Chain Uniformity Uniformity, which encompasses Chain Uniformity and Op-variable association. Then, the Chain Uniformity condition in (83) then becomes Uniformity condition, as shown in (89):

(89) Uniformity Condition

If ($\alpha_{1\,(\ldots.)}\,\alpha_n$) is a chain ($1 \leq n$) or an Op-variable pair, then for any i ($1 \leq i \leq n$), P(α_1).

[where P(α) = α has property P and P = 'is marked with *' or 'is not marked with *.]

Under the proposed analysis, the examples in (87) and (88) are all ungrammatical because the constructions violate Uniformity. For example, the wh-phrase in Spec of FP in (87) is bound by an operator. Since there is no movement, no *-making is induced. As a result, the Op-variable pair (Op, *wh-variable (in FP)) is present, which violates Uniformity.

One question remains to be answered: why is matrix Sluicing that does not involve any islands grammatical? One example is repeated below:

(90) A: John-i mwuenka-lul sasse

John-Nom something-Acc bought

'John bought something.'

B: [$_{CP}$ Op$_i$ [$_{FP}$ *mwuess-ul$_i$ ~~*[$_{IP}$ John-i *[*t$_i$ sasse]]~~]]?

what John-Nom bought

'What?'

In (90B), the wh-phrase first moves to Spec of FP in one-fell swoop to satisfy Parallelism. This movement leaves a * on the wh-phrase and its tail. Subsequently, the wh-phrase is bound by an Op. This binding, however, results in the nonuniform Op-variable pair, (Op, *mwuess-ul). Given that Uniformity is violated, we would incorrectly expect (90B) to be ungrammatical. I suggest that matrix Sluicing in (90B) is grammatical since there is an escape hatch in this case. Unlike the cases that involve an island, the wh-phrase in Spec of FP can be reconstructed to its base position at LF.[35,36] Subsequently, it is unselectively bound by an Op. The derivational steps are shown in (91):

(91) a. $[_{CP}\ [_{FP}$ *mwuess-ul *$[_{IP}$ John-i *[*t sasse]]]] → Sent to PF, followed by IP-ellipsis

b. $[_{CP}\ [_{FP}\ [_{IP}$ John-i [mwuess-ul sasse]]]]

c. $[_{CP}$ Op_i $[_{IP}$ John-i [mwuess-ul_i sasse]]

With the final representation in (91c), no issue of checking Local Parallelism arises, since no dependency is established within the IPs of the antecedent and the elliptical clause. Notice here that an issue remains to be resolved with respect to (91a). What happens with * when reconstruction takes place, as in (91b)? We don't want the reconstructed wh-phrase to bear a *. Otherwise, the Uniformity condition would be violated in the representation in (91c) (i.e., The Op-variable pair (Op, *mwuess-ul) would be obtained). This problem can be resolved in two ways. First, in fact, there is an alternative derivation for (91a), where the wh-phrase undergoes successive cyclic movement, leaving intermediate traces. If we assume that when reconstruction takes place, the intermediate traces are eliminated, then the final representation in (91c) is obtained. Secondly, we can assume that reconstruction has the effect of obliterating *. Although the exact mechanism about how to obliterate * is not so clear, the intuition is rather clear: after all, the point of reconstruction is to put everything back the way it used to be. Then, *-marking is "undone" when an element that caused *-marking is reconstructed. Likewise, *-marking is "undone" when an element that caused *-marking is reconstructed. I will leave this issue about

[35] The reconstruction can be done either by lowering of the head or deleting the head and keeping the tail of the chain (under the copy theory of movement). For presentational purposes, I will use an arrow.
[36] It will also be shown that elements that have undergone focus movement have to be reconstructed in certain contexts in Serbo-Croatian multiple-wh-fronting constructions. See chapter 4 for discussion.

formulating the mechanisms for further consideration. (But see chapter 4 for more cases like this and some discussion).

For the cases that involve an island, I would like to suggest that reconstruction into an island is not possible (as argued in e.g., Longobardi 1987) and thus the Uniformity condition will eventually be violated. Let us consider (92):

(92) a. What does Bill think that every student bought *t*? [adapted from Nakamura 2004]

b. ??What does Bill believe the claim that every student bought *t*?

In (92a), which involves no islands, the quantifier *every student* and the wh-phrase *what* can have scope over the other, yielding ambiguous readings. On the other hand, (92b), which involves an island, only allows the wide scope of *what* over *every student.* This suggests that the wh-phrase cannot be reconstructed into the island.[37] Note that under copy-theory of movement, this indicates

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[37] Reconstruction into wh-islands is not allowed either:

(i) How many people do you think I should talk to?
  a. For what n: there are n-many people x_i such that you think I should talk to x_i.
  b. For what n: you think that it should be the case that there be n-many people I talk to.

(ii) How many people do you wonder whether I should talk to?
  a. For what n: there are n-many people x_i such that you wonder whether I should talk to x_i
  b. *For what n: you wonder whether it should be the case that there be n-many people that I talk to.

Without an island, (i) is ambiguous. Assuming that the wh-phrase *how many people* contains a separable constituent *n-many people*, the latter can have either wide scope or narrow scope with respect to *should.* The narrow scope readlily can be accomplished if we assume that *n-many people* is reconstructed below *should.* However, the reconstruction is blocked by the intervening island in (ii), and, thus, only wide scope of *n-many people* is allowed. (See Frampton (1990), Cresti (1995), Szabolcsi (to appear) for relevant discussion)

Note that under this analysis, the following example seems to be problematic:

(i) ??Which picture of himself$_i$ do you wonder whether John$_i$ likes?

Although (i) sounds marginal due to a Subjacency violation, it is not as bad as (ii), suggesting that Condition A is satisfied in (i) (cf. Barss (1986)):

(ii) *Which picture of himself$_i$ do you wonder whether John$_i$'s mother likes?

that the lower copy inside the island must be deleted. Since reconstruction is not possible in this case, a violation of the Uniformity condition is induced, as discussed above.

Recall that in contrast to (matrix) Sluicing, fragment answers in Korean are island-insensitive (section 2.2), as shown again in (93). Under the proposed analysis, the contrast between the two constructions results from the fact that fragment answers do not involve a wh-phrase as a remnant. In fragment answers, then, Uniformity is satisfied since unlike Sluicing, no Op-variable pair is created. For instance, in (93B) the remnant NP *Max-ka* 'Max-Nom' should undergo one-fell swoop movement to Spec of FP to satisfy (Local) Parallelism. This leaves a * on the moved element and its trace (as well as on the skipped projections, which will be eliminated by ellipsis). The final chain created is (*Max-ka, *t), which satisfies Uniformity. Note here that in fragment answers reconstruction into an island is not allowed either, as in the case of Sluicing. However, since the option that the remnant can stay in the fronted position, without violating Uniformity, no island effects show up.

(93) A: John-un [nwu-ka cakokhan nolay]-lul puless-ni?

John-top who-Nom wrote song-Acc sang-Q

'*Who did John sing a song that wrote?'

B: [$_{FP}$ *[Max-ka]$_i$ ~~*[$_{IP}$ John-un *[$_{VP}$ *[$_{NP}$ *[$_{CP}$ *t$_i$ cakokhan] nolay] lul pulesse]~~]]

Max-Nom

'Max'

If reconstruction into islands is not possible, we would expect Condition A not to be satisfied in (i), contrary to fact. However, the problem does not arise if we assume, with Belletti and Rizzi (1982), that Condition A is an anywhere condition; it can be satisfied at any point of the derivation. Under this analysis, Condition A in (i) can be satisfied at the point of the derivation where the anaphor contained within the wh-phrase *which picture of himself* is bound by the embedded subject before the wh-phrase moves out of the embedded clause.

Multiple Fragment Answers (MFA) constitute another argument that reconstruction into an island is not allowed. As we have seen in section 2.2.1, island effects are observed in MFA in certain contexts that involve extraction of two remnants. Let us consider the contrast between (94) and (95).

(94) A: John-i nwukwu-ekey Bill-i ecey mwuess-ul sassta-ko malhayss-ni?
John-Nom who-Dat Bill-Nom yesterday what-Acc bought-Comp said-Q
'Who did John tell that Bill bought what yesterday?'

B: (?)Max-ekey chayk-ul
Max-Dat book-Acc
'John told Max that Bill bough a book yesterday.'

C: (?)Max$_i$-ekey chayk$_j$-ul ~~[$_{IP}$ John-i t_i [Bill-i ecey tj sassta-ko] malhaysse]~~
Max-Dat book-Acc John-Nom Bill-Nom yesterday bought-Comp said

(95) A: John-i nwukwu-ekey mwuess-ul calhanun salam-ul sokayhayss-ni?
John-Nom who-Dat what-Acc do-well person-Acc introduced-Q
'Who did John introduce a person who is in good at what?'

B: *Bill-ekey yori-lul
Bill-Dat cooking-Acc
'John introduced Bill a person who is good at cooking.'

C: *Bill$_i$-ekey yori$_j$-lul ~~[$_{IP}$ John-i t_i [t_j calhanun salam]-ul sokayhaysse]~~
Bill-Dat cooking-Acc John-Nom do-well person-Acc introduced

In (94), a matrix dative argument and an embedded accusative argument are extracted. (95) shows that island effects appear when one argument is extracted from the matrix clause and the other from inside of it. Recall that the fragment answers in (B) examples above are derived from (C) examples, respectively. The island sensitivity in these contexts seems puzzling, given that island violations can be repaired when a single remnant is extracted.

In what follows, I will argue that the ungrammaticality of (95B) results from an interaction of Parallelism and reconstruction. To see this more clearly, we first need to consider how MFA is derived. Following Kim (1997), let us assume that, in Korean, a lower focused phrase adjoins to a higher focused phrase on its way to Spec of FP. The complex of the two phrases further moves to Spec of FP. Assuming that all focused elements move to Spec of FP, Kim argues that strong [+focus] feature resides in both the moved elements and the head F. If strong features resided only in the head F, only one focused phrase would have to move, contrary to fact. Kim proposes that the lower focused phrase first adjoins to the higher focused phrase in order to check its strong [+focus] feature against the strong feature of the latter and the complex of the two phrases moves to Spec of FP to check the strong feature in the head F.[38] (95B), for example, has the following structure in overt syntax:

(96) [[Bill-ekey] yori_j-lul$]_k$ [$_{IP}$ John-i t_k [t_j calhanun salam]-ul sokayhaysse]
Bill-Dat cooking-Acc John-Nom do-well person-Acc introduced

With the representation in (96), however, Local Parallelism is not satisfied. In (96), the lower focused phrase first moved to the higher focused phrase, followed by subsequent movement of the complex of the two. However, in the antecedent clause, the lower wh-phrase did not move but is unselectively bound, like the higher wh-phrase. Within the two IPs, no parallel dependency is established, thus Local Parallelism is not satisfied; for instance, within the elliptical IP, there is a dependency created by movement of the lower phrase to the higher phrase, which is absent in the antecedent IP. Recall, however, that the focused element in Spec of FP can in principle be

[38] Kim (1997) assumes that [+focus], an interpretable feature, does not erase after feature checking (cf. Chomsky 1995) and that only the strength of [+focus] is stripped away via feature checking.

reconstructed. But the reconstruction of the lower focused phrase to its base position in (96) is not allowed, as it would have to be reconstructed into an island. Given that reconstruction is not allowed, Parallelism remains violated. When no islands are involved, however, reconstruction is allowed. This is what happens in (94B). At LF, the focused phrases, which are underlined, in Spec of FP are reconstructed to their base positions, as shown in (97):

(97) [$_{IP}$ John-i Max-ekey [Bill-i ecey chayk-ul sassta-ko] malhaysse]
John-Nom Max-Dat Bill-Nom yesterday book-Acc bought-Comp said

With the representation in (97), Local Parallelism is irrelevant, as no relevant dependency is established within the IPs.

To sum up, we have seen that island sensitivity in matrix Sluicing in Korean is due to a violation of the Uniformity condition as an extension of the Chain Uniformity condition. The Uniformity condition causes a derivation to crash at LF because of a nonuniform Op-variable pair or a nonuniform chain. Crucially, there is a certain asymmetry on *-marking, i.e., *-marking on moved objects/Op-variable pair may have effects at LF, whereas *-marking on the (crossed) projections may have effects at PF, as shown in Fox and Lasnik (2003)'s analysis of ellipsis in English. Under the proposed analysis, the contrast between English and Korean Sluicing with respect to island sensitivity lies in the claim that that only in the latter, a wh-phrase first moves to a position below CP and as a result, a violation of the Uniformity condition is induced.

3.3.2 Non-Case-Marked Matrix Sluicing

Matrix Sluicing is also possible with non-case-marked wh-phrases as remnants, as shown in the following example:

(98) A: John-i nwukwunka-lul coahay

John-Nom someone-Acc like

'John likes someone.'

B: nwukwu?

who

'Who?'

However, unlike case-marked matrix Sluicing (CM matrix Sluicing), non-case-marked matrix Sluicing (Non-CM matrix Sluicing) is not island-sensitive, as shown in (99):

(99) A: John-un [Bill-ekey nwukwunka-lul sokayhaycwun salam]-kwa mannasse

John-Top Bill-to someone-Acc introduced person-with met

'John met someone who introduced someone to Bill'

B: nwukwu?

who

'Who?'

The island-insensitivity of Non-CM matrix Sluicing indicates that it is not derived in the same way as CM matrix Sluicing. To account for this, I would like to suggest, in line with Fukaya and Hoji (1999) and Sohn (2000),[39] that Non-CM matrix Sluicing is not derived by ellipsis, but involves an empty category such as *pro*. In particular, I propose that Non-CM matrix Sluicing is schematically represented as in (100) (∅ indicates case markers are absent):

(100) pro wh-∅

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[39] The authors did not discuss matrix Sluicing.

As pointed out by Sohn (2000), *pro* in (100) can be closely represented as the overt pronouns like *kukey* 'that/it'.[40] Being pronominal in nature, *pro* can refer to various entities in the antecedent clause. According to Sohn (2000), *pro* can refer to an entire sentence or an embedded sentence. It can also refer to an (in)definite individual. Under this analysis, the island insensitivity observed in (99) is straightforwardly accounted for; no movement is involved and therefore no island violations are induced. In (99B), *pro* refers to the individual in question, namely, the individual who was introduced to Bill. The matrix Sluicing in (99B) can be paraphrased as who is it?

The *pro* option should not be available for CM matrix Sluicing. Otherwise, we would expect it to be island-insensitive, contrary to fact. We cannot test whether this holds or not, using *pro*, but we can run a test using the overt counterpart of *pro*, *kukey* 'it/that'. Although when *kukey* appears with Non-CM wh-phrases, it sounds a little awkward, it is much better than when it appears with CM wh-phrases, as shown in (101C) and (101D):

(101) A: John-i nwukwunka-lul coahay

John-Nom someone-Acc like

'John likes someone.'

B: nwukwu(-lul)?

who(-Acc)

'Who?'

C: ?kukey nwukwu?

it who

'Who is it that John likes?

[40] In some cases, different overt forms should be used, depending on the contexts, such as *kuken*, which consists of *kukes* 'that' and *un* 'Top'.

D: *kukey nwukwu-lul?

it who-Acc

'Who is it that John likes?'

At this point, it is worth considering another possibility: Non-CM matrix Sluicing does not involve *pro* or ellipsis. Yanofsky (1978), Barton (1990), and Staiton (1993, 1994, 1995, 1997, 1998) argue that fragments are generated as they are and can be interpreted as propositions, assertions, or questions by themselves, without involving any elliptical process. (See section 3.2.1 for discussion). Under this approach, one might argue that Non-CM matrix Sluicing does not involve *pro* or ellipsis. However, it seems that the argument cannot be maintained. Let us consider the following:

(102) A: enu-nam-haksayng-i enu-ye-haksayng-ul coahay

some male-student-Nom some-female-student-Acc like

'Some male-student likes some female-student.'

B: enu-nam-haksayng-i, enu-ye-haksayng-ul?

which-male-student-Nom which-female-student-Acc

'Which male-student likes which female-student?'

C: *enu-nam-haksayng, enu-ey-haksayng?

which-male-student which-female-student

'Which male-student likes which female-student?'

(102B) involves multiple CM Sluicing. The grammaticality shows that semantically, there is nothing wrong with multiple matrix Sluicing. On the other hand, multiple Non-CM Sluicing is not allowed, as shown in (102C). Under the non-ellipsis, non-*pro* approach, *a priori,* there would be no reason that it is not allowed.[41] However, the ungrammaticality of Non-CM Sluicing can be easily explained under the analysis presented here: the construction is ungrammatical, since when appearing with *pro*, multiple remnants are not allowed. The incompatibility can be shown with the corresponding overt pronoun *kukey*:

(103) *kukey enu-nam-haksayng, enu-ey-haksayng?

it/that which-male-student which-female-student

3.4 Embedded Sluicing

This section discusses embedded Sluicing. As in the case of matrix Sluicing, there are two types of embedded Sluicing; CM embedded Sluicing and Non-CM embedded Sluicing, as shown in (104a) and (104b), respectively:

(104) a. John-i nwukwunka-lul manassnun-tey, nanun nwukwu-lul i-nci molukesse

John-i someone-Acc met-but I-Top who-Acc Cop-Q not know

'John met someone, but I don't know who.'

b. John-i nwukwunka-lul manassnun-tey, nanun nwukwu i-nci molukesse

John-i someone-Acc met-but I-Top who Cop-Q not know

'John met someone, but I don't know who.'

The two types of embedded Sluicing exhibit the same pattern with respect to island (in)sensitivity as matrix Sluicing. CM embedded Sluicing shows island sensitivity, while Non-CM embedded

[41] As Howard Lasnik pointed out (p.c.), multiple CM Sluicing such as (102B) poses an interesting question for the non-ellipsis, non- *pro,* approach: if a fragment is a proposition (or a question) by itself, having two fragments entails that there are two propositions (or questions)? Obviously, this is not the case in (102B).

Sluicing does not, as shown in the following examples (see Fukaya and Hoji (1999) for the same patterns in Japanese):[42]

(105) John-un [casin-uy tongsayng-ekey mwuenka-lul cwun salam]-ul manassnun-tey,
John-Top self-Gen brother-Dat something-Acc gave person-Acc met:but
na-nun [mwuess(-*ul) i-nci] molukesse
I-Top what-Acc Cop-Q not know
'John met someone who gave something to his brother, but I don't know what.'

For Non-CM embedded Sluicing, as I did for Non-CM matrix Sluicing, I would like to suggest that it does not involve ellipsis, but some null category. Specifically, I would like to suggest, following Sohn (2000), that it involves *pro*. as discussed above. Sohn suggests that *pro* can be represented as overt pronouns like *kukey* 'that/it' and has much freedom to refer to an entity in the antecedent clause. The structure with *pro/kukey* is schematically represented in (106):

(106) pro/kukey wh-∅

In (105), *pro* can refer to the entity/thing that was given to John's brother (by someone who John met). Under the analysis, the second conjunct can be paraphrased as I don't know what it was. Since no island-violating movement is involved, no island effects are observed. As shown in (107), the pronoun *kukey* can appear in Non-CM embedded Sluicing, but it cannot in CM embedded Sluicing.

42 Although matrix and embedded Sluicing exhibit the same patterns in many respects, there is one significant difference between matrix and embedded Sluicing: the copular *i* cannot appear in the matrix Sluicing but must appear in embedded Sluicing. As will be shown later in this section, the difference will lead to positing a different structure for embedded Sluicing.

(107) John-un [casin-uy tongsayng-ekey mwuenka-lul cwun salam]-ul manassnun-tey,

John-Top self-Gen brother-Dat something-Acc gave person-Acc met:but

na-nun [kukey mwuess(-*ul) i-nci] molukesse

I-Top it what-Acc Cop-Q not know

'John met someone who gave something to his brother, but I don't know what.'

The incompatibility between *kukey* and case marked wh-phrases suggests that CM embedded Sluicing does not involve *pro*.

As for CM embedded Sluicing, I would like to suggest that it involves leftward movement of wh-phrases, followed by ellipsis of IP, as in the case of CM matrix Sluicing. To the best of my knowledge, there are three extensive works that argue that embedded Sluicing involves leftward movement followed by ellipsis in Sluicing: Takahashi (1994a), Kim (1997) and Hiraiwa and Ishihara (2002). Takahashi (1994a) argues that wh-phrases undergo overt syntactic wh-movement to Spec of CP, followed by IP-ellipsis, in the same way as Sluicing in English. However, as discussed in section 3.2.1, the analysis cannot be adopted here. If Sluicing in Korean involved the same derivation as the one in English, it is at least unclear why island violations are not ameliorated in Korean.

Kim (1997) argues that Sluicing involves movement of wh-phrases to Spec of FP, which is located right above IP, followed by VP-ellipsis. He assumes that *(nu)nci*, which is standardly assumed to be Q-marker, is generated under F, and that the subject does not raise to Spec of IP overtly. Under the analysis, the second conjunct in (108a) is derived from the sentence in (108b), by deleting VP:

(108) a. John-i nwukwunka-lul manassnun-tey, nanun [$_{FP}$ nwukwu-lul i-nci] molukesse

John-i someone-Acc met-but I-Top who-Acc Cop-Q not:know

'John met someone, but I don't know who.'

b. na-nun [$_{FP}$ nwukwu-lul$_i$ [$_{IP}$ ~~[$_{VP}$ John-i t_i man]~~ ass] (nu)nci] molukesse

I-Top who-Acc John-Nom meet Past Q not:know

Notice here that in (108a), the copular *i* appears, which is not present in the source sentence in (108b). Kim proposes that *i* is inserted under I, which is stranded after ellipsis takes place, to support the stranded I. However, as Sohn (2000) correctly points out, if VP-ellipsis were involved, there would remain the past morpheme *ess* under I, and then with *i*-support, the form, *iess,* should be yielded. With this form, however, the sentence in (108b) becomes ungrammatical, as shown in (109):

(109) ?*na-nun [nwukwu-lul [$_{IP}$ ~~[$_{VP}$]~~]i-ess nunci] molukesse

The fact that the past tense morpheme, *ess*, which is generated under I, does not survive the ellipsis in (108a) suggests that what is deleted is larger than just VP. It should at least include I. Under the standard assumption that only maximal projections can be the target for deletion, it follows that what is elided is IP. Then, the question that immediately arises is: where does the copular *i* come from in (108a)? If what is elided is IP, *i* should be located above IP but below the Q-marker *nci*. If, as Kim suggested, *nci* is under F, there would be no place for *i* to be located. However, if we assume following the standard assumption that *nci* is located under C, we can assume that *i* is located under F. This is exactly what Hiraiwa and Ishihara (2002) propose for Japanese Sluicing. They argue that in Japanese, Sluicing is derived from 'no-da' in-situ focus construction. The 'no-da' in-situ focus construction is a construction where the entire matrix clause is headed by the nominalizer *no* (cf. Juno 1973), as exemplified in (110) [the italics indicate that the elements are focused]:

(110) [$_{CP}$ Taro-ga *kono-ringo*-o tabeta no] da

Taro-Nom this-apple-Acc ate C Cop

'It is this apple that Taro ate.'

Sluicing is derived when wh-phrases move to Spec of FP, which is located above the nominalized CP and headed by the copular *da*, followed by CP-ellipsis, as shown below:

(111) Taro-ga nanika-o tabeta rasii ga,

Taro-Nom something-Acc ate seem but

'It seems Taro ate something, but

boku-wa [$_{FP}$ nani-o$_i$ ~~[$_{CP}$ Taro-ga t_i tabeta no]~~ (da)] ka wakara-nai

I-Top what-Acc Taro-Nom ate C Cop Q know-not

'I don't know what (Taro ate).'

I adopt the analysis for Korean Sluicing with a minor modification. First, let us observe that Korean also allows in-situ focus constructions, as shown in (112):

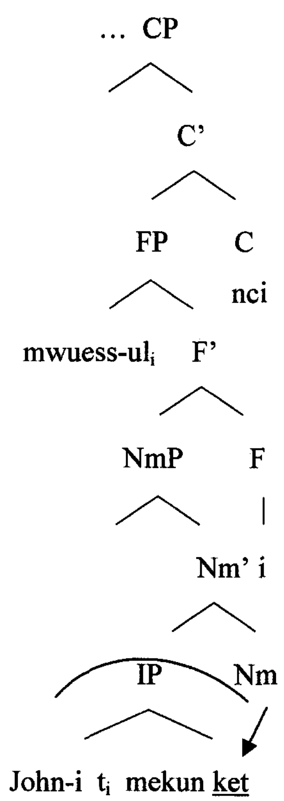
(112) John-i [$_{NmP}$ *sakwa-lul* mekun-ket] i-ta/ya

John-Nom apple-Acc ate-Nm Cop-Decl

'It is an apple that John ate.'

In (112), I dub the projection that is headed by the nominalizer, *ket*, Nominalizer Phrase (NmP). I assume that the nominalizer *ket* lowers to I, followed by IP-ellipsis.[43] The structure of the embedded clause of the second conjunct in (108a) is shown below:

(113)



In (113), the nominalizer *ket* lowers to I, followed by IP-ellipsis. I assume that the interrogative CP, headed by the Q-marker *(nu)nci,* is located right above FP.[44]

[43] It might be possible to save Kim's (1997) analysis of Sluicing by assuming that the tense morpheme can be lowered to V (together with *ket*), followed by VP ellipsis. Recall, however, that under his analysis, a tense morpheme must survive ellipsis, so the copular *i* obligatory appears in Sluicing. I leave this modification of his analysis for future research.

[44] I assume that under Hiraiwa and Ishihara (2002), CP, headed by the nominalizer *no*, is also distinguished from the interrogative CP. Note here that the proposed structure for embedded Sluicing suggests that the type of movement that the wh-phrase undergoes is not scrambling. If the wh-phrase undergoes scrambling, the landing site will be IP-adjoined position (cf. Saito 1985). Then, it is not clear where the copular *i* is generated.

I also assume that the focal head *i* is in principle optionally present. However, in (113) the presence of *i* is obligatory to support the Q-marker *nci,* which is a bound morpheme.

With the structure in (113), the island-sensitivity of CM embedded Sluicing receives the same explanation as CM matrix Sluicing does. Let us first consider how Sluicing is licensed. Our base line example (108a) is repeated as (114):

(114) John-i mwuenka-lul mekessnun-tey,
John-i something-Acc ate-but
nanun [$_{CP}$ [$_{FP}$ mwuess-lul [$_{NmP}$ ~~[$_{IP}$ John-i t_i mekun ket]~~] i] nci] molukesse
I-Top what-Acc John-Nom ate Nm Cop Q not:know
'John ate something, but I don't know what.'

In the antecedent clause, the indefinite NP does not move, but is bound by existential closure. Then, the movement of the wh-phrase *nwukwu-lul* 'who-Acc' to Spec of FP cannot be successive cyclic, in order to satisfy Parallelism. The one-fell swoop movement to Spec of CP leaves a * on every skipped maximal projection, as illustrated below:

(115) [$_{CP}$ [$_{FP}$ *mwuess-lul *[$_{NmP}$ ~~*[$_{IP}$ John *[$_{VP}$ i *t_i mekun] ket]~~] i] nci]

The problem for the representation is that the * left on NmP is never repaired by ellipsis, since it is excluded from the elliptical site, IP. However, the problem could be avoided if the wh-phrase were first to undergo one-fell swoop movement and adjoin to NmP, followed by subsequent raising to Spec of FP, as illustrated below:

(116) [$_{CP}$ [$_{FP}$ mwuess-lul$_i$ [$_{NmP}$ *t_i' [$_{NmP}$ ~~*[$_{IP}$ John-i *[$_{VP}$ *t_i mekun] ket]~~] i]] nci]]

Although *'s left on the skipped projections are all eliminated by ellipsis, the representation in (116) results in the chain (nwukwu-lul, *t_i', *t_i), which violates the Uniformity condition. The violation, however, can be repaired by reconstructing the wh-phrase to its base position at LF, which has the effect of eliminating all *s on the chain. After the reconstruction, the wh-phrase is unselectively bound. Given that there is no movement involved, no *-marking takes place. (117) is the final representation:

(117) [$_{CP}$ Op_i [$_{FP}$ [$_{NmP}$ [$_{IP}$ John-i [$_{VP}$ mwuess-ul_i mekun] ket]] i]] nci]]

Under the proposed analysis, the island-sensitivity of embedded Sluicing is straightforwardly explained. The relevant example is reproduced in (118a):

(118) a. *John-un [Bill-ekey mwuenka-ul cwun salam]-ul manassnun-tey,
John-Top Bill-Dat something-Acc gave person-Acc met:but
na-nun [$_{FP}$ mwuess-ul i-nci] molukesse
I-Top what-Acc Cop-Q not know
'John met someone who gave something to his brother, but I don't know what.'

b. [$_{FP}$ mwuess-ul [$_{NmP}$ *t [$_{NmP}$ ~~*[$_{IP}$ John-un*[Bill-ekey *t cwun salam]-ul mannan ket]~~inci]]]
what-Acc JohnTop Bill-Dat gave person-Acc met Nm Cop Q

The structure of FP in (118a) is represented in (118b), where the wh-phrase has moved in one-fell swoop, adjoining to NmP, and subsequently moved to Spec of FP in overt syntax. The skipped projections up to IP are all marked with a *, but they are all eliminated by ellipsis. The chain, (mwuess-ul, *t, *t), formed at this stage is, however, already problematic; it is in a violation of the Uniformity condition. The violation would be repaired if the wh-phrase were to be reconstructed to its base position, followed by unselective binding at LF. However, as we have seen in section 2.2.2, reconstruction into islands is not allowed.

4. Conclusion

In this chapter, it was shown that island violations can be repaired in fragment answers in Korean. The possibility of repairing island violations led me to reject the hypothesis that islands in this language are LF-islands and thus cannot be repaired by ellipsis at PF. The chapter also provided an account of the apparent island-sensitivity of Sluicing in Korean. The island sensitivity arises in this construction, because the relevant movement of wh-phrases in overt syntax results in a violation of Uniformity. The crucial difference between Korean and English Sluicing is that in the former, but not in the latter, wh-phrases move to a position lower than CP in overt syntax. The Uniformity condition holds at LF, hence a derivation that violates the condition cannot be salvaged by ellipsis at PF. This contrasts with the cases where movement skips certain projections with *-marking on the skipped projections, which has effects at PF. Hence, eliminating the offending projections will save the derivation (cf. Lasnik 2001, Fox and Lasnik 2003).

Chapter 4: Superiority and Uniformity

1 Introduction

This chapter investigates Superiority effects in various languages and proposes a novel analysis of them based on Uniformity proposed in chapter 3. The investigation of Superiority will lead us to reach the conclusion that Superiority needs to be encoded with both derivational and representational mechanisms (cf. Lasnik 2001b, Aoun and Li 2003). More accurately, it will be shown that Superiority violations are encoded derivationally, making use of *-making proposed in chapters 2 and 3, but their effects are captured representationally at LF. Being representational, the Superiority effects can be obviated by later operations. The starting point of the current discussion of Superiority is Bošković's (2005) recent proposal regarding the locality of Move and Agree. In the following section, I will briefly introduce Bošković's (2005) main proposals that are relevant to this chapter's topics.

2 Bošković (2005)

Bošković (2005) compares two main approaches to successive cyclic movement and proposes a new account of successive cyclic movement that reconciles them. Let us first introduce the two approaches. One of the approaches, as adopted in Takahashi (1994) in the early Minimalism, contends that successive cyclic movement, for example movement of *what* to the specifier of *that* in (1), is not driven by feature checking but by Chomsky and Lasnik's (1993) Minimize Chain Links Principle (MCLP), which requires that chain links be as short as possible. The MCLP forces element X undergoing movement of type Y to stop at every position of type Y on the way to its final landing site independently of feature checking:

(1) What$_i$ do you think [$_{CP}$ t$_i$ [$_{C'}$ that Mary bought t$_i$]].

In (1), then, *what* must pass through the embedded Spec of CP (an A'-position) on its way to the matrix Spec of CP.[1] Notice that since no feature checking is posited between a wh-phrase and the declarative C under this approach, both (2a), where nothing moves to the Spec of *that*, and (2b), where a wh-phrase moves to the Spec of *that* and remains there in overt syntax, are easily accounted for. In particular, (2b) violates Last Resort. As noted in Bošković (2002c), the Last Resort analysis of (2b) can be extended to (2c), if we assume that movement to the Spec of raising infinitives is driven by the MCLP, not feature checking:

(2) a. You think [that Mary bought a car].

b. *Who thinks what that Mary bought?

c. *There seems a man$_i$ to be t$_i$ in the garden.

As pointed out by Bošković (2005), the MCLP analysis crucially assumes the Form Chain operation. Under this approach, Last Resort is relevant to the formation of a chain, not links of a chain. In other words, formation of a chain must have a feature-checking motivation, not formation of chain links. In fact, all relevant syntactic conditions, for example the Cycle, are stated with respect to the Form Chain operations. Thus, under Takahashi's (1994) analysis, *what* in (1) does not even start moving until the final target of movement, the interrogative C, which provides a feature-checking motivation for the movement, enters the structure. At this point, *what* starts moving. The MCLP forces formation of intermediate chain links, such as the one created by

[1] Bošković (2002c) observes that the same holds for intermediate A-movement. Thus, the MCLP forces *the students* in (i) to pass through the embedded Spec of IP on its way to the matrix Spec of IP (see Bošković (2002c) for detailed discussion):

(i) The students$_i$ seem [t$_i$ to have t$_i$ liked French].

the movement through the intermediate Spec of CP. The Last Resort Condition is satisfied since the formation of the whole chain has a feature-checking motivation. Since the whole chain extends the tree, the Extension Condition is also met.

In contrast to Takahashi's analysis, Chomsky (1995) dispenses with Form Chain (see also Chomsky 1999, 2000, 2001), treating each step of successive cyclic movement as a separate operation with its own feature checking motivation. Under this approach, each step of successive cyclic movement must satisfy Last Resort and the Extension Condition. Furthermore, successive cyclic movement starts before its final landing sites enters the structure. Regarding (1), this means that movement of *what* to the intermediate Spec of CP has to involve feature checking, otherwise, the Last Resort Condition would be violated. It also has to extend the tree, which means that the movement has to happen before higher structure is built. In other words, *what* now moves to the Spec of *that* before the matrix C enters the structure.

Based on the notion of *phase*, Chomsky (2000) argues for a similar analysis. Under the phase system, XP can move out of a phase only if it first moves to the Spec of the phase due to the Phase Impenetrability Condition (PIC), which says that only the head and the Spec of the phase are accessible for movement to a position outside of the phase. This movement is instantiated by giving the head of the phase the EPP property, which drives movement to the Spec of the phase. From the Spec of the phase, the moved XP is accessible for movement outside of the phase. Chomsky assumes that CPs are phases and that the complementizer *that* may, but does not have to, have the EPP property. As for (1), since CP is a phase it is necessary to move *what* in (1) to the embedded Spec of CP so that it can later move outside of the CP. This is accomplished by giving *that* the EPP option. If *that* is not given the EPP option, *what* would not move to the embedded Spec of CP, as a result of which it could not move outside of the embedded CP due to the PIC. Note that (2a) instantiates the no EPP property option for *that*.

As pointed out by Bošković (2005), example (2b) raises a potentially serious problem for the phase analysis. Since the phase analysis ties successive cyclic movement to a property of intermediate heads, it is difficult in this system to rule out (2b) given the derivation on which we have chosen the EPP option for *that*. When the EPP option is chosen *that*, this results in moving *what* to the embedded Spec of CP, just as it does in (1). According to Bošković, this suggests that movement through intermediate Specifiers should not be tied to a property of intermediate heads. Recall that (2b) was easily ruled out under Takahashi's (1994) MCLP analysis, which does not tie successive cyclic movement to a property of intermediate heads.

There is a suggestion in Chomsky (2000:109), more fully worked out in Chomsky (1999:29), which has the effect of making the assignment of an EPP property to non-true EPP heads (i.e. heads that do not always require a Spec) conditioned on it being required to permit successive cyclic movement. The embedded clause in (1) can then be assigned the EPP property, since this is necessary to allow successive cyclic movement. In contrast, the embedded clause head in (2a) and (2b) cannot be assigned the EPP property since the assignment is not necessary to permit successive cyclic movement. However, as noted by Bošković (2005), the obvious problem for this analysis is look-ahead. Both (1) and (2b) at one point have the structure in (3):

(3) $[_{CP}$ what$_i$ $[_{C'}$ that Mary bought $t_i]]$

To drive movement to Spec of CP, *that* has to be given the EPP feature at the point when the embedded clause is built. But at that point we do not know whether the assignment of the EPP feature will be needed to make successive cyclic movement possible. We will know this only after further expansion of the structure. If the structure is expanded as in (2b), it will not be needed, hence disallowed, and if the structure is expanded as in (1), it will be allowed, hence needed. In other words, at the point of the derivation in (3), we need to know what is going to happen in the matrix clause. The look-ahead raises a conceptual problem for this analysis. As discussed above, the problem does not arise under the MCLP analysis. However, the fact that the

MCLP analysis requires Form Chain, which is eliminated in the phase analysis (as well as Chomsky's (1995) analysis), provides a conceptual argument in favor of the latter analysis.

As brought to attention by Bošković (2005), Chomsky's (1995, 2000) analyses face other problems. Chomsky (2000) assumes that Agree is a component of the operation Move driven by the EPP feature. More precisely, movement of X to Spec of YP is preceded by the establishment of an Agree (i.e. feature-checking) relation between Y and X. This means that in Chomsky's system, all movement, including movement to the Spec of intermediate heads like *that* in (1), has to involve feature checking. Recall that Chomsky (1995) also assumes that movement to the Spec of intermediate heads has to involve feature checking. However, Bošković (2002c) and Boeckx (2003) provide a number of arguments against feature checking in intermediate positions. I will only summarize here one argument from Bošković (2002c) (see Bošković (2002c) and Boeckx (2003) for more arguments).

Lobeck (1990) and Saito and Murasugi (1990) note that functional heads can license ellipsis of their complement only when they undergo Spec-Head agreement (SHA), i.e. feature-checking. Thus, (4) shows that tensed INFL, *'s*, and +wh-C, which according to Fukui and Speas (1986) undergo SHA, license ellipsis, whereas the non-agreeing functional categories *the* and *that* do not.

(4) a. John liked Mary and [$_{IP}$ Peter$_i$ [$_{I'}$ did ~~t$_i$ like Mary~~]] too.

b. John's talk about the economy was interesting but [$_{DP}$ Bill [$_{D'}$'s ~~talk about the economy~~]] was boring.

c. *A single student came to the class because [$_{DP}$ [$_{D'}$ the ~~student~~]] thought that it was important.

d. John met someone but I don't know [$_{CP}$ who$_i$ [$_{C'}$ C ~~John met t$_i$~~]].

e. *John believes that Peter met someone but I don't think [$_{CP}$ [$_{C'}$ that ~~Peter met someone~~]].

Significantly, as noted in Bošković (1997c), intermediate C cannot license ellipsis of its IP complement, as shown in (5):

(5) *John met someone but I don't know who$_i$ Peter said [$_{CP}$ t$_i$ [$_{C'}$ C/that ~~John met t$_i$~~]].

Bošković (2002c) argues that the ungrammaticality of (5) can be readily accounted for if passing through an intermediate Spec of CP does not involve feature checking, i.e. SHA, with the C.[2] The ungrammaticality of (5) should then be taken as evidence against the feature-checking view of successive cyclic movement, on which *C/that* would undergo SHA in (5). Under this view, (5) is incorrectly expected to pattern with (4d) rather than (4e). This is not the case under the MCLP analysis, where *who* passes through the Spec of *C/that*, but does not undergo any feature checking with *C/that*, the movement being driven by the need to minimize chain links. As Bošković (2005) points out, in Chomsky's (2000) system, the SHA requirement on ellipsis would be restated as an EPP requirement. The data under consideration then also provide evidence against Chomsky's

[2] Note that (5) seems to violate Parallelism (Fiengo and May 1994, Fox and Lasnik 2003), which says that there must be parallel dependency between the antecedent and the elliptical clause and that Parallelism may apply across elliptical constituents (=Global Parallelism). As discussed in chapters 2 and 3, the indefinite correlate in the antecedent in (5) does not undergo movement but is bound by existential closure while the wh-phrase *who* in the elliptical clause undergoes successive cyclic movement. As a result, there is no parallel dependency in the two clauses. Recall, however, that it was argued in chapters 2 and 3 that Parallelism needs to be satisfied within elliptical constituents and their corresponding antecedent (=Local Parallelism). In fact, Bošković (2005) provides an example that satisfies Local Parallelism, as in (i):

(i) *I know who John met, but I don't know who Peter said C/that ~~John met~~. (Bošković (2005): fn. 9)

In (i), both clauses involve wh-movement. Here, Local Parallelism is satisfied within the most embedded IP in both clauses within which the wh-phrase undergoes parallel movement.

Note also that even in examples that satisfy Global Parallelism, intermediate *C/that* still cannot license ellipsis of its IP complement, as shown in (ii):

(ii) *I know who Bill said that John met, but I don't know who Peter said C/that ~~John met~~.

The example in (ii) involves parallel movement of a wh-phrase across the elliptical constituent, IP. This satisfies Global Parallelism, as well as Local Parallelism. Then the ungrammaticality of (5), as well as (i) and (ii) must be due to the impossibility of licensing IP-ellipsis by intermediate *C/that*, as discussed above.

(2000) system. In this system, (5) is incorrectly predicted to be acceptable since the declarative complementizer *C/that* takes a Spec.[3]

Given the state of affairs so far, Bošković (2005) proposes a new theory of successive cyclic movement that avoids the problems in Chomsky's (1999, 2000) analyses. The goal of the new theory is to capture successive cyclic movement without look-ahead and feature-checking with intermediate heads (as in Takahashi 1994) and without Form Chain (as in Chomsky 1995, 1999, 2000). To achieve the goal, Bošković (2005) first proposes to make a modification of Chomsky's (2000) Activation Condition (AC), which states that an element X has to have an uninterpretable feature to be visible for movement. According to Chomsky, the role of the AC is to implement movement, i.e. the AC is needed to make movement possible. Based on conceptual grounds, Bošković proposes that the AC is only needed to implement successive cyclic movement; in particular movement that crosses phase boundaries.[4]

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[3]It is worth considering the possibility that in a language that exhibits overt morphological reflexes of agreement with intermediate heads under wh-movement, a wh-phrase would undergo agreement with an intermediate C, so that examples that corresponds to (5) would be expected to be allowed in such a language, as pointed out by Howard Lasnik (pc.). However, Bošković (2005) argues that the conclusion does not necessarily follow since it is not clear that there are any languages that have a morphological reflex of agreement between a wh-phrase and an intermediate head like C or V. In languages that are traditionally considered to have such agreement, wh-agreement is generally only indirect, as noted by Boecks 2003, 2004, Chung and Geogopoulos 1988, Georgopoulus 1991, Chung 1998. Thus, in a number of languages wh-movement triggers a morphological change on intermediate verbs and/or intermediate complementizers. However, the change does not reflect any direct relation between a wh-phrase and the verbs or complementizers. Rather, it reflects a distinct relation between the verbs and the intermediate complementizers. Bošković provides an analysis of one such language, Selayarese, which does not involve agreement between a wh-phrase and an intermediate C and suggests that the analysis can be extended to all languages that are considered to have intermediate wh-agreement.

It is also worth noting here that the SHA requirement is not the only condition for licensing ellipsis, as suggested by the following example, pointed by Howard Lasnik, where the wh-phrase presumably undergoes SHA. I leave investigating (i) for future research:

(i) *John saw the woman [who [$_{IP}$ t left]] and Sue saw the man [who ~~[t left]~~].

Howard Lasnik also suggests that we can assume following Merchant (2001) that in the overt C derivation, (5) is ungrammatical because the overt C *that* survives Sluicing (IP-ellipsis). Investigating various languages, Merchant (2001) draws a conclusion that C never survives Sluicing. Note, however, that as discussed by Bošković (2001), the Bulgarian clitic *li*, a second position clitic generated in C, survives Sluicing, which means that overt C in principle can survive Sluicing.

[4] Bošković shows that this move enables us to turn the AC into a theorem (see the discussion below). Note that for Chomsky, only CP and vP are phases, which are crucially involved in successive cyclic movement. However, there are several recent works that show that Chomsky's system is inadequate. Thus, Legate

Let us consider how the analysis works in detail. In the scenario in (6), XP is a phase and Y needs to undergo successive cyclic movement to W, via Spec of XP. In accordance with the AC, Y has an uninterpretable feature K, which makes it visible for movement. (7) represents the same scenario, but before W enters the structure.[5]

(6) W .. $[_{XP}$ ...X...Y]

uF iF

k uK

EPP

(7) $[_{XP}$ ... X ... Y]

iF

uK

Since XP is a phase, given the PIC, which states that only the edge of a phase is accessible from outside of the phase, if Y is to eventually move outside of XP it first has to get to its Spec. In Chomsky's analysis this is implemented by giving X the EPP property, which drives movement of Y to Spec of XP, with the further proviso that X can be given the EPP property only if this is needed to make successive cyclic movement possible. As discussed above, such look-ahead is

(2003) shows that successive cyclic movement targets the edge of passive and ergative VPs, which are not phases for Chomsky. Bošković (2002c) and Boeckx (2003) argue that successive cyclic movement in fact targets every maximal projection on its way, as in Takahashi's (1994) approach to successive cyclic movement (but see Abels 2003). As discussed in chapter 2, Fox and Lasnik (2003) reach the same conclusion. The thesis also adopts this line of approach to successive cyclic movement (see chapters 2 and 3 for discussion). Adopting this into a phase-based system would lead to the conclusion that every phrase is a phase. Note, however, that Bošković's (2005) analysis to be presented below does not depend on whether we will adopt Chomsky's view of phases, where only CP and vP are phases or the phase update of the Bošković (2002c) /Boeckx/Takahashi's view, where every phrase would be a phase.

[5] Bošković's (2005) assumes that K is either checked as a reflex of F-feature checking between W and Y or that W has a K feature that can check the K feature of Y. For ease of exposition, the latter option is represented.

obviously problematic. Furthermore, as discussed above, Y should not be undergoing any feature checking within XP.

Bošković (2005) argues that the problems can be resolved if we know that Y will have to move in (7) and, in fact, the uK of Y in (7) actually tells us that Y will have to move. If Y does not move to Spec of XP, its uK feature will never be checked. So the uK of Y tells us that Y will have to move, and we know that without look-ahead. All of this would be repeated on any higher phase level. Under this analysis, there is no need to mark the intermediate head (X in (7)) with the EPP feature to drive movement to its Specifier since the movement is required independently.[6]

Under Bošković's (2005) analysis, the role of the uninterpretable feature of Y is to identify Y as an element that needs to move at the point when no structure above XP is present. However, as noted by Bošković (2005), there is no need to have the AC as an independent principle. Y in (6) can either have uK or not. If it does not Y will never move outside of XP, as a result of which the uF of W will remain unchecked and its EPP property will not be satisfied (but see fn. 5). If Y has uK, it will move to Spec of XP, as discussed above. The movement of Y to Spec of XP in (6) is thus greedy, in a sense that Y moves to Spec of XP to help itself; if it does not move its K feature will remain unchecked (so, in a sense, the movement is feature-checking driven). Crucially, Y undergoes no feature checking with the X head. Recall that under Chomsky's recent approach, movement of Y to Spec of XP is driven by an inadequacy of the intermediate head X. This is not the case under Bošković's approach, where the movement is driven by a property of Y. Thus, there is no need to posit a feature-checking relation between X and Y or an EPP feature

[6] Based on the discussion, Bošković (2005) argues that the generalized EPP mechanism (i.e. the requirement that certain heads take a specifier) can be eliminated. We have seen that this can be done regarding intermediate EPP heads. As for final EPP heads (i.e. the Specs that are final targets of movement), Bošković argues that checking of an uninterpretable feature of K on Y requires Y to function as a probe, as a result of which Y needs to c-command the checker. This means that Y in (6) has to move to Spec of WP to function as probe. (More specifically, given Shortest Move, Y moves to the closest position that c-commands W, which is Spec of WP.) As a result, even when W does not have the EPP feature Y cannot remain in the Spec of the phase head just below W, checking all the relevant features. However, there is no need to mark W with the EPP property.

on X. Under this approach, the AC is a theorem, i.e. its role is understood. As discussed above, it is used to implement successive cyclic movement without feature-checking.[7]

3 Successive Cyclic Movement and Superiority

3.1 An overview

In the previous section, we have seen that Bošković's (2005) analysis successfully accounts for successive cyclic movement without look-ahead and feature checking with intermediate heads, which are problematic aspects of Chomsky's (1999, 2000) system. Note, however, that in Bošković's (2005) approach to successive cyclic movement, Superiority (e.g. *Who bought what?* vs. **What did who buy?*)[8] can no longer be stated as an Attract Closest requirement, as standardly assumed. Suppose that there are two elements A and B and that A is higher in the structure than B (i.e. A c-commands B) and thus A is closer to X, an attractor, than B is. Under the standard assumption, X must first attract A rather than B since A is closer to X. Such an Attract-Closest-based approach to Superiority, however, cannot be adopted under Bošković's (2005) system. Let us consider the sentence in (8):

[7] As a consequence of the approach, Bošković (2005) argues that since Agree does not involve movement at all, it follows that the AC should not hold for Agree, a departure from Chomsky (1999, 2000), where the AC holds for both Move and Agree.

Bošković (2005) also deduces PIC effects from PF effects. Following the spirit of Fox and Pesetsky (in press), Bošković proposes that once an element Y is ordered within the spell-out unit K, the phonology cannot receive any higher unit with new information concerning word order of Y: information regarding word order of Y is shipped to the phonology only once. The PIC effects are now deduced: Y in (6) has to move to Spec of XP, XP a phase, in order not to get caught in a spell-out unit, which would freeze it for pronunciation purposes. (Recall that, as noted in fn. 5, Y has to move since due to its uK feature it needs to c-command W.) As pointed out by Bošković, under this approach, it would be redundant to duplicate the phase/PIC effect in the syntax, which would happen if on top of the proposals made in Bošković (2005), it is assumed following Chomsky (2000) that only the edge of a phase is visible from outside of the phase in the syntax. Given the redundancy, following Fox and Pesetsky (in press), Bošković argues that the PIC should be eliminated as a syntactic locality condition.

[8] See Chomsky (1973) and Pesetsky (1982), among others, for earlier formulations of Superiority.

(8) *What do you think who bought?

If we assume that CP is a phase, (8) at one point has the following intermediate structure:[9]

(9) $[_{CP}\ [_{C'}\ C\ [_{IP}$ who bought what$]]]$

At this point, under Bošković's system, either *who* or *what* can move to Spec of CP, depending on which wh-phrase has an uninterpretable feature uK.[10] If *who* moves to this position, it will eventually undergo further movement to the matrix Spec of CP, which will result in the grammatical sentence *Who do you think bought what?* However, instead of *who,* the lower wh-phrase *what* can move to Spec of CP in (9). From this position, it will undergo further movement to the matrix Spec of CP. This will result in the ungrammatical sentence in (8).

In fact, the examples like (8) constitute a more general problem for <u>any</u> analysis that assumes movement to the intermediate Spec of C before the matrix interrogative C enters the structure, whether or not feature checking with the intermediate head C is involved. The problem is that because the final attractor, the +wh C, is not yet present in the structure, we cannot enforce the Attract Closest +wh requirement. Note that we cannot avoid the problem by assuming that the intermediate C is always assigned +wh feature so that only *who* in (9) can be attracted to its Spec. This assumption cannot be adopted for various reasons. First, under this assumption, it would incorrectly be expected that other types of movement like focus movement and topicalization would not drop by the intermediate Spec of CP. (Note that the assumption would also incorrectly predict that sentences like *John thinks that Bill bought a car* to be ungrammatical since +wh feature of the intermediate C is not checked and that **Who thinks what that Mary bought?* should be grammatical for reasons discussed above.) Simply saying that the intermediate C must attract

[9] For the purposes of the current discussion, it doesn't not matter whether vP is a phase or not. However, as will be discussed shortly, similar problems arise even with the assumption that vP is a phase.
[10] According to Bošković, English wh-phrases optionally have the relevant uninterpretable feature.

the closest phrase would not work either since the closest phrase is the IP. One way or another, it looks like that in a system where movement to the intermediate Spec of CP in (8) takes place before the matrix +wh C enters the structure, the Attract Closest account of Superiority cannot be maintained.

The same problem arises with multiple wh-fronting languages such as Bulgarian and Serbo -Croatian in the contexts where all wh-phrases undergo wh-movement. (10) represents schematic structures at the point of derivation where A and B are wh-phrases and Z is an intermediate phasal head:

(10) a. A_i B_j $[_Z \ldots t_i \ldots t_j]$

b. B_j A_i $[_Z \ldots t_i \ldots t_j]$

Given the above discussion, under any analysis that assumes movement to an intermediate Spec of before the attractor enters the structure, the wh-phrases A and B in (10) can move to the Spec of Z in either order, as shown in (10a) and (10b). Then, when an attractor X is introduced later in the structure, A and B can be attracted in any order. This would incorrectly result in voiding Superiority. In section 3.2, I will discuss this issue with respect to Bulgarian and Serbo-Croatian.

In the subsequent sections, a new analysis of Superiority effects will be proposed without relying on Attract Closest. Based on the discussion in chapters 2 and 3, I will propose that Superiority effects result from a violation of Uniformity. Recall from chapters 2 and 3 that chains must be uniform with respect to * (Uniformity). Suppose that when a lower wh-element crosses over a higher wh-element of the same type, a * is left on the head and the tail of the moved element and on the crossed element, as represented in (11):

(11) $[{*A_i} \ldots {*B} \ldots {*t_i}]$

(12) A_i X $[{*t_i} \ldots B{*} \ldots {*t_i}]$

When the head A moves further to X, as in (12), a Uniformity violation is induced since the resulting chain (A_i, $*t_i$, $*t_i$) is not uniform with respect to *. Recall that a chain is uniform if and only if every member of the chain bears a * or none of the members bears a *. As will be discussed shortly, when B undergoes movement, as in the case of multiple wh-fronting languages like Bulgarian and Serbo-Croatian in certain contexts, the resulting chain (B_j, $*t_j$), created by the subsequent movement of B, will induce a Uniformity violation.

Note incidentally that under the proposed analysis, Superiority has a derivational and a representational aspect. It is derivational given that *-marking takes place derivationally. It is also representational since Superiority violations are checked via Uniformity, which in turn is checked representationally at LF. Being representational, Superiority violations (i.e. Uniformity violations under the analysis to be presented) can be repaired by later operations at LF in certain contexts. Considering focus movement of wh-phrases in Serbo-Croatian, it will be shown that repairing Superiority violations is indeed possible.

However, since Uniformity applies at LF, as discussed in chapter 2, it is expected that Superiority violations cannot be repaired by ellipsis at PF. As will be discussed below, the expectation is borne out. The relevant data will be drawn from Bulgarian and Serbo-Croatian.

The rest of the chapter will focus on these two languages which involve multiple wh-fronting. The two languages have been well studied with respect multiple wh-movement and thus constitute an excellent case to investigate Superiority.

3.2 Superiority in Bulgarian and Serbo-Croatian

Rudin (1988) shows that there are two types of multiple wh-fronting (MWF) languages. One type is the Bulgarian type, which includes Bulgarian and Romanian. The other type is the Serbo-Croatian (SC) type, which includes SC, Czech, and Polish:

(13) a. Koj kogo vižda? (Bulgarian)

who whom sees

'Who sees whom?'

b. Ko koga vidi (SC)

who whom sees

'Who sees whom?'

Rudin argues that in the Bulgarian type, all fronted wh-phrases are in Spec of CP, forming a constituent, while in the SC type, the fronted wh-phrases do not form a constituent. In the Bulgarian type, the second wh-phrase right-adjoins to the first one so that the order of fronted wh-phrases reflects the order of movement. In the SC type, however, only the first wh-phrase is located in Spec of CP, while the other fronted wh-phrases are adjoined to IP. The structures of the examples in (13) are shown in (14):

(14) a. $[_{CP}$ Koj kogo $[_{IP}$ vižda$]]$ (Bulgarian)

b. $[_{CP}$ ko $[_{IP}$ koga $[_{IP}$ vidi$]]]$ (SC)

Bošković (1997a, 1999, 2002a), however, argues that there is even a deeper difference between Bulgarian and SC MWF constructions. In particular, he argues that SC questions like (13b) do not have to involve wh-movement at all but that both wh-phrases can be located lower than the CP projection. Bošković shows that assuming that Bulgarian must, and SC does not have to, involve overt wh-movement to Spec of CP can provide an account for the well-known fact, noted by Rudin, that fronted wh-phrases are subject to strict ordering constraints in Bulgarian, but not in SC, as illustrated in (15): [11]

(15) a. *Kogo koj vižda? (Bulgarian)

whom who sees

'Who sees whom?'

b. Koga ko vidi (SC)

whom who sees

'Who sees whom?'

While in SC (13b) and (15b), the fronted wh-phrases are freely ordered, in Bulgarian (13a) and (15a), the nominative wh-phrase has to precede the accusative wh-phrase, which has been analyzed in the literature in terms of Superiority. Given the claim that Bulgarian but not SC must involve wh-movement, the seemingly different behavior of wh-movement in the two languages

[11] Bošković (2002a) provides other arguments to this effect, e.g. regarding the availability of single-pair answers with questions. He argues that only languages that do not involve overt wh-movement to Spec of CP can have single-pair answers with questions. Chinese, Hindi and Japanese belong to this group of languages and allow single-pair answers, as well as pair-list readings, as exemplified in the Japanese multiple wh-question in (i). On the other hand, single-pair answers are not available in English and German, which involve overt wh-movement to Spec of CP, as exemplified in the English example in (ib):

(i) a. Dare-ga nani-o katta no?
who-Nom what-Acc bought Q
'Who bought what?'
b. Who bought what?

Turning to Slavic, Bošković shows that Bulgarian patterns with English/German with respect to the availability of single-pair answers, while SC patterns with Chinese/Hindi/Japanese, which, he argues, confirms that in Bulgarian, (interrogative) Spec of CPs are obligatorily filled by a wh-phrase, while in SC, it does not need to be.

The claim that the availability of single-pair answers depends on the possibility of not moving any wh-phrase to Spec of CP overtly is further supported by French, which can employ either the in-situ or the wh-movement strategy, as noted by Bošković. Single pair answers are possible in French, but only with in-situ questions.Thus, the in-situ question in (iia) can have a single-pair answer, which is not possible in (iib):

(ii) a. Il a donné quai à qui?
he has given what to who
'What did he give to who?'
b. Qu'a-t-il donné à qui?

with respect to Superiority can be easily explained. Since the SC questions in (13b)/(15b) do not have to involve wh-movement, they do not exhibit Superiority effects. Since the Bulgarian questions in (13a)/(15a) must involve wh-movement they exhibit Superiority. Under this analysis, wh-movement in Bulgarian and SC is well behaved with respect to Superiority; whenever wh-movement takes place we get Superiority effects. Bošković argues that the relevant movement in the SC questions in (13b)/(15b) is an instance of focus movement, which is exempt from Superiority.

Bošković (1999) provides an account for why focus movement is exempt from Superiority but wh-movement is not. He argues that focus movement does not violate Superiority if the focus feature is an Attract All feature, which attracts all focus elements, and the Economy account of Superiority is adopted, whereby every feature has to be checked in the most economical way, i.e. through the shortest movement possible. With wh-movement, the attractor is an Attract 1F(eature). This means that it attracts only one element with the relevant feature, which has to be checked in the most economical way, i.e. through the shortest movement possible. Here, the situation is the same as in languages like English, where the attractor for wh-movement (+wh-feature in C) is clearly an Attract 1F head. Hence, if the highest wh-phrase in the structure does not move first to check it, a Superiority effect will show up.[12] With focus movement, the focus attractor is an Attract All feature. Since it is an Attract All feature, it attracts all focus feature bearing elements. As a result, no Superiority effects will show up with pure focus movement. The Attract All property is satisfied in the same way from the point of view of economy regardless of the order in which the wh-phrases move to the focused projection (i.e., the same number of nodes is crossed to satisfy the property regardless of the order of movement).

Bošković (2002b, 2003) argues that the difference between Bulgarian and SC with respect to the obligatoriness of wh-movement follows from the timing of interrogative C-insertion in

[12] According to Bošković, the second wh-phrase in Bulgarian undergoes focus movement, with C checking both the wh and the focus feature in this language.

Bulgarian and SC; interrogative C, whose presence triggers immediate wh-movement, must be inserted in overt syntax in Bulgarian, but not in SC, where it can be inserted at LF, hence wh-movement must take place overtly in Bulgarian, but not in SC. [13] Bošković suggests that interrogative C must be inserted into the structure in overt syntax in Bulgarian, but not in SC, because interrogative C is a PF verbal affix in Bulgarian, but not in SC.[14] If interrogative C is inserted into the structure in LF in Bulgarian, the presence of the phonological information of the interrogative C cannot be processed in this level since LF cannot handle phonological information (Chomsky 1995), which leads the derivation to crash.

As noted in Bošković (1997a, 2002a), however, SC questions must involve overt wh-movement in certain contexts[15]. This happens in the contexts in which LF C-insertion, which is a prerequisite for the no-overt-wh-movement derivation, is blocked. The contexts in question include embedded questions, where the LF C-insertion is blocked because it would involve lexical insertion in the middle of the tree (Merger is allowed to take place only at the root of the tree) and questions involving the phonologically overt complementizer *li*, which, being phonologically realized, obviously must enter the structure overtly. Two other contexts involve long-distance and topicalization questions. All the contexts in question exhibit Superiority effects. The following examples are from Bošković (2002a) concerning embedded, long-distance, *li*, and topicalization questions: [16]

[13] As Bošković notes, the underlying assumption here is that +wh C is strong in both Bulgarian and SC and that strength is defined as in Chomsky (1995), namely as something that has to be eliminated from the structure through checking as soon as it enters the structure. This means that a strong +wh C triggers wh-movement as soon as it enters the structure.

[14] In fact, the interrogative C must be adjacent to the verb in Bulgarian (but not in SC), as expected given that it is a verbal affix.

[15] Bošković (2003) shows that when SC has wh-movement all wh-phrases move to Spec of CP.

[16] Bošković does not give indirect questions because such questions involve an interfering factor. Indirect questions formally do not differ at all from matrix questions in SC. As a result, there is always a danger that they could be analyzed as matrix questions, with the superficial matrix clause treated as an adsentential. He points out that the problem does not arise with correlative constructions like (16) and existential constructions like (17), which also contain embedded questions.

(16) a. [Ko koga voli], taj o njemu i govori.

who whom loves that-one about him even talks

'Everyone talks about the person they love.'

b. ?*[Koga ko voli], taj o njemu i govori.

(17) a. (?)Ima ko šta da ti proda.

has who what PRT you sells

'There is someone who can sell you something.'

b. *Ima šta ko da ti proda.

(18) a. ?Ko koga tvrdiš da je istukao?

who whom claim-2S that is beaten

'Who do you claim beat whom?'

b. *Koga ko tvrdiš da je istukao?

(19) a. Ko li koga voli?

who Q whom loves

'Who on earth loves whom?'

b. *Koga li ko voli?

(20) a. Tom čoveku, ko je šta poklonio?

that man who is what bestowed

'On that man, who bestowed what?'

b. ??Tom čoveku, šta je ko poklonio?

Stjepanović (1999a, b, 2003) provides another context of this type, which involves Multiple Sluicing, as in (21):

(21) a. Neko je udario nekog.
somebody is hit someone
'Somebody hit someone.'

b. Ko koga?
who whom
'Who hit whom?'

c. ?*Koga ko?
whom who
'Who hit whom?'

Assuming that multiple Sluicing involves fronting of wh-phrases, followed by IP-ellipsis, Stjepanović argues that (21c) is ungrammatical due to a Superiority violation.[17] First, note that the context where the multiple Sluicing in (21) takes place involves a short distance null C matrix question, which is exactly the context in which wh-movement is not obligatory and, thus, no Superiority effects should show up. But, as we can see in (21c), movement of the lower wh-phrase across a higher one results in ungrammaticality. Stjepanović suggests that Superiority effects show up in Sluicing, since for Sluicing to be possible, wh-phrases must move to Spec of CP, followed by IP-ellipsis, as standardly assumed for English Sluicing. If wh-phrases are in Spec of CP, then C must also be present in overt syntax in such cases, which under Bošković's analysis means that the construction must involve overt wh-movement (see fn. 13). Given that Sluicing involves wh-movement to Spec of CP, it is subject to Superiority. The relevant movements

[17] Stjepanović adopts the PF-deletion approach to ellipsis.

cannot be pure focus movements. Otherwise, (21c) would be grammatical, contrary to fact.[18] How can the Superiority effects with MWF be captured? We have seen above that the Attract Closest account is problematic (i.e. it is incompatible with the current approach to successive cyclic movement). Therefore, I will propose a new approach to Superiority.

Based on the discussion in chapters 2 and 3, I propose that Superiority effects are captured via Uniformity, i.e. violations of Uniformity give rise to Superiority effects. To implement the proposal, I adopt Cheng and Demirdash's (1990) analysis of Superiority with a modification. Under the Government and Binding framework, Cheng and Demirdash argue that Superiority effects can be captured in terms of Relativized Minimality (Rizzi 1990). Thus, the representation in (22a) is allowed, but the one in (22b) is disallowed:

(22) a. $\ldots wh_i \ldots t_i \ldots wh_j$ (cf. *Who bought what?*)

b. $*\ldots wh_j \ldots wh_i \ldots t_j$ (cf. *What did who buy?*)

Under the assumption that the wh-phrase in situ in (22b) can count as a potential antecedent governor (cf. Cinque 1986) for the trace left by movement of wh_j, (22b) violates Relativized Minimality (RM).

The analysis as such, however, fails to account for the lack of Superiority effects with multiple focus movement in SC, as in (15b), and the contrast between SC (15b) and Bulgarian (15a). To accommodate a wider range of data, I propose to update Cheng and Dermidash's RM-based analysis, which is purely representational, to a derivational version of RM. To instantiate this, I suggest that when a wh-phrase crosses another wh-phrase, a * is left on some syntactic objects. Recall that in chapters 2 and 3, it was suggested that a locality-violating wh-movement leaves a * on the moving element and its trace, as well as the crossed projections (cf. Fox and

[18] Stjepanović's analysis implies that the focus head in SC cannot license Sluicing (IP-ellipsis), while C can. See, however, 4.4 for an alternative analysis.

Lasnik 2003). In line with the *-marking mechanism, I suggest that when a wh-phrase crosses another wh-phrase, a * is left on the crossing wh-phrase and its trace/copy, as well as the crossed wh-phrase, as represented in (23):

(23) ...$*wh_j$ ... $*wh_i$ ... $*t_j$

In (23), wh_j has crossed wh_i. This leaves * on the crossed wh-phrase wh_i, as well as on the chain (wh_j, t_j), which yields ($*wh_j$, $*t_j$). If wh_i undergoes subsequent movement below wh_j,[19] (24) is obtained:

(24) ... $*wh_j$ wh_i ... $*t_i$ ... $*t_j$

In (24), the chain (wh_1, $*t_1$) violates the Uniformity condition, which is repeated in (25) from chapter 3 (3.3.1):

(25) Uniformity Condition:

If ($\alpha_{1\,(\ldots.)}\,\alpha_n$) is a chain ($1 \leq n$) or an Op-variable pair, then for any i ($1 \leq i \leq n$), $P(\alpha_1)$.

[where $P(\alpha) = \alpha$ has property P and P = 'is marked with *' or 'is not marked with *]

According to the condition, a chain is uniform if every member of the chain bears a * or no member of the chain bears it. Thus, the chain (wh_1, $*t_1$) violates the Uniformity condition.

Under this analysis, the Superiority effects observed in Bulgarian, as in (15a) and in SC as in (16)-(21), are due to a violation of the Uniformity condition. Let us take the Sluicing construction in (21) for illustration, which is repeated in (26) for convenience:

[19] This would be either rightward adjunction or movement to a lower Spec (tucking in).

(26) a. Neko je udario nekog.

somebody is hit someone

'Somebody hit someone.'

b. Ko koga?

who whom

'Who hit whom?'

c. ?*Koga ko?

whom who

'Who hit whom?'

At some point of the derivation of (26c), *koga* 'whom' crosses *ko* 'who'. When *koga* first moves over *ko* to CP, we have the following schematically represented structure:

(27) $[_{CP}$ *$koga_i$ $[_{IP}$ *ko .. *t_i]]

The movement of *koga* leaves a * on the crossed wh-phrase *ko*, as well as on the head and the tail of the chain in question. When *ko* undergoes movement to CP, as in (28), a * is left on the head and the tail of the chain, resulting in the chain (ko_j, *t_j):

(28) $[_{CP}$ *$koga_i$ ko_j $[_{IP}$ *t_j .. *t_i]]

In (28), there are two chains formed: (*$koga_i$, *t_i) and (ko_j, *t_j), and the chain (ko_j, *t_j) violates the Uniformity condition.[20]

[20] If we assume following the discussion in chapters 2 and 3 that the wh-movements in (28) take place in one-fell swoop to satisfy (Local) Parallelism since in the antecedent the correlate indefinites do no move

(26b) is grammatical, since there is a derivation available which satisfies the Uniformity condition. The derivation involves the movement of *ko* to CP, followed by the movement of *koga*, as represented in (29):

(29) $[_{CP}$ ko$_j$ koga$_i$ $[_{IP}$ t$_j$ .. t$_i$]]

The movement of *ko* results in the chain (ko$_j$, t$_j$). The subsequent movement of *koga* results in the chain (koga$_i$, t$_j$). Note here that the movement of *koga* across t$_j$ does not induce any *'s if we assume following Chomsky (1995, 2005) that traces do not count as interveners for RM. Both chains observe Uniformity.

The same analysis applies to the cases that do not involve ellipsis but still exhibit Superiority effects in Bulgarian (15a) and in SC (16)-(20). In all of these cases, the lower wh-phrase must cross the higher wh-phrase at some point of the derivation. This will inevitably leave a * on the crossed wh-phrase, which will result in a violation of the Uniformity condition, as in the case of SC Sluicing (26c).

The Uniformity-based analysis also provides an account for the ungrammaticality of (8), repeated as (30):

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but are bound by existential closure (see also Fox and Lasnik 2003), one can assume that the wh-movements may leave one additional * on each member of the chain. If this is the case, one of the chains formed still violates the Uniformity condition. Under this assumption, (28) is represented as in (i):

(i) $[_{CP}$ **koga$_i$ *ko$_j$ $[_{IP}$ **t$_j$ .. **t$_i$]]

As shown in (i), two chains are created: (**koga$_i$, **t$_i$) and (*ko$_j$, **t$_j$). However, the chain (*ko$_j$, **t$_j$) is not uniform since each member of the chain does not bear the same number of *'s, resulting in a violation of the Uniformity condition. To be more precise, under this assumption, the Uniformity condition may be revised, as in (ii):

(ii) **Uniformity Condition (revised):**
If ($\alpha_{1\,(\ldots,)}\,\alpha_n$) is a chain ($1 \leq n$) or an Op-variable pair, then for any i ($1 \leq i \leq n$), P(α_1).
[where P(α) = α has property P and P = 'is marked with the same number of *' or 'is not marked with *]

Given that even under the assumption, the same results will always arise, I will not take into consideration this assumption in the discussion to follow.

(30) *What do you think who bought?

As discussed above, at one point of the derivation, we have the structure in (31):

(31) [$_{CP}$ [$_{C'}$ C [who bought what]]]

The issue discussed above was how to prevent *what* from moving to Spec of CP in (31). From the Spec of CP in (31), it could move to the matrix Spec of CP in the later derivation, which would result in the ungrammatical sentence in (30).

Under the Uniformity-based analysis, when *what* crosses *who* in (31), a * is left on *who* (i.e. *who), as well as on the crossing element *what* and its trace (i.e. (*what, *t)). The subsequent movement of *what* to the matrix Spec of CP will result in a chain that violates the Uniformity, as in (*what*,..., *t, *t). The Uniformity condition will also be violated with respect to *who*, whether or not it moves to the matrix Spec of CP or undergoes unselective binding.

This analysis can also be straightforwardly extended to the cases in English such as (32):

(32) a. Who bought what?

b. *What did who buy?

In (32b), regardless of the details of the analysis, *what* crosses *who* at one point of the derivation. (33) is an intermediate step of the derivation:

(33) [$_{CP}$ [C [$_{TP}$ [T [who [v* [buy what]]]]]

At this point of the derivation, *what* first moves to the edge/Spec of v* and then moves further to the edge of C (Spec of CP), while *who* moves to the edge of T. Regardless of the details of the timing of the movements, one thing that is clear is that *what* crosses *who* at one point of the derivation. When the crossing takes place, * is left on *who*, (as well as on *what* and its trace). Whether *who* is unselectively bound or undergoes movement to the edge/Spec of C, this results in a violation of the Uniformity condition. In (32a), such crossing does not take place, since *what* can stay below v* (cf. Lasnik 1999, Bošković 2000c, in press, among others).

As discussed above, Stjepanović (1999a, b, 2003) argues that the SC Sluicing in (26c) involves a violation of Superiority. Under Stjepanović's analysis, the ungrammaticality of (26c) suggests that Superiority violations cannot be repaired by ellipsis at PF (PF-deletion). As expected, this is also true of Bulgarian, as in (34), which is observed in Merchant (2001):

(34) a. Njakoj e vidjal njakogo, no ne znam [$_{CP}$ koj kogo ~~[$_{IP}$ e vidjal]~~]
someone AUX seen someone but not I.know who whom AUX seen
'Someone saw someone, but I don't know who saw who.'

b. *Njakoj e vidjal njakogo, no ne znam kogo koj
someone AUX seen someone but not I.know whom who

The fact that Superiority violations cannot be repaired by ellipsis becomes more interesting when we consider the fact that certain violations can be repaired by ellipsis at PF; for example, as discussed in chapters 2, and 3, island violations can be repaired by ellipsis (Merchant 2001, among others), and certain violations induced by locality-violating movements can also be repaired by ellipsis, as argued by Fox and Lasnik (2003). As discussed in chapters 2 and 3, repairing the violations by ellipsis at PF is possible, since they are PF-violations. Under the Uniformity-based analysis, the irreparability of Superiority violations by ellipsis is expected, given that, as discussed in chapter 2, Uniformity is an LF requirement.

Stjepanović (1999) and Merchant (2001) suggest a different account for the irreparability of Superiority violations by ellipsis. They suggest that Superiority is the result of derivational constraints.[21] This led Stjepanović (1999) to the conclusion that Sluicing involves movement of wh-phrases to Spec of CP, followed by ellipsis at PF. If LF-copying were involved with base generation of wh-phrases in Spec of CP (cf. Chung, Ladusaw and McCloskey 1995), any wh-phrase could be base-generated first, which would void Superiority. Similarly, Merchant (2001) suggests that Superiority is the result of derivational but not representational constraints and thus is immune to operations such as ellipsis at PF. Under these approaches, it is expected that Superiority violations will never be repaired by later operations at PF or LF. Significantly, the analysis proposed in this chapter makes a different prediction. Notice that the Uniformity condition, which is crucially involved in Superiority violations, has two aspects. One aspect is derivational since *-marking takes place derivationally. The other aspect is representational since checking uniformity is done represenationally. Given that the violations are checked representationally at LF, it should be possible to repair the violations (i.e. Superiority violations) with subsequent operations at LF, but not at PF. In the following section, it will be shown that this is indeed possible, based on focus movement in SC.

3.3 Superiority and Focus Movement in Serbo-Croatian

In the previous section, it was argued that when a lower wh-phrase crosses a higher wh-phrase in the structure, this ultimately leads to a violation of the Uniformity condition at LF. The account enabled us to capture not only Superiority effects in Bulgarian but also Superiority effects in the contexts in which SC must have wh-movement. Recall, however, that in the contexts where wh-phrases undergo focus movement, no Superiority effects show up in SC. The relevant data are reproduced in (35):

[21] See also Boeckx and Lasnik (to appear).

(35) a. Ko koga vidi?
who whom sees
'Who sees whom?'

b. Koga ko vidi?
whom who sees
'Who sees whom?'

As discussed above, Bošković (1999) argues that focus movement does not violate Superiority since the focus feature of the focus head is an Attract All feature attracting all focus bearing elements. Given this, the Attract All property is satisfied in the same way from the point of economy regardless of the order in which the wh-phrases move to the focus head. Recall, however, that the Uniformity-based analysis of Superiority does not rely on the Attract based accounts. Under this analysis, as discussed in the previous section, Superiority violations are determined via *-marking even before the attractor is introduced in the structure: when a lower wh-phrase crosses a higher wh-phrase, it leaves a * on the skipped wh-phrase, which will ultimately lead to a violation of Uniformity at LF. Thus, the analysis would incorrectly predict that (35b) should induce a violation of Uniformity, just as in the case of wh-movement to CP. Given the discussion so far, we need to provide an account for why focus movement, in contrast to wh-movement, is exempt from Superiority.

I suggest that focus movement in SC is different from wh-movement in that the wh-phrase that has undergone focus movement may be reconstructed into its base position at LF, as suggested for the Korean wh-remnant movement (chapter 3, section 3.3.1).[22] If we assume that

[22] As will be discussed below, I assume that in contrast to wh-movement, focus movement in SC (and possibly in Korean (cf. chapter 3)), does not create an Operator-variable chain, hence can be reconstructed. In particular, I assume following Rooth (1985) that focused elements can be interpreted in situ, without creating an Op-variable pair via movement.

reconstruction has the effect of obliterating * at LF, no Uniformity violations remain in the final representation at LF (see also 3.3.1 for the same effects with wh-remnant movement in Korean ellipsis constructions). In other words, Uniformity violations can be repaired by reconstruction. Under the Uniformity-based analysis of Superiority, this means that Superiority violations can also be repaired.

To see this more clearly, let us consider the derivation of (35b) that involves movement of *koga* before *ko* in overt syntax. The fronted wh-phrases *koga* and *ko* may be reconstructed at LF. The reconstruction will obliterate every * that is created in overt syntax. The derivations are schematically shown in (36):

(36) a. [$_{FP}$ *Koga$_j$ [$_{IP}$ *ko$_i$ *t$_j$ vidi]] [after movement of *koga* in overt syntax, which violates locality]

b. [$_{FP}$ *Koga$_j$ ko$_i$ [$_{IP}$ *t$_i$ *t$_j$ vidi]] [after movement of *ko* in overt syntax]

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c. [$_{FP}$ *Koga$_j$ [$_{IP}$ *ko *t$_j$ vidi]] [after reconstruction of *ko* at LF]

d. [$_{FP}$ [$_{IP}$ ko koga vidi]] [after reconstruction of *koga* at LF]

(36a) and (36b) involve movement of *koga* and *ko* in overt syntax. In (36a), *koga* crosses *ko* when moving to Spec of FP. This movement not only leaves a * on the head and the tail of the chain created by the movement and but also on the crossed element *ko*. The subsequent movement of *ko* in (36b) does not leave any * since it did not cross any higher wh-phrase. In (36c), *ko* is reconstructed to its base position at LF. Under the copy-theory of movement, the reconstruction of *ko* means that the head is deleted while the tail copy is kept, which already bears a *. So *ko* at this point still has a * in the reconstructed position. Let us now assume that the reconstruction of *koga* to its base position can obliterate the * on *ko*, because the * was created by movement of *koga* itself. For the same reason, the reconstruction also obliterates the * on the chain (*koga, *t).

This is shown in (36d). In other words, all *'s are obliterated by putting back everything in the base positions. Subsequently, when C is introduced at this point at LF, the (wh-feature of the) higher wh-phrase *ko* can first undergo wh-movement to check off the +wh-feature of C. Whether or not the lower wh-phrase undergoes subsequent movement or unselective binding at LF, no Uniformity violations will be induced.

This analysis provides a straightforward account for the selectivity of Superiority effects in Bulgarian. Bošković (1997d) shows that while the highest wh-phrase must move first to Spec of CP in Bulgarian the order of movement of other wh-phrases to Spec of CP are free. The data illustrating this are given in (37) and (38):

(37) a. Kogo kakvo e pital Ivan?
whom what is asked Ivan
'Who did Ivan ask what?'

b. ?*Kakvo kogo e pital Ivan?
what whom is asked Ivan
'Who did Ivan ask what?'

(38) a. Koj kogo kakvo e pital?
who whom what is asked
'Who asked who what?'

b. Koj kakvo kogo e pital?
who what whom is asked
'Who asked who what?'

(37) and (38) show that the indirect object must move before the direct object when it is the highest wh-phrase, as in (37), but not when it is not, as in (38). Based on the parallelism between

the wh-phrases in SC (35) and non-initial fronted wh-phrases in Bulgarian with respect to the lack of Superiority effects, Bošković (2002a) argues that movement of the first wh-phrase in Bulgarian differs from the movement of the second and the third wh-phrase, which are in turn the same as the movement of all the wh-phrases in SC (35). As discussed above, the wh-phrases in SC (35) undergo focus movement. Then, it follows that the second wh-phrase and the third wh-phrase in (38) and the second wh-phrase in (37) undergo focus movement (to Spec of CP) and thus are insensitive to Superiority, as argued in Bošković (2002a).

Under the Uniformity-based analysis, it seems on the surface that there should be no Superiority effects in (37b) since the second wh-phrase can undergo focus movement and thus can be reconstructed at LF. Reconstruction should eliminate all *'s at LF, inducing the effect of repairing Uniformity violations. Close scrutiny, however, reveals that even after the reconstruction of the second wh-phrase, Uniformity remains violated. Let us consider the derivation of (37b), as schematically shown in (39):

(39) a. $[_{CP}$ *kakvo$_i$ $[_{IP}$ *kogo .. *t_i]]

b. $[_{CP}$ *kakvo$_i$ kogo$_j$ $[_{IP}$ *t_j .. *t_i]]

In (39), the direct object *kakvo* moves to Spec of CP, followed by movement of the indirect object *kogo*. The indirect object *kogo* that underwent focus movement can be reconstructed at LF, as shown in (40), where the reconstructed object bears a *:[23]

(40) $[_{CP}$ *kakvo$_i$ $[_{IP}$ *kogo .. *t_i]]

[23] Note here that the reconstruction of *kogo* in (40) does not obliterate the * on the tail of the chain because it was not created by the movement of *kogo* in overt syntax (i.e. reconstruction in this case has no effects on the *). In contrast to this, as discussed above, the reconstruction of *koga* in (36d) obliterates the * on the tail of chain because it was created by the movement of *koga* itself in overt syntax.

Subsequently, *Kogo* in (40) must either undergo movement to CP or unselective binding. Either way, a violation of the Uniformity condition is induced. If it moves, the nonuniform chain (kogo$_j$, *t$_j$) will be created. If it is unselectively bound by an operator from Spec of CP, the nonuniform variable-operator pair (Op$_j$, *kogo$_j$) will be created (see chapter 3 for arguments that operator-variable pair is also subject to the Uniformity condition.)

This analysis also straightforwardly accounts for the grammaticality of (38b), where the first wh-phrase undergoes wh-movement and the third and the second wh-phrase undergoes focus movement to Spec of CP. The derivational steps are schematically shown below:

(41) a. [$_{CP}$ koj$_i$ [$_{IP}$ t$_i$ .. kogo .. kakvo]] [after movement of *koj* in overt syntax]

b. [$_{CP}$ koj$_i$ *kakvo$_k$ [$_{IP}$ t$_i$ .. *kogo .. *t$_k$]] [after movement of *kakvo* in overt syntax which violates locality]

c. [$_{CP}$ koj$_i$ *kakvo$_k$ kogo$_j$ [$_{IP}$ t$_i$ .. *t$_j$ .. *t$_k$]] [after movement of *kogo* in overt syntax]

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d. [$_{CP}$ koj$_i$ *kakvo$_k$ [$_{IP}$ t$_i$ .. *kogo .. *t$_k$]] [after reconstruction of *kogo* at LF]

e. [$_{CP}$ koj$_i$ [$_{IP}$ t$_i$ .. kogo .. kakvo]] [after reconstruction of *kakvo* at LF]

In (41a), *koj* moved to Spec of CP. In (41b), the third (i.e. lowest) wh-phrase *kakvo* crossed *kogo* on its way to Spec of CP. This leaves a * on the members of the chain created by the movement and on the crossed wh-phrase *kogo*. The subsequent movement of *kogo* does not add any *, as shown in (41c) because it did not cross any wh-phrases. At LF, the two wh-phrases *kogo* and *kakvo* that underwent focus movement can be reconstructed. In (41d) *kogo* is reconstructed. In (41e), *kakvo* is reconstructed. As discussed above, the reconstruction of *kakvo* obliterates all *'s. Whether the reconstructed wh-phrases undergo unselective binding or movement at LF, no uniformity violations will be induced.

The fact that the example in SC in (35b) is grammatical provides another argument that wh-phrases that undergo focus movement can be reconstructed. To see why this is so, let us first consider the contexts where overt wh-movement must take place in SC. As discussed above, the contexts involve embedded questions, questions involving the phonologically overt complementizer *li*, long-distance questions, and topicalization questions. In these contexts, wh-phrases move to Spec of CP: one wh-phrase undergoes wh-movement, checking the +wh-feature of C, and, as discussed in Bošković (2003), other wh-phrases undergo focus movement to Spec of CP, which means that C can license wh-phrases for focus in SC, just as in Bulgarian. Wh-movement is sensitive to Superiority, while focus movement is not. As a result, the highest wh-phrase must move first to Spec of CP, the order of movement of other wh-phrases being free. Recall, however, that SC also has the possibility of licensing wh-phrases for focus in a lower position. This possibility is, for example, realized in (35a) and (35b), which do not have to involve overt wh-movement at all. The question now arises why the SC wh-phrases in questions that must involve overt wh-movement cannot first undergo focus movement to the focus position below C, which would be followed by wh-movement of wh-phrases to Spec of CP. Clearly, this derivation needs to be blocked; otherwise, there would be no Superiority effects in these contexts, contrary to fact.

Bošković (2003) provides an answer to this question. He argues that the derivation on which focus movement feeds wh-movement is blocked by an independent condition. Epstein (1992) and Bošković (1997b) discuss data that indicate that once an operator moves to an A'-position in which it can establish an operator (Op)-variable relation, it cannot undergo further A'-movement. In particular, Bošković (1997b) adopts the condition in (42):

(42) Op in Op-variable chains cannot undergo further movement.

The well-known ban on Quantifier Raising (QR) of topicalized quantifiers illustrates the effect of (42). Lasnik and Uriagereka (1998) observe that *every problem* cannot have scope over *someone* in (43b) even for the speakers for whom it can scope over *someone* in (43a):

(43) a. Someone thinks that Mary solved every problem.

b. Someone thinks that every problem, Mary solved.

If we assume that the wide scope of *every problem* in (43a) is obtained as a result of QR (into the matrix clause), then the unavailability of the wide scope of *every problem* in (43b) suggests that topicalization has a freezing effect on QR, which follows from (42), given that the landing site of topicalization is an operator position.

Bošković (1997b) shows that (42) is also responsible for the ungrammaticality of constructions like **What do you wonder John bought (when).* Chomsky (1995) argues that features that have semantic import (interpretable features) are 'unaffected' by checking. They can undergo checking both more than once and less then once. According to Chomsky, +wh-feature of wh-phrases is an interpretable feature. Therefore, it can enter multiple checking. Consider the derivation in (44):

(44) *What$_i$ do you wonder [$_{CP}$ t$_i$ C [$_{IP}$ John bought t$_i$ (when)]][24]

In (44), *What* first moves to the lower Spec of CP, checking the strong +wh-feature of the embedded C. It then moves to the matrix Spec of CP, checking the strong +wh-feature of its head. Then, it is not clear how (44) can be ruled out. In fact, it seems to be well-formed syntactically. Its ungrammaticality can then be taken to indicate that a wh-phrase cannot pass through an interrogative Spec of CP, which, Bošković notes, follows from (42).

[24] *when* is added to make it possible to interpret the embedded clause as a question.

Returning to the contexts in SC that require overt wh-movement, Bošković (2003) argues that focus movement cannot feed wh-movement due to the condition (42). Under the derivation in question, a wh-phrase first undergoes focus movement, which Bošković assumes is A'-movement that creates an Op-variable chain. The wh-phrase then undergoes wh-movement. This, however, violates (42). By ruling out the possibility of focus movement feeding wh-movement, (42) ensures the desired result: although in principle SC wh-phrases can be checked for focus either in Spec of CP or in a position lower than C, the latter option is blocked in constructions involving wh-movement, where C enters the structure overtly, triggering overt wh-movement.

Under this analysis, however, the fact that (35b) is grammatical gives rise to an apparent paradoxical situation. The data in (35b) are repeated in (45), for convenience:

(45) Koga ko vidi?
whom who sees
'Who sees whom?'

(45) is insensitive to Superiority. Wh-movement here is not necessary in overt syntax in SC, since C need not enter the structure in overt syntax: it can enter the structure in overt syntax or at LF. Under this analysis, however, (45) seems to be in a violation of (42). When C enters the structure at LF in (45) (and this is necessary to avoid a Superiority violation with overt wh-movement), under Bošković's analysis, there should be wh-movement from focus position to Spec of CP since the +wh-feature of C is strong (see fn. 13). But, according to (42), the movement must not be allowed.

The problem, in fact, can be resolved if we assume that the wh-phrases in (45) that undergo focus movement can be reconstructed. *Ko* would then undergo LF wh-movement from the base position to check the strong +wh-feature of C. If we assume following Chomsky (1973) and Bošković (2005) that unselective binding is possible after one wh-phrase moves to Spec of

CP (to check the strong feature of C), *koga* can be unselectively bound in its base position after reconstruction. Note also that nothing changes if we assume that LF wh-movement involves feature movement to C, not phrasal movement to Spec of CP, as argued in Bošković (1998b). Under this assumption, after reconstruction, both wh-phrases in (45) undergo feature movement to C at LF. Either way, (45) does not involve movement from an operator position, observing the condition (42).[25] Later in this section, I will argue that the feature movement analysis can be easily extended to a certain parallelism between SC and French.

So far, we have successfully accounted for Superiority effects in Bulgarian and SC with the assumption that focus movement, but not wh-movement, can be reconstructed. However, it is not clear why focus movement behaves differently from wh-movement with respect to reconstruction. One might be tempted to tease them apart by assuming that focus movement, in contrast to wh-movement, does not create an operator-variable chain and thus can be reconstructed. However, as discussed above, we have seen an argument that focus movement in SC creates an operator-variable chain and thus cannot feed wh-movement in the contexts where only overt wh-movement must take place (Bošković 2003). Yet, I would like to pursue the possibility that the difference between focus movement and wh-movement lies in that only the former does not create an operator-variable chain. If we assume this, we can now come closer to the answer to why only focus movement reconstructs in the relevant sense,[26] since Bošković's

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[25] The reconstruction analysis cannot apply to topicalization in (43b), which is repeated in (i). Otherwise, *every problem* could have scope over *someone* in (i) (for the speakers who allow wide scope of *every problem* in *Someone thinks that Mary solved every problem,* it could QR into the matrix clause after reconstruction):

(i) Someone thinks that every problem, Mary solved.

I discuss the relevant property of topicalization below.

[26] Reconstruction here intends to mean radical reconstruction (or "undoing") in the sense of Saito (1992). Given that focus movement is radically reconstructed, it has no effects on semantics. However, as Saito (1992) argues, wh-movement, as well as topicalization, does not undergo radical reconstruction. Under this analysis, it follows that Condition A effects observed in examples like (i) must satisfied on-line during the derivation (cf. Belleti and Rizzi 1982). (See also chapter 3 (3.3.1) for the same conclusion).

(i) Which picture of himself$_i$ do you think John$_i$ likes?

account relies on the assumption that focus movement does create an Op-variable relation. However, if we assume this, we need to provide an alternative account for why focus movement cannot feed wh-movement in the contexts in SC where overt wh-movement must take place.

I propose that it is the Uniformity condition that prevents focus movement from feeding wh-movement in these contexts. Recall that the contexts that must involve overt wh movement in SC are the ones where LF C-insertion is blocked. The contexts in question include embedded questions, questions with the phonologically overt complementizer *li*, long-distance and topicalization questions.[27] Given that LF C-insertion is blocked in these contexts, C can only be inserted overtly and thus overt wh-movement must take place. Let us consider the derivation on which focus movement would feed wh-movement, as in (46):

(46) a. $[_{FP}$ *Koga$_i$ $[_{IP}$ *ko$_j$ ... *t$_i$]]

b. $[_{FP}$ *Koga$_i$ ko$_j$ $[_{IP}$ *t$_j$ ... *t$_i$]]

c. $[_{CP}$ C $[_{FP}$ *Koga$_i$ ko$_j$ $[_{IP}$ *t$_j$ ... *t$_i$]]

d. $[_{CP}$ Koga$_i$ C $[_{FP}$ *t$_i$ ko$_j$ $[_{IP}$ *t$_j$ ... *t$_i$]]

In (46a) and (46b), the lower wh-phrase *koga* first undergoes focus movement, followed by focus movement of the higher wh-phrase *ko* to the lower Spec of FP (Focus Projection). This results in the two chains (*koga, *t) and (ko, *t). At this point, C is introduced overtly, as in (46c), which requires overt wh-movement. If *koga* moves to Spec of CP from the Spec of FP as in (46d), it will create the chain (koga, *t, *t), which violates the Uniformity condition. (Note that the chain (ko, *t) also violates the Uniformity condition.) This is why focus movement cannot feed wh-movement in these contexts. Note incidentally that reconstruction cannot take place in this case, because *koga* undergoes wh-movement in overt syntax and thus cannot be reconstructed. In (45),

[27] As discussed above, Sulicing is also included in these contexts for somewhat different reasons (Stjepanović 1999a, b, 2003).

where focus movement is involved in overt syntax, C can be introduced into the tree in LF and thus wh-movement can take place in LF. If reconstruction of the wh-phrases takes place, obliterating all *'s, before C is introduced, no Uniformity violations will be induced.

I will now provide another argument that wh-phrases that undergo focus movement can be reconstructed in SC. The relevant contexts have to do with long-distance questions in SC, as in (47):

(47) a. ?Ko koga tvrdiš da je istukao? (SC)

who whom claim-2S that is beaten

'Who do you claim beat whom?'

b. *Koga ko tvrdiš da je istukao?

As noted by Bošković (2002a) and shown in (47b), Superiority effects show up in long-distance questions in SC. This contrasts with short distance null C matrix questions, in which Superiority effects do not show up, as in (45). As discussed above, Superiority effects do not show up in short distance null C matrix questions, since in these contexts wh-movement to Spec of CP does not have to take place overtly. Then, given that wh-movement to Spec of CP does not have to take place overtly in (47b), why is it ungrammatical? All else being equal, the wh-phrases in (47b) could undergo focus movement and then subsequent reconstruction of them should be possible, as in (45).

For this problematic case, I would like to suggest that reconstruction in long-distance questions is in fact possible but something else will go wrong after reconstruction. More specifically, following Bošković (1997a), I argue that reconstruction of wh-phrases from focus position results in a violation of locality constraints at LF. The upshot of the analysis is that in long-distance questions, the derivation that involves only focus movement in overt syntax is not allowed. In fact, Bošković (1997a, 2000) shows that only overt wh-movement to Spec of CP is involved in long-distance questions. In what follows, I will briefly introduce Bošković's analysis of long-distance questions.

Recall that Superiority effects in SC show up in short distance overt C matrix questions, embedded questions, and long-distance questions (but not in short distance null C matrix questions). Bošković (1997a, 2000) observes that exactly in those contexts where SC exhibits Superiority effects, overt wh-movement must take place in French. The curious behavior of SC with respect to Superiority can then be explained if one assumes that SC is a French-type language with respect to when it must have overt wh-movement. Short distance overt C, embedded, and long-distance questions in SC then exhibit Superiority effects because in these contexts, overt wh-movement must take place in SC, just as in French. Short distance null C matrix questions in SC do not exhibit Superiority effects because, just like in French, these questions need not involve overt wh-movement. As mentioned above, it should then follow that in those contexts where SC questions must involve overt wh-movement, LF C-insertion must be blocked, and this is exactly what happens. In embedded questions, LF C-insertion is blocked because it would involve lexical insertion in the middle of the tree (Merge is allowed to take place only at the root of the tree, i.e. it must expand the tree). In questions involving phonologically overt C, C, being phonologically realized, must enter the structure overtly. The LF C-insertion analysis applies to French too.[28]

In long-distance questions in SC and French, Bošković (2000) argues that +wh C, containing a strong Q feature, is allowed to be inserted at LF but no legitimate output will result after the insertion due to locality restrictions that block feature checking between C and wh-phrases. He argues that this is so under the minimalist assumption that all movement is driven by the need for formal features to be checked. (cf. Chomsky 1995). Chomsky (1995) notes that a

[28] As for topicalization in SC, it involves CP adjunction so C must present there, as noted by Bošković (2002a).

natural consequence of this assumption is that all else being equal, the operation Move should apply to features and not to syntactic categories, and he argues that this is indeed the case. However, overt movement, which feeds PF, still needs to carry whole categories under the natural assumption that lexical items with scattered features are uninterpretable/unpronounceable at PF. Since considerations of PF interpretability are not relevant to LF movement, in LF the operation Move applies only to features. Chomsky argues that in LF, formal features move to heads bearing matching features. According to Chomsky (1995), LF movement then necessarily involves head movement, i.e., adjunction to X^0-elements.

Let us now consider long-distance questions in SC and French:

(48) a. ?Ko koga tvrdiš da je istukao? (SC)

who whom claim-2S that is beaten

'Who do you claim beat whom?'

b. *Koga ko tvrdiš da je istukao?

(49) a. *Jean et Marie croient que Pierre a embrassé qui? (French)

John and Mary believe that Pegter has kissed who

'Who do John and Mary believe that Peter has kissed?'

b. Qui Jean et Marie croient-ils que Pierre a embrassé

As noted by Bošković, (49) shows that wh-movement must take place overtly in French long-distance questions in which the base-generated position of the wh-phrase and the +wh C are separated by a finite clause boundary. (48) shows that in the same contexts in SC, wh-movement is subject to Superiority. As discussed above, as soon as the C with a strong Q feature is introduced into the tree, the Q feature must be eliminated through checking. In order for this to happen, *qui* in (49a) must enter into a checking relation with C. If the movement were overt, it would involve substitution into Spec of CP. Recall, however, that, according to Chomsky, all LF movement involves pure feature movement, whose landing site is an X^0-adjoined position. In other words, LF movement involves head movement. To be more precise, the formal features of the wh-phrase adjoin to the matrix C. It is well known, however, that movement to X^0-positions is subject to very strict locality constraints. Given that, Bošković (1998b) argues that the movement from the base-generated position of *qui* to the matrix C violates locality constraints on X^0-movement. If we assume that the embedded C is a head that is located in A'-position, in order to reach the matrix C, an A'-head position, *qui* has to skip the A'-head, C. This is not allowed. On the other hand, in short-distance questions like (50), LF feature movement of the wh-phrase to C does not cross any A'-heads so that Relativized Minimality is respected:

(50) Tu as vendu quoi?
you have sold what
'What did you sell?'

Given that LF-insertion of the matrix C cannot yield a legitimate output due to locality restrictions on movement to X^0-positions, the matrix C then must be inserted overtly in the construction in question. The overt insertion of C triggers overt movement to Spec of CP, necessary to eliminate the strong Q feature.

Under this analysis, however, it is not clear why the wh-phrases in (48b) cannot first undergo focus movement to Spec of FP and stay there in overt syntax. Recall that this is possible in short distance null C matrix questions, as shown in (35b), which is repeated in (51):

(51) Koga ko vidi?

whom who sees

'Who sees whom?'

The contrast between (48b) and (51) can be easily accounted for if we assume that reconstruction from focus position is possible. As discussed above, the fronted wh-phrases in SC that undergo focus movement in (48b) and (51) cannot undergo wh-movement since that would violate the Uniformity condition. The only option left is to reconstruct the fronted wh-phrases from the focus position to their base position. Note, here, that after reconstruction, (48b) looks exactly like the French example in (49a) in LF. Likewise, SC null C matrix questions in SC as in (45) exactly looks like the French example in (50) after reconstruction. Then, Bošković's feature movement analysis, as described above, successfully provides a uniform account for the ungrammaticality of (48b) in SC and (49a) in French. Note incidentally that although Bošković attempted to extend his analysis of French to SC, given the parallelism regarding when the two languages must have wh-movement he really was not able to extend his analysis of long distance questions in French to SC. Under the assumption that reconstruction from focus position is allowed, this is now straightforward.

4 Some Residual Issues

In chapter 3 (section 3.3.2), I showed that the remnant wh-phrase in (matrix) Sluicing constructions in Korean undergoes movement to a position between CP and IP in overt syntax. I speculated that the position can either be the Spec of FocusP (FP) or the IP-adjoined position. I argued that the island sensitivity of these constructions, as in (52), is due to a violation of the Uniformity condition at LF. The remnant wh-phrase must move to the Spec of FP/the IP-adjoined position in one fell swoop to satisfy (Local) Parallelism, which leaves a * on the chain that is created by the movement. Subsequent unselective binding of the remnant by an operator in CP will create the Op-variable pair (Op, *wh), which violates the Uniformity condition:

(52) A: John-un [Bill-ekey mwuenka-lul cwun salam]-kwa mannasse
John-Top Bill-to something-Acc gave person-with met
'John met someone who gave Bill something'

B: ?*[$_{CP}$ C [$_{FP/IP}$ mwuess-ul ~~[$_{IP}$ John-un [Bill-ekey t cwun salam]-kwa mannasse]~~]]?
what-Acc John-Top Bill-Dat gave person-with met
'What?'

As argued in chapter 3, when islands are not involved, there is an escape hatch: the remnant wh-phase can be reconstructed from the fronted position, followed by unselective binding. Such an escape hatch is not available when islands are involved since reconstruction into them is not available (cf. Logobardi 1987).

Considering the discussion in the previous section, however, it might be possible to account for the insensitivity in Sluicing in Korean in a different way. First, let us assume that wh-phrases in Korean undergo movement to CP. Then, the condition (42) will block the movement of the wh-phase from FP to CP in (52B). In other words, under the hypothetical analysis, (52B) is not ruled out solely by the Uniformity condition.

However, there is a problem for such an analysis. First, as discussed in the previous section, if the wh-phase moves in LF, it is its features that move, as in the case of French (Bošković 1997a). Then, we would expect that Korean would behave in the same way as French with respect to wh-movement at LF. As noted by Bošković (2000), however, these two languages cannot be treated in the same way. Recall that French wh-in-situ is not allowed in embedded questions, long-distance questions and questions with overt C. In contrast to French, Korean wh-in-situ is allowed in these contexts. For examples, as shown in (53), in Korean wh-in-situ is allowed in long-distance questions:

(53) John-un Bill-i nwukwu-lul coahanta-ko malhasse-ni?
John-Top Bill-Nom who-Acc like-Comp said-Q
'Who did John say that Bill likes?'

Sluicing in Korean leads us to the same conclusion. If the wh-remnant in Sluicing undergoes feature movement in LF, it would be predicted that Sluicing that involves long-distance focus movement would be ungrammatical, even without an island involved. Note that the fronted wh-phrase in this context cannot undergo feature movement from its SS position to C due to the Uniformity condition. Even if it is reconstructed to its base position, the derivation would crash, since its features cannot move to the matrix C due to locality constraints on head movement. Contrary to the prediction, however, Sluicing is possible in these contexts, as shown in (54):

(54) A: John-un Bill-i nwukwuka-lul coahanta-ko malhasse
John-Top Bill-Nom someone-Acc like-Comp said
'John said that Bill likes someone.'
B: $[_{CP}$ C $[_{FP}$ nwukwu-lul$_i$ $\cancel{[_{IP}\text{ John-un Bill-i } t_i \text{ coahanta-ko malhasse}]}$$]]$?
who-Acc John-Top Bill-Nom like-Comp said
'Who?'

The difference between French and Korean can be captured if we assume that, unlike in French, the wh-phrase in Korean does not undergo movement to Spec of CP, but is unselectively bound. Given that the wh-phrase does not move, it is not subject to locality constraints. The same conclusion can in fact be drawn from Bošković (2000). As discussed above, wh-movement must take place overtly in French long-distance questions. The examples are repeated in (55) from (49) :

(55) a. *Jean et Marie croient que Pierre a embrassé qui?
John and Mary believe that Pegter has kissed who
'Who do John and Mary believe that Peter has kissed?'
b. Qui Jean et Marie croient-ils que Pierre a embrassé

As noted by Bošković (2000), multiple questions in which a clausal boundary intervenes between a wh-in-situ and a [+wh] C whose specifier is overtly filled by another wh-phrase are grammatical, as shown in (56):

(56) Qui croit que Marie a vu qui?
who believes that Marie has seen whom
'Who believes that Marie saw whom?'

Bošković argues that in (55b), *qui* 'who' must move to check the strong feature of C in overt syntax. In (56), this is done by the wh-phrase *qui* in the Spec of CP. There is no need for the wh-phrase that is located in situ in (56) to undergo LF movement to C, in contrast to the wh-phrase in (55b). If it did, we would incorrectly expect (56) to have the same status as (55a). Bošković argues that the wh-phrase in situ instead is unselectively bound by the interrogative complementizer. Since a single wh-in-situ in Korean behaves like the second wh-in-situ in French, as shown in (53), we can treat them in the same way, i.e. via unselective binding, which means that unlike French, the +wh-feature of C is weak in Korean.

Unselective binding is also needed for an independent reason. Recall that in (54B), the wh-phrase *nwukwu-lul* 'who-Acc' must be reconstructed. The reconstructed wh-phrase must be unselectively bound to satisfy Parallelism since in the antecedent clause the indefinite correlate does not move but is bound by existential closure.

Given the discussion above, the wh-phrase in (52B) does not undergo movement but undergoes unselective binding at LF. Suppose now that the wh-phrase in (52B) is located in Spec of FP and that this position is an operator position in Korean. Then, the question that arises is whether or not the condition (42) should be extended to unselective binding. In other words, the question is whether or not an element in an operator position can be unselectively bound? (Recall that the condition (42) is defined in terms of movement and all the relevant data have involved movement so far.) The data in (57) suggest that the condition (42) does not apply to unselective binding:

(57) a. Someone thinks that every problem, Mary solved.

b. Everyone thinks that some problem, Mary solved.

As discussed in the previous section, the topicalized quantifier *every problem* (57a) cannot have wide scope over the indefinite subject *someone* in the matrix clause, even for those who allow the wide scope of *every problem* in *Someone thinks that Mary solved every problem.* The condition (42) accounts for the unavailability of the wide scope: it prohibits *every problem* from moving in LF from the topicalized position. Let us consider (57b), where the indefinite *some problem* is topicalized. Here, the reading that is equivalent to the wide scope of the indefinite over the universal quantifier is available. Note that this reading cannot be obtained via movement of the indefinite over the universal quantifier due to the condition (42). The availability of the reading that is equivalent to the wide scope of the indefinite in (57b) can be straightforwardly accounted for if we assume that the indefinite NP is bound by existential closure. This indicates that the condition (42) does not hold when no movement is involved. This means that the unselective binding of the fronted wh-phrase in Spec of FP in (52B) would not induce a violation of the condition (42), even if Spec of FP was an operator position in Korean. Then it follows that the ungrammaticality must be due to something else, and I argued that the ungrammaticality is due to a violation of the Uniformity condition (chapter 3).

Note here that the topicalized quantifier *every problem* must not undergo reconstruction in (57a). Otherwise, wide scope of the quantifier would be allowed for the speakers who allow wide scope of the universal quantifier as in *Someone thinks that Mary solved every problem.* Then, the discussion so far indicates that while elements that undergo focus movement can be reconstructed, elements that undergo topicalization are not reconstructed. Recall that, as discussed above, wh-phrases in SC that undergo wh-movement cannot be reconstructed either. In other words, elements that undergo topicalization/wh-movement cannot be reconstructed while elements that undergo focus movement can be reconstructed. I suggest that the difference between them can be captured if we assume that topicalization/wh-movement, but not focus movement, must create an operator-variable chain/pair. The fact that focus movement is special in this respect follows if we assume following Rooth (1985) that focused elements can be interpreted in situ without creating an operator-variable chain/pair.

The Uniformity-based analysis also provides an account for why Sluicing in SC cannot involve focus movement. As discussed in the previous section, Stjepanović (1999a, b, 2003) observes that Superiority effects show up in multiple Sluicing. The relevant examples are repeated in (58) for convenience:[29]

[29] One might argue that the contrast in (58b) and (58c) is due to a violation of certain Parallelism constraints since the order between the subject and the object in (58a) is reversed in (58c) but not in (58b). However, Stjepanović observes that the contrast in (58b) and (58c) remains even if the object is scrambled over the subject in (58a). This shows that the ungrammaticality of (58c) is not due to a violation of Parallelism.

(58) a. Neko je udario nekog.

somebody is hit someone

'Somebody hit someone.'

b. Ko koga?

who whom

'Who hit whom?'

c. ?*Koga ko?

whom who

'Who hit whom?'

Stjepanović argues that in these contexts, wh-movement, which is subject to Superiority, is obligatory, as in (58c), since by definition Sluicing involves wh-movement, followed by IP-ellipsis. But this cannot be right for all languages, given the Korean data where Sluicing can involve movement other than wh-movement (whether it is focus movement or scrambling). Furthermore, in some languages, Sluicing can clearly involve focus movement. Hungarian is one of the languages. As is well known, in wh-questions in Hungarian, wh-phrases do not move into Spec of CP overtly, occurring instead in a focus position immediately preceding the verb (see Puskás 1999 for discussion and reference), as shown in (59). Crucially, in this context Sluicing is available, as shown in (60). [(59) and (60) are from Merchant (2001: p 81)]:

(59) Nem emlékszem, (hogy) kivel találkoztak a gyerekek.

not I.remember that who.with met the children

'I don't remember who the kids met.'

(60) A gyerekek találkoztak valakivel de nem emlékszem, (hogy) kivel.
the children met someone.with but not I.remember that who.with
'The kids met someone, but I don't remember who.'

Given that Sluicing can in principle involve focus movement in principle, we need to seek an account for why Sluicing in SC cannot, as suggested by (58c). (If it could, (58c) would be acceptable.) I suggest that this is due to an interaction of the Uniformity condition and (Local) Parallelism. Recall that by the end of LF a wh-phrase must move to the +wh CP position in SC. The wh-phrases in (58c) cannot undergo successive cyclic movement to Spec of FP overtly, followed by movement to Spec of CP at LF, since this would violate (Local) Parallelism. If they undergo one-fell swoop movement to Spec of FP, followed by movement to Spec of CP, a violation of the Uniformity condition will be induced, as discussed above (see also chapter 3). We could try to reconstruct the wh-phrase from Spec of FP as an attempt to avoid a violation of the Uniformity condition. However, in Sluicing contexts, it cannot be reconstructed either. If it is reconstructed, it would need to undergo feature movement at LF, as discussed above. But given that feature movement is subject to locality restrictions (cf. Bošković 1998b) and the movement takes place successive cyclically, a violation of Parallelism will be induced. Given the assumption that the indefinite correlate in the antecedent clause does not move but is bound by existential closure, no parallel dependency will be obtained between the antecedent and the elliptical clause in the final representation. Under this analysis, there is no way to check off the +wh-feature of C. This explains the ungrammaticality of (58c).

5 Conclusion

In this chapter, I proposed a new analysis of Superiority without relying on the Attract Closest account. I proposed that Superiority effects result from a violation of the Uniformity condition, which is based on the *-marking mechanism from previous chapters. Under this analysis, Superiority has both a representational and a derivational aspect. *-marking takes place derivationally when a wh-phrase moves over another wh-phrase. It is checked in the final representation in terms of Uniformity. Being representational, Superiority violations can be repaired, as shown by focus movement in SC.

In this chapter, I also solved the problem that long-distance questions raised for Bošković (1997a) regarding SC/ French parallelism. In addition to these, I provided an explanation of why Sluicing in SC cannot involve focus movement.

Chapter 5: Scope, Focus, and Identity in Ellipsis

1. Introduction

It is well known that ellipsis is licensed under certain identity conditions. However, it has been subject to much debate how to formulate them. This chapter discusses certain elliptical constructions in Korean, and proposes a proper licensing condition on ellipsis. One of the relevant examples is shown in (1):[1]

(1) A: John-i chayk-ul ilkesse
John-Nom book-Acc read
'John read a book.'
B: nonmwun-to (ya)
paper-also be
'John read a paper too.'

(1) involves utterances between speaker A and B. Assuming that (1B) is derived by ellipsis, as will be discussed shortly, this chapter will argue that in certain contexts, ellipsis can be best accounted for by semantic identity/licensing conditions. More specifically, I will argue that a modification of Rooth's (1992b) analysis of ellipsis will provide an account for various ellipsis phenomena.

Before discussing how ellipsis is licensed, I will first demonstrate that the constructions such as (1) are derived by ellipsis and discuss their structures. This is the topic of section 2. Based on this, section 3 discusses various scope interactions in the constructions. This will set the stage

[1] The construction in (1B) is different from fragment answers that were discussed in chapter 3. Unlike fragment answers, a copula *ya/yeses* 'be/was' can appear in this construction.

for the discussion to follow. Section 4 reviews previous analyses. Section 5 proposes a licensing condition on ellipsis. Section 6 concludes the chapter.

2 Ellipsis and Fragments: the case of Korean

2.1 Three types of fragments in Korean

This section investigates properties of fragment constructions in Korean, as shown in (2B)-(4B). (A) sentences are utterances by Speaker A, and (B) by Speaker B. The (B) sentences involve fragments and they all mean that John read a paper too.[2]

(2) A: John-i chayk-ul ilkesse
John-Nom book-Acc read
'John read a book.'
B: NONMWUN-to ya [Pseudostripping]
paper-also be
'John read a paper too.'

(3) A: John-i chayk-ul ilkesse
John-Nom book-Acc read
B: NONMWUN-to [Stripping]
paper-also

[2] Capital letters indicate a focused element.

(4) A: John-i chayk-ul ilkesse

John-Nom book-Acc read

?B: NONMWUN-to yeses [Pseudogapping]

paper-also was

Kim (1997) offers an detailed analysis of these constructions, assuming that the fragments are derived by ellipsis. He calls the construction in (2B)-(4B) Pseudostripping, Stripping, and Pseudogapping, respectively. One of the main differences between Pseudostripping and Stripping is that in the former the copula *ya* 'be' appears with a remnant, while in the latter, no copula appears with the remnant. Pseudogapping is different than these two, in that it involves a tensed copula, as can be seen in the gloss of (4B). Before we review Kim's analysis, we first need to verify whether or not the fragments are derived by ellipsis. This is a crucial preliminary step to be taken before any analysis can be offered based on the assumption that the constructions are derived by ellipsis, because as discussed in detail in chapter 3, there are claims that fragments do not involves ellipsis. In what follows, I will briefly reintroduce these two possibilities and argue that the fragments above indeed involve ellipsis.

As discussed in chapter 3, there are two approaches to fragments. One approach (see Morgan 1973, Hankamer 1979, Stanley 2000, and more recently Merchnt 2004) argues that when a speaker utters a fragment, what she really produces is a complete sentence and the fragment is derived by ellipsis. There is another view on fragments, advocated by Yanofsky (1978), Morgan (1989), Barton (1990), and Stainton (1993, 1994, 1995, 1997, 1998). According to this view, fragments do not involve ellipsis at all. Rather, they are generated as they are and can be interpreted as propositions, assertions, and questions by themselves. In what follows, I will argue that the constructions in question can be best accounted for by the ellipsis approach.[3]

[3] Following arguments from chapter 2 and 3, I treat ellipsis in terms of PF deletion.

Note incidentally that one argument that Pseudogapping construction in (4B) involves ellipsis is predicted by the fact that a tense morpheme that originates under T remains as a remnant in this construction. The presence of the tense morpheme suggests that (4B) is derived from a sentence. However, the same conclusion cannot be drawn regarding Pseudostripping and Stripping since in these constructions, a tense morpheme does not appear.

In what follows, I will provide arguments that these constructions are also derived from their sentential equivalent by ellipsis. The arguments come from various connectivity effects, as discussed in detail in chapter 3 (section 3.2). As Morgan (1973, 1989) and Merchant (2004) pointes out, if fragments are derived from their sentential equivalent by ellipsis, we expect there to be grammatical dependencies, known as connectivity.[4]

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[4] Kim (1997) provides an argument that the constructions in question are derived by ellipsis, based on the argument that ellipsis requires a linguistic antecedent as shown in VP ellipsis in English in (i) (see Hankamer and Sag (1976)). Kim argues that the unacceptability of the fragment in (ii) also indicate that it is derived by ellipsis:

(i) [At a party, watching Bill leave, one says]
#John will too.
'John will leave too.'

(ii) [At a party, watching Bill leave, one says]
#John-to (ya)
'John will too.'

As discussed in chapter 3, however, presence or absence of a linguistic antecedent do not constitute conclusive evidence, as pointed out by Stanley (2000) and Merchnt (2004). They argue that ellipsis is possible even in a context where a linguistic antecedent is not present, as shown in (iii):

(iii) a. [Looking at someone about to jump off a bridge] [from Merchnt (2004)]
She won't.
b. [*Miss Clairol* advertisement] [from Schachter (1977)]
Does she or doesn't she? Only her hairdresser knows.

In fact, in some contexts, the Korean constructions do not seem to require a linguistic antecedent, as shown below:

(iv) [John and Bill both know that Sue is defending her thesis. One day, they saw a flyer that announces her defense on the board. Bill first noticed that there is another flyer next to it that announces Mary's defense, which they did not expect. Surprised, Bill said to John]

Bill: Mary-to (ya)
'Mary will do her defense too.'

One of the connectivity effects that is worth considering but will turn out to be untestable for the constructions in question is case-matching connectivity. As discussed in chapter 3 (section 2.2.1), in fragment answers, the morphological case form of a fragment NP is always exactly the same as the case we find on the corresponding NP in a full sentential answer. Morgan (1989) presents the following set of data from Korean:

(5) a. nwu-ka ku chayk-ul saassni?
who-Nom that book-Acc bought?
'Who bought this book?'
b. Youngswu-ka
Youngswu-Nom
c. *Youngswu-lul
Youngswu-Acc
d. *Youngswu-ka sa-ass-ta
Youngswu-Nom bought
'Youngsu-Nom bought it.'

The case-matching connectivity effects, however, do not help us to tell whether the fragments in question involve ellipsis or not. This is because the particle *to* 'also/too' cannot appear with a case marker in any contexts, for reasons to remain to be clarified.[5] Thus, whether or not the context involves fragments or sentences, *to* cannot appear with a case marker, as shown in (6):

(6) A: Bill-i chayk-ul ilesse
Bill-Nom book-Acc read
'Bill read a book.'

[5] But see No (1991) for some relevant discussion.

B: John-(*ka)-to/-to-(*ka) (ya)

John-Nom-also/-also-Nom be

C: John-(*ka)-to/-to-(*ka) ilesse

John-Nom-also/-also-Nom read

'John-also read a book too.'

Though case-matching connectivity is not testable, other connectivity effects are observed. One of them has to do with Condition A. If the fragments in question are derived from sentences by ellipsis, we expect there to be parallel grammaticality between fragments and their non-fragmentary sentential equivalent. (7) and (8) show that there is indeed parallel grammaticality between them:[6]

(7) A: [Mary-wa-Sue]-ka [selo-uy chinkwu]-lul pinanhayssta

Mary-and-Sue-Nom each other-Gen friend-Acc blamed

'Mary and Sue blamed each other's friends.'

B: [selo-uy pwumo]-to (ya)

each other-Gen parents-also (be)

'Mary and Sue blamed each other's parents, too.'

C: [Mary-wa-Sue]$_i$-ka [selo-uy pwumo]$_i$-to pinanhayssta

Mary-and-Sue-Nom each other-Gen parents-also blamed

'Mary and Sue blamed each other's parents, too.'

[6] In what follows, for ease of exposition, I will not discuss Pseudogapping in Korean, unless otherwise indicated. As far as I can tell, it patterns with Pseudostripping and Stripping in the relevant respect.

The reciprocal fragment in (7B), which is a response to (7A), is as grammatical as the non-elliptical sentence in (7C). On the other hand, the reciprocal fragment in (8B) is ungrammatical as is its non-fragmentary sentential equivalent in (8C), due to a violation of Condition A.

(8) A: [Mary-wa-Sue]-ka [Bill-kwa-Max]-lul pinanhayssta

Mary-and-Sue-Nom Bill-and-Max-Acc blamed

'Mary and Sue blamed Bill and Max.'

B: ?*[selo-uy pwumo]-to (ya)

each other-Gen parents-also (be)

'Each other$_i$'s parents blamed [Bill and Max]$_i$,too.'

C: ?*[selo-uy pwumo]$_i$-to [Bill-kwa-Max]$_i$-lul pinanhayssta

each other-Gen parents-also Bill-and Max-Acc blamed

'Each other$_i$'s parents blamed [Bill and Max]$_i$,too.'

The facts in (7) and (8) are straightforwardly accounted for under the ellipsis approach. The same pattern is also observed with *casin* 'self'

(9) A: Bill$_i$-i [casin$_i$-uy chinkwu]-lul pinanhayssta

Bill-Nom self-Gen friend-Acc blamed

'Bill blamed his friends.'

B: (?)[casin-uy pwumo]-to (ya)

self-Gen parents-also (be)

'Bill blamed his parents, too.'

C: Bill$_i$-i [casin$_i$-uy pwumo]-to pinanhayssta

Bill-Nom self-Gen parents-also blamed

'Bill blamed his parents, too.'

(10) A: Bill-i Max-lul pinanhayssta

Bill-Nom Max-Acc blamed

'Bill blamed Max.'

B: *[casin-uy pwumo]-to (ya)

self-Gen parents-also (be)

lit. 'Self$_i$'s parents blamed Max$_i$, too.'

C: *[casin$_i$-uy pwumo]-to Max$_i$-lul pinanhayssta

self-Gen parents-also Max-Acc blamed

lit. 'Self$_i$'s parents blamed Max$_i$, too.'

The connectivity effects considered so far can be accounted for straightforwardly under the ellipsis approach. However, under the non-ellipsis approach to fragments, more complicated analyses, such as Barton (1990), would have to be proposed in order to account for the parallelisms.

2.2 Remnant Movement and Ellipsis

In the previous section, I have argued that the Korean construction in question is derived by ellipsis. As discussed in chapter 3, under the ellipsis approach, there are two different views on how ellipsis takes place. One view assumes that the fragment/remnant stays in situ and the rest of the parts are elided[7] (Hankamer 1979, Morgan 1989). In some cases, this would involve non-constituent ellipsis, as represented in (11):

[7] Under the ellipsis approach, fragments are generated in a sentence. When they appear in a sentence, they are not fragments anymore, strictly speaking. Still, I will still refer them as fragments (or remnants).

(11) [~~X~~ Y-to ~~Z~~]

This view, however, is not consistent with the standard assumption that grammatical operations can only target constituents. The problem can be avoided if we adopt the view that the fragment first moves out of an elliptical site before ellipsis takes place. In particular, I assume that the fragment first undergoes movement to a position above the elliptical site, as recently argued by Kim (1997), Merchant (to appear). The representation is shown in (12):

(12) [Y-to [~~X t Z~~]]

In what follows, I will provide arguments in favor of this view. Let us first consider the following data:

(13) A: [John-kwa-Mary]$_i$-lul [[selo$_i$-uy pwumo]-ka t_i pinanhayess]
John-and-Mary-Acc each other-Gen parents-Nom blamed
lit. 'John and Mary, each other's parents blamed.'

B: [Bill-kwa-Sue]-to (ya)
Mary-and-Sue-also be
lit. '[Bill and Sue]$_i$, each other$_i$'s parents blamed, too.'

C: [Bill-kwa-Sue]$_i$-to [[selo$_i$-uy pwumo]-ka t_i pinanhayess]]
Bill-and-Sue-also each other's parents-Nom blamed.'
lit. '[Bill and Sue]$_i$, each other$_i$'s parents blamed too.'

D: *[[selo$_i$-uy pwumo]-ka [Bill-kwa-Sue]$_i$-to pinanhayess]]
each other's-Nom Bill-and-Sue-also blamed
lit. 'Each other's parents blamed Bill and Sue too.'

As a response to (13A), (13B) is as grammatical as its non-elliptical sentential equivalent in (13C).[8] On the other hand, if ellipsis took place with the remnant staying in situ, ungrammaticality would arise. (13D) is a non-elliptical sentential equivalent with the remnant staying in situ and is ungrammatical due to a violation of Condition A. If everything is elided except the object in (13D), we would incorrectly expect (13B) to be ungrammatical. These facts suggest that the remnant movement can take place out of the elliptical site.

The following examples also suggest that ellipsis follows movement:

(14) A: [motun paywu -lul]$_i$ [enu namhaksayng-i t_i coahay]
every actor-Acc some male-student-Nom like

B: [motun kaswu-to] (ya)
every singer-also

C: [motun kawsu-to]$_i$ [euu namhaksayng-i t_i coahay]
every singer-also some male-student-Nom like

a. A: 'There is a male-student that likes every actor.' B: 'There is a male-student that likes every singer, too.'

b. A: 'For every actor$_i$, there is a male-student that likes him$_i$.' B: 'For every singer$_i$, there is a male-student that likes him$_i$, too.'

c. *A: There is a male-student that likes every actor.' B: 'For every singer$_i$, there is a male-student that likes him$_i$, too.'

d. *A: For every actor$_i$, there is a male-student that likes him$_i$.' B: There is a male-student that likes every singer, too.'

[8] Recall that in Pseudostripping and Pseudogapping, the marker ya/yeses 'be/was' appears. Note that this marker is not present in the source sentence, as in (13C). Kim (1997) provides an analysis of this, which will be discussed in section 1.4.

(14A) and (14B) is a conversation between two speakers. In (14A), the universal quantifier is fronted to a sentence initial position, and (14A) by itself is ambiguous. In (14B), the object universal quantifier remains as a remnant. When (14B) follows (14A), two-way parallel readings are obtained, as indicated in (14a) and (14b). When the indefinite in one utterance has wide scope, the other utterance can only have wide scope of the indefinite (=(14a)). When the universal quantifier in one utterance has wide scope, the other utterance can only have wide scope of the universal quantifier (=(14b)). The fact that ambiguous readings are possible indicates that the fragment in (14B) is derived from the sentence in (14C). The fragment is derived by eliding the constituent out of which the universal quantifier has moved. The fact that the same readings are obtained without ellipsis confirms that (14C) is the source sentence of the fragment. Note that the other two logically possible readings in (14c) and (14d) are not allowed. This is due to certain parallelism requirements, which we will discuss in section 4 in detail.

The availability of the two-way parallel readings in (14) cannot be accounted for, if we assume that ellipsis takes place with the universal quantifier staying in situ. Under this assumption, the source sentence is (15):

(15)	[enu namhaksayng-i	[motun kawsu-to]	coahay]
	some male-student-Nom	every singer-also	like

The sentence in (15) only allows one reading where the indefinite NP has wide scope. If it were the source, to which ellipsis targets everything except the universal quantifier, the two-way parallel readings would not be obtained. When (15) follows as response to (14A), only the wide scope of the indefinite is available for both sentences. This indicates that (15) is not the source for (14B).

In this section, I have argued that the constructions in question involves movement of the remnants out of the elliptical site. In the following section, I will discuss the possibility that these constructions are derived from a cleft construction.

2.3 Against Cleft-Based Analyses

In the literature, it has been a controversial issue whether certain elliptical constructions in Japanese/Korean are derived from cleft(-like) constructions. For instance, many researchers argue that Sluicing in Japanese/Korean Sluicing is derived from a cleft (Kuwabara (1996), Kizu (1997), Nihiyama, Whitman, & Li (1996), Park, M.-K. (1998), Sohn (2000)). Hoji (1990) also argues that the Japanese construction that corresponds to Korean Pseudostripping, which Hoji calls Stripping, is derived from a cleft. This line of approach seems to be appealing, given that the element *ya/yesse* 'be/was' can appear in cleft constructions:

(16) [John-i mekun kes]-un sakwa ya/yesse
John-Nom ate C-Top apple be/was
'It is an apple that John ate.'

Given this, one might argue that Pseudostripping/Pseudogapping is derived from cleft by eliding the topic phrase, as shown in (17):

(17) A: John-i sakwa-lul mekesse
John-Nom apple-Acc ate
'John ate an apple.'

B: ~~[John-i e_i mekun kes]-un~~ banana$_i$-to ya/yesse[9]

John-Nom ate C-Top banana-also ya/yesse

'It is banana too that John ate.'

However, the cleft-based analysis fails to account for the grammaticality of the following data, which is repeated from (13):

(18) A: [John-kwa-Mary]$_i$-lul [[selo$_i$-uy pwumo]-ka t_i pinanhayess]

John-and-Mary-Acc each other-Gen parents-Nom blamed

lit. 'John and Mary, each other's parents blamed.'

B: [Bill-kwa-Sue]-to ya/yesse

Mary-and-Sue-also be/was

lit. '[Bill and Sue]$_i$, each other$_i$'s parents blamed, too.'

C: [Bill-kwa-Sue]$_i$-to [$_{XP}$ [selo$_i$-uy pwumo]-ka t_i pinanhayess]]

Bill-and-Sue-also each other's parents-Nom blamed.'

lit. '[Bill and Sue]$_i$, each other$_i$'s parents blamed too.'

In the previous section, it has been argued that the fragment in (18B) is derived from its sentential equivalent in (18C) by eliding XP. As expected, (18C) without ellipsis is as grammatical as (18B). The ungrammaticality of (19) suggests that it is not the source for (18B):

(19) ?*[selo$_i$-uy pwumo]-ka e_i pinanhan kes]-un [Bill-kwa-Sue]$_i$-to ya/yesse

each other's parents-Nom blamed C-Top Bill-and-Sue-also ya/yesse

lit. 'It is [Bill and Sue]$_i$ too that each other$_i$'s parents blamed.'

[9] *e* is an empty position in which the pre-copula phrase is interpreted. Depending on the details of the analyses, for instance, it can be a trace of the pre-copula phrase (cf. Hiraiwa and Ishihara 2001), or a trace of an operator (cf. Jhang 1994 and Sohn 2000).

If (18B) were derived from (19) by eliding the topic phrase, we would incorrectly expect it to be ungrammatical.

The same argument can be made with respect to scope interactions. The relevant data are repeated from (14):

(20) A: [motun paywu -lul]$_i$ [enu namhaksayng-i t_i coahay]
every actor-Acc some male-student-Nom like

B: [motun kaswu-to] ya/yesse
every singer-also be /was

C: [motun kawsu-to]$_i$ ~~[euu namhaksayng-i t_i coahay]~~
every singer-also some male-student-Nom like

a. A: 'There is a male-student that likes every actor.' B: 'There is a male-student that likes every singer, too.'

b. A: 'For every actor$_i$, there is a male-student that likes him$_i$.' B: 'For every singer$_i$, there is a male-student that likes him$_i$, too.'

c. *A: There is a male-student that likes every actor.' B: 'For every singer$_i$, there is a male-student that likes him$_i$, too.'

d. *A: For every actor$_i$, there is a male-student that likes him$_i$.' B: There is a male-student that likes every singer, too.'

In section 1.2, it was shown that the fragment in (20B) is derived from (20C). The fact that non-elliptical equivalent of (20C) yields the same readings confirms the analysis. Now let us see whether the corresponding cleft construction can yield the same readings. Under the cleft analysis, the fragment in (20B) would be derived from a cleft, as in (21):

(21) ~~[enu namhaksayng-i e_i coahan kes]-un~~ [motun kaswu-to]$_i$ ya/yesse

some male-student-Nom like C-Top every singer-also be/was

'It is every singer that some male-student likes.'

However, when (21) is used as a response to (20A) without ellipsis, the two-way readings are not available anymore. Only one reading where the indefinite NP has wide scope in both sentences is available. This suggests that (20B) may not be derived from the cleft (21).

Finally, let us consider Stripping in Korean. Recall that Stripping is a fragmentary construction where the copula is not present. Stripping patterns with Pseudostripping and Pseudogapping with respect to Binding and Scope interaction discussed above. In addition to this, (22) shows that Stripping cannot be derived from a cleft:

(22) ?* [enu namhaksayng-i e_i coahan kes]-un [motun kaswu-to]$_i$

some male-student-Nom like C-Top every singer-also

'It is every singer that some male-student likes.'

In (22), no copula appears with the focused NP, which causes the sentence to be ungrammatical. This suggests that the cleft construction cannot be the source for Stripping.

In the following section, I will discuss the structure of the constructions in question. The section starts by reviewing Kim (1997).

2.4 Subject Positions

Kim (1997) argues that the Pseudostripping construction (23B) involves ellipsis of TP after the focused object NP has moved to Spec of FP:[10]

(23) A: John-i chayk-ul ilkesse

John-Nom book-Acc read

'John read a book.'

B: $[_{FP}$ NONMWUN-to $\cancel{[_{TP} [_{AgrsP} [_{VP} \text{John-i } t_i \text{ illk}]] \text{ ess}]}$ ya]

paper-also John-Nom read Past be

'John read a paper, too.'

Note that (23B) has the same past tense meaning as its antecedent, but it has no overt morphological indication of past tense. This is because the past morpheme *ess*, head of the TP, is elided, as well. According to Kim (1997), the focus Aux *y(a)* 'be' originates in T with a strong V-feature and moves to the head of FP to check the weak V-feature of FP. When TP is elided at this point, Pseudostripping (23B) is derived.

Following Lasnik (1995, 1997a, b), Kim also argues that ellipsis can rescue a derivation that contains an unchecked strong feature. If *y(a)* originates in T and TP is elided in PF, the unchecked strong V-feature of *y(a)* is also eliminated. When this happens, Stripping is derived, as shown in (24):

[10] Note here that in (23B), TP is located above AgrsP, unlike English where the hierarchy is reversed (Chomsky 1991). Following Kim (1997) and Sohn (1995), I assume this structure.

(24) B: [$_{FP}$ NONMWUN-to ~~[$_{TP}$ [$_{AgrsP}$ [$_{VP}$ John-i t_i illk]] y esse]~~]

paper-also John-Nom read be Past

Finally, Pseudogapping is derived when VP is elided. In Pseudogapping constructions we can see the past tense morpheme overtly, as shown below:

(25) ?B: [$_{FP}$ NONMWUN-to [$_{TP}$ [$_{AgrsP}$ ~~[$_{VP}$ John-i t_i illk]~~] y esse]]

paper-also John-Nom read be Past

In (25B), when VP is deleted, the tense morpheme is stranded. To support the stranded tense, *y(a)* is added to the past tense and is pronounced as *yesse* 'was'.[11]

It has been a controversial issue whether or not the subject raises out of VP overtly in Korean. Kim (1997) claims that unlike English, the subject in Korean does not raise out of VP, assuming that the EPP feature in AgrsP is weak. Kim (1997) provides an argument from the scopal interactions of negative elements (Neg) and universal quantifiers. Let us consider (26):

(26) motun haksayng-i John-ul manna-ci ani ha-essta

every student-Nom John-Acc meet-Nm Neg do-past

'Not every student met John'

(26) involves instances of the long form negation. He claims that Neg *ani* 'not' takes wide scope over the subject and this is the only available interpretation. The scope interpretation can be accounted for easily if we assume that the subject remains within VP.

[11] Kim (1997) is not clear about whether *y(a)* moves to F to check its V-feature in this case. However, if we follow his analysis of Pseudostripping, we can assume that *y(a)* is inserted in T and moves to F to check its V-feature in overt syntax. Then, in PF, *y(a)* is amalgamated with the stranded T, as Kim hinted.

However, speaker's judgments on such construction are not clear-cut. To my ear, the wide scope of the universal quantifier is also allowed. Sohn (1995) also reports that sentences such as (26) are ambiguous. Based on such examples, Sohn (1995) argues that the subject can appear above NegP overtly. This suggests that the subject can raise to Spec of AgrsP, which is assumed to be located above the negation.

Adopting Bošković's (2004b) analysis of Floating Quantifier (FQ) constructions in English, Oh (in press) provides an argument that the subject can raise out of VP overtly. Bošković (2004b) establishes a descriptive generalization on FQ, given in (27):

(27) Quantifiers cannot be floated in theta positions.

Bošković argues that this generalization can be deduced from independent mechanisms: Sportiche's (1998) and Bemamoun's (1999) claim that FQs are adjoined to the NP they modify, Chomsky's (1986) ban on adjunction to arguments, and Lebeaux's (1988) proposal concerning acyclic insertion of adjuncts. If we assume following Sportiche and Benmamoun that FQs are adjuncts then FQs cannot be inserted in the theta-positions since adjunction to arguments in theta-positions interferes with theta role assignment (Chomsky 1986). This explains the ungrammaticality of the following sentences:

(28) a. *The students arrived all

b. *The students were arrested all

Bošković's (2004b) analysis of FQs has a consequence for the status of I, i.e., split-INFL Hypothesis. Under the analysis, the sentence in (29a) is derived as shown in (29b):

(29) a. The students all passed the exam

b. The students$_i$ [all t$_i$] [$_{VP}$ t$_i$ passed the exam]

Since Q-float is not allowed in theta-positions and the Q *all* is inserted into the structure after the NP *the students* moves out of VP, having only TP above the VP, as proposed by Chomsky (1995), is not enough to derive the structure given in (29b). This suggests that split-INFL is required.

Let us now consider the Korean FQ construction and what it can tell us about subject raising:

(30) ai-tul-i (ama) sey-myeng o-lkeya

child-pl-Nom (probably) three-cl(assifier) come-will

'Three children will (probably) come'

In the sentence above, the numeral quantifier *seymyeng* 'three' can appear separated from the subject *aituli* 'children'. Following Bošković's analysis of FQ constructions, Oh (in press) argues that not only Korean should have split-INFL, but also the subject can raise out of VP overtly. Under this analysis, (30) is derived as shown in (31):

(31) [[ai-tul-i]$_i$ (ama) [[t$_i$ sey-myeng] [$_{VP}$ t$_i$ o-lkeya]]]

As represented in (31), the subject raises out VP.

Now, the question arises: how far does the subject raise? Pseudogapping suggests that it cannot raise to Spec of TP. Recall that according to Kim (1997), Pseudogapping involves VP ellipsis with the subject within it, as shown again in (32), which is repeated from (25). If the subject raises to Spec of TP, it will survive ellipsis. However, the resulting sentence is ungrammatical, as shown in (33):

(32) ?B: $[_{FP}$ NONMWUN-to $[_{TP}$ $[_{AgrsP}$ ~~$[_{VP}$ John-i t_i —— illk]~~] y esse]]

paper-also John-Nom read be Past

(33) *B: $[_{FP}$ NONMWUN$_i$-to $[_{TP}$ John$_j$-i $[_{AgrsP}$ ~~$[_{VP}$ t_j t_i —— illk]~~] y esse]]

paper-also John-Nom read be Past

Note also that the discussion of FQ above suggests that when a FQ is involved, the subject cannot stay in Spec of VP due to (27).

In this section, we have seen that the subject in Korean can raise out of VP (but not to Spec of TP). Note that the discussion in this section does not prevent it from remaining within VP. It remains to be discovered whether the subject can optionally stay within VP. However, given that the subject can clearly raise out VP, I will present the following discussion based on the raising option.

3 Scope and Ellipsis

This section investigates licensing conditions on ellipsis. In the literature, it is assumed that ellipsis is licensed under certain identity conditions. I will investigate the Korean ellipsis constructions discussed in the previous sections and provide a proper licensing condition.

3.1 Scope Interactions and Ellipsis

Let us consider the following Stripping/Pseudostripping constructions in (34), which involve TP-ellipsis:

(34) A: enu namhaksayng-i motun paywu-lul coahay

some male-student-Nom every actor-Acc like

B: [$_{FP}$ [MOTUN KASWU-to]$_i$ ~~[$_{TP}$ enu namhaksayng-i t_i coahay]~~ (ya)]

every singer-also some male-student-Nom like be

a. A: 'There is a male-student that likes every actor.' B: 'There is a male-student that likes every singer, too.'

b. *A: 'For every actor$_i$, there is a male-student that likes him$_i$.' B: 'For every singer$_i$, there is a male-student that likes him$_i$, too.'

c. *A: There is a male-student that likes every actor.' B: 'For every singer$_i$, there is a male-student that likes him$_i$, too.'

d. *A: For every actor$_i$, there is a male-student that likes him$_i$.' B: There is a male-student that likes every singer, too.'

In (34), there are two utterances spoken by speakers, A and B. The utterance (34A) by itself is unambiguous. It can only have one reading where the indefinite NP has wide scope. On the other hand, (34B) allows ambiguous readings. This can be verified by (35), which is the unelided counterpart of (34B):[12]

(35) [$_{FP}$ [MOTUN KASWU-lul]$_i$ [$_{TP}$ enu namhaksayng-i t_i coahay]]

every singer-Acc some male-student-Nom like

a. 'There is a male-student that likes every singer.'

b. 'For every singer$_i$, there is a male student that likes him$_i$.'

[12] In (35), the marker *to* 'also' is not used. Instead, the accusative marker *lul* is used, so (36) can be used without any discourse antecedent.

However, when the utterance (34A) is followed by the utterance (34B), the former disambiguates the latter and this is the only reading available: both utterances can only have one reading where the indefinite has wide scope, as indicated in (34a).[13] The sequence (34A) and (34B) excludes the logically possible reading in (34c).[14] At this point, two questions arise immediately. How ellipsis is licensed? What plays a role in disambiguating (34B)? Later in this chapter, I will provide an account.

Whatever answers the aforementioned questions should also be able to account for the scope interpretations observed in (36):

(36) A: motun namhaksayng-i enu paywu-lul coahay

every male-student-Nom some actor-Acc like

B: [$_{FP}$ [ENU KASWU-to]$_i$ ~~[$_{TP}$ motun namhaksayng-i t_i coahay]~~ (ya)]

some singer-also every male-student-Nom like is

a. A: 'There is an actor that every male-student likes.' B: 'There is a singer that every male-student likes, too.'

b. A: 'For every male-student$_i$, there is an actor that he$_i$ likes.' B: 'For every male-student$_i$, there is a singer that he$_i$ likes, too.'

c. *A: 'There is an actor that every male-student likes.' B: 'For every male-student$_i$, there is a singer that he$_i$ likes, too.'

d. *A: 'For every male-student$_i$, there is an actor that he$_i$ likes.' B: 'There is a singer that every male-student likes, too.'

[13] The same readings are obtained even when no ellipsis is involved.

[14] I assume that the other two readings in (34b) and (34d) are not possible, since (34A) by itself can only have one reading where the indefinite has wide scope.

(36A) by itself is ambiguous. Likewise, (36B) by itself is also ambiguous, as can be seen from the unelided counterpart of (36B) in (37):

(37) [enu kaswu-lul]$_i$ [$_{TP}$ motun namhaksayng-i t_i coahay]

some singer-Acc every male-student-Nom like

a. 'There is a singer that every male-student likes.'

b. 'For every male-student$_i$, there is a singer that he$_i$ likes.'

Given that each sentence is ambiguous, in principle we expect that the utterances in (36) would be four-ways ambiguous. However, they are only two-ways ambiguous. When (36A) has the reading where the indefinite NP has wide scope, (36B) can only have the parallel reading where the indefinite NP has wide scope, as indicated in (36a). It does not have the reading where the universal quantifier has wide scope (=(36c)). When (36A) has the reading where the universal quantifier has wide scope, (36B) can only have the reading where the universal quantifier has wide scope, as indicated in (36b). But it does not have the reading where the indefinite NP has wide scope (=(36d)). This property has been named as Parallelism in the literature (See Lasnik 1972, Tancredi 1992, Fox 1995, 2000, Tomioka 1997, among others).[15] This chapter will provide an account of Parallelism.

Before providing an account, in the following section, I will first discuss scope interactions in Korean. This will set the stage for the discussion to follow.

[15] Lasnik (1972) and Tancredi (1992) point out that Parallelism is obtained with deaccenting, as well.

3.2 Scope with Scope Rigidity

As briefly discussed in chapter 2 (section 2.2.3), it is widely assumed that Korean/Japanese is a language subject to a scope rigidity effect (see Ahn 1990, Sohn 1995 for Korean; Hoji (1985) for Japanese). (38) is a representative example:

(38) enu namhaksayng-i motun paywu-lul coahay
some male-student-Nom every actor-Acc like
'There is a male-student that likes every actor.'

In (38), the indefinite NP has wide scope over the universal quantifier and this is the only scope interpretation available.[16] Traditionally, the term scope rigidity is used in comparison with the corresponding English sentence like *Some male student likes every actor*, which for many speakers is ambiguous. Although the exact nature of scope rigidity effects remains to be discovered, for the purposes of present discussion, I will assume that the effects are induced because Korean lacks an operation of Quantifier Raising (QR) (cf. Saito 1992). In (38), for example, the universal quantifier does not raise and adjoin to IP, yielding only narrow reading of the universal quantifier. The lack of QR can be instantiated if we assume that universal quantifiers in Korean lack features that drive such movement (See also chapter 2 for relevant discussion).

Note that when a universal quantifier appears as a subject and an indefinite as object, as in (39), the sentence is ambiguous:

[16] For some speakers, (38) is ambiguous.

(39) motun namhaksayng-i enu paywu-lul coahay

every male-student-Nom some actor-Acc like

a. 'For every male-student, there is an actor that he likes.'

b. "There is an actor that every male-student likes.'

The wide scope of the universal quantifier is straightforward. If we assume that the indefinite does not undergo QR across the universal quantifier, how can the wide scope of the indefinite be obtained?

Sohn (1995) claims that the wide scope of the indefinite is obtained by its specific interpretation (cf. Fodor and Sag 1982). According to this analysis, the indefinite NP is ambiguous between quantificational and specific interpretation. If it is interpreted as quantificational, the universal quantifier has wide scope given the scope rigidity. If it is interpreted as specific, the indefinite has wide scope. However, when interpreted as specific (thus behaving as referential or proper NPs), indefinites should always have widest scope, disallowing any possibility of intermediate scope interpretation. The example in (40) below, however, shows that the intermediate scope interpretation of the indefinite NP 'some problem' is possible (see Abusch 1994 for some English data that show intermediate scope interpretation).[17]

(40) taypwupwunui enuhakcatul-i enu mwunce-lul pwunwun motwun pwunsek-ul poasse

most linguists-Nom some problem-Acc solves every analysis–Acc looked

'Most linguists have looked at every analysis that solves some problem.'

That is, (40) has the reading where 'some problem' has wider scope than 'every analysis', namely, for a given problem, the relevant linguists looked at all the analyses that solve the problem. It is

[17] But see Kratzer (1998) and Matthewson (1999) for arguments that there is no real intermediate scope interpretation.

still possible that different linguists looked at a different problem. The fact that (40) allows an intermediate interpretation requires an alternative analysis of indefinites in Korean.

I suggest that indefinites in Korean are ambiguous between quantificational and choice function interpretation. Under this approach, the narrow scope reading of the indefinite in (39) is obtained when the indefinite behaves as a quantificational NP and the wide scope reading of the indefinite in (39) is obtained by Choice Function (Reinhart 1995, 1997). Choice Function is described as below:

(41) A function f is a choice function (CH(f)) if it applies to any non-empty set and yields a member of that set.

Depending on whether the Choice Function analysis applies to the indefinite in (39) or not, two reading are obtained, as shown in (42):

(42) a. $\forall y$ [male student (y) $\rightarrow \exists x$ [actor(x) & y likes x]]

b. $\exists f$ [CH(f) & $\forall y$ [male student (y) $\rightarrow$ y likes f(actor)]]

A function exists, such that for every y, if y is a male student, then y likes the actor selected by this function

When the indefinite is interpreted as an existential quantifier, we have the reading in (42a), where universal quantifier has wide scope. If we apply the Choice Function option, we have the reading in (42b), which says that a function exists, such that for every y, if y is a male student, then y likes the actor selected by this function. This reading is equivalent to the wide scope reading of the indefinite,[18] but it is obtained without QR.[19]

[18] Throughout this chapter, we will use the term wide scope of the indefinite when Choice Function applies to the indefinite and yields a reading that is equivalent to wide scope of the indefinite. .

Under this approach, the intermediate reading in (40) is no longer a problem. Existential closure of the function variable is a purely interpretative procedure arbitrarily far away, so it can

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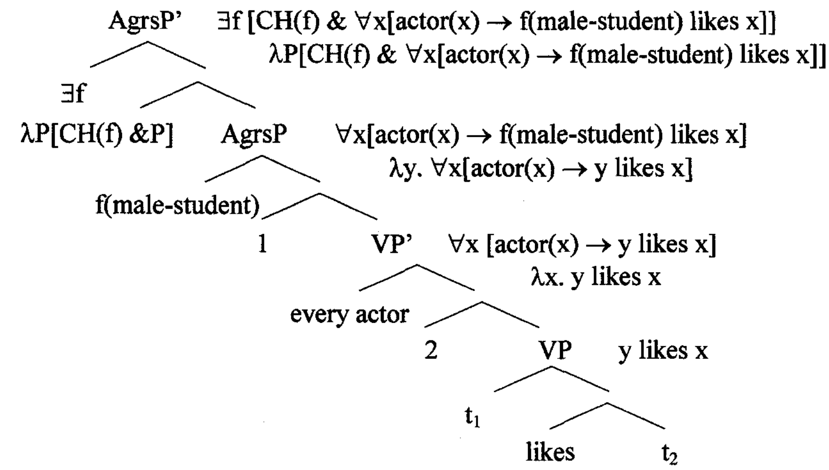
[19] At this point, (38) deserves a few comments. (38) is repeated below:

(39) enu namhaksayng-i motun paywu-lul coahay
some male-student-Nom every actor-Acc like

Throughout the chapter, I assume that VP-internal subject hypothesis with the subject raising to Spec of AgrsP overtly, and that rejecting a type shifting approach to the object universal quantifier, the universal quantifier object in (39) undergoes a short QR to VP to avoid type mismatch. Given these assumptions we have the following LF-representation, with irrelevant projections suppressed:

(i)



Given the structure above, or under many standard views on 'reconstruction', one might argue that under Kratzer's (1998) analysis of indefinites we might have an apparent narrow scope of the indefinite subject, contrary to the fact. Under Kratzer's analysis, indefinites can be interpreted with an implicit argument, which can be bound by a higher quantifier. Then f(male-student) in (i) is in fact f_x(male-student) with an implicit argument x. When interpreted in the VP-internal subject position via λ-conversion, f_x(male-student) would be bound by 'every actor', giving rise to an apparent narrow scope of the indefinite. This argument, however, does not go through because it would involve an accidental binding of the implicit argument, which should be prevented. To avoid this problem, one might argue that the indefinite subject with an implicit argument can lower to its VP-internal subject position at LF. Under this analysis, the accidental binding problem no longer arises. However, the lowering should not be allowed since it would give rise to a weak crossover violation. The standard example with a weak crossover violation is *his_i mother loves $everyone_i$*, where in order for the universal quantifier to bind *his_i*, it would have to cross over it. The same configuration is obtained the indefinite in (i) lowers to VP-internal subject position, giving rise to a weak crossover violation.

In order to complete the argument, we also have to consider another option that the subject trace t_1 in (i) can be more complex (cf. Chierchia 1991). Under this analysis, the subject trace can be represented as t_j^i, where j is bound by the subject 'student' and i is bound by the universal quantifier 'every actor'. Given that the trace can be bound by the quantifier, it would give an apparent narrow scope of the indefinite via functional interpretation. (see Chierchia 1991, for detailed analyses of complex trace). This analysis, however, does not go through in this case, since it would also involve a weak crossover violation: the universal quantifier has crossed over its bindee i.

Given this state of affairs, if there is no QR over another quantifier/indefinite (or scope rigidity) in Korean, it seems to be the case that (38) should be unambiguous, consistent with the facts. (I am grateful to Yael Sharvit for discussion.)

be introduced anywhere in the derivation. If it is introduced in the scope of 'most linguists' as in (43), we obtain the interpretation equivalent to the intermediate one:

(43) For most linguists x, $\exists f$ [CH(f) & $\forall y$((analysis (y) & y solves f(problem)) $\rightarrow$ x looked at y)]

For most linguists x, there is a function f such that if for every analysis y, y solves the problem selected by this function, then x looked at y.'

If the apparent wide scope of indefinites is obtained by applying the Choice Function, not by a movement operation such as QR, it is predicted that indefinites can take wide scope escaping syntactic islands. The prediction is borne out, as shown in (44):

(44) twumyeng-uy yeca-ka pathi-ey o-myen Bill-un hayngpokha-lkeya

two-Gen woman-Nom party-to come-if Bill-Top be happy-will

'If two women come to the party, Bill will be happy.'

In (44), the indefinite 'two woman' can take wide scope out of the if-clause. QR cannot account for the wide scope since it is known to be sensitive to islands (cf. Jackendoff 1972, Reinhart 1995; see also chapter 2(section 3.2)). Furthermore, we have seen that an operation like QR does not exist in Korean. Under the choice function analysis, however, the wide scope reading can be easily captured, as shown in (45).

(45) $\exists f$ [CH(f) & [come(f(two women)) $\rightarrow$ happy(Bill)]]

'There is a function f, such that Bill will be happy if the two women who are selected by this function, come to the party.'

Let us consider scope interpretation when scrambling is involved. When the object NP undergoes scrambling in (38) and (39), (46) and (47) are derived, respectively. Notice here that when scrambling is involved, the sentence in (38) becomes ambiguous, as shown in (46). The ambiguity of (46) can be captured straightforwardly under the current analysis. When the Choice function option is taken, the reading that is equivalent to the indefinite wide scope is obtained. When the indefinite is interpreted as a quantifier, it has a narrower scope than the universal quantifier. However, this analysis, as such, cannot account for the ambiguity in (47). The indefinite, whether it is interpreted as a quantifier or via Choice Function, would be interpreted as only having the wide scope reading.

(46) [motun paywu-lul]$_i$ enu namhaksayng-i t_i coahay

every actor-Acc some male-student-Nom like

a. 'For every actor, there is a male-student that likes him.'

b. 'There is a male-student that likes every actor.'

(47) [enu paywu-lul]$_i$ motun namhaksayng-i t_i coahay

some actor-Acc every male-student-Nom like

a. 'For every male-student, there is an actor that he likes.'

b. 'There is an actor that every male-student likes.'

As for the ambiguity in (47), I suggest following Saito (1994) and Sohn (1995) that the scrambled NP can optionally undergo LF reconstruction/lowering. The narrow scope reading in (47) is obtained when the indefinite is reconstructed at LF and is interpreted as a quantifier.[20]

[20] When interpreted as a quantifier, the indefinite NP cannot be reconstructed to its base position due to type mismatch (cf. Heim and Kratzer 1998). I assume that it is reconstructed/lowered to the VP-adjoined

Given that reconstruction is optional, the universal quantifier in (47) can stay in its scrambled position at LF, yielding the wide scope reading of the universal quantifier.

The availability of the two-ways parallel readings in (48) suggests that the fronted NP in Spec of FP in Stripping/Pseudostripping can be reconstructed, as in the case of scrambled NPs.

(48) A: [unu paywo-lul]$_i$ motun namhaksyang-i t$_i$ coahay

some actor-Acc every male-student like

'Some actor, every male-student likes.'

B: [$_{FP}$ [UNU KASWU-to]$_i$ ~~[$_{TP}$ motun nahaksayng-i t$_i$ coahay]~~ (ya)]

some singer-also every male-student like be

'Some singer, every male-student likes as well.'

The utterances in (48), as a whole, only allows two-way parallel readings. When the indefinite in (48A) has wide scope the one in (48B) can only have wide scope. When the indefinite in (48A) has narrow scope, the one in (48B) can only have narrow scope. The ambiguity can be easily accounted for if we assume that the fronted indefinite in (48A) can optionally be reconstructed, as in the case of scrambled NPs. The wide scope of the indefinite is obtained when the indefinite in both sentences remains in situ at LF and is interpreted as quantifier. The narrow scope of the indefinite is obtained when the indefinite NP is reconstructed and is interpreted as a quantifier.

Given this much background, we are now ready to discuss how ellipsis can be licensed. In the following section, previous analyses will be discussed.

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position, through which it passes to the Spec of FP.

4 Previous Analyses

In this section, I will discuss previous analyses of licensing condition on ellipsis. In 3.1, I will first discuss the LF-identity condition and argue that it faces some problems in accounting for Korean data. In 3.2, as an alternative to LF-identity, I will discuss Merchant (2001) and show that it also faces some empirical problems.

4.1 LF-identity

It has been argued that LF-identity is a necessary licensing condition on ellipsis (Fiengo and May 1994, Tomioka 1997, Romero 1998, Heim and Kratzer 1998, among others).[21] The condition is stated below:

(49) LF-identity condition

A VP/IP may be elided only if it is LF-equivalent to another VP/IP in the discourse, up to different indices.

However, the LF-identity condition, as it is, fails to account for the Korean elliptical construction. The relevant data (34) and (36) are repeated as (50) and (50), respectively:

(50) A: [$_{TP}$ enu namhaksayng-i motun paywu-lul coahay]

some male-student-Nom every actor-Acc like

B: [$_{FP}$ [MOTUN KASWU-to]$_i$ ~~[$_{TP}$ enu namhaksayng-i t_i coahay]~~ (ya)]

every singer-also some male-student-Nom like be

[21] These authors, except Heim and Kratzer, all assume that some other restrictions, syntactic or semantic, are added to LF-identity condition. In this section, we will only focus on LF-identity as a necessary condition for these analyses and show that LF-identity faces serous problems.

a. A: 'There is a male-student that likes every actor.' B: 'There is a male-student that likes every singer, too.'

b. *A: 'For every actor$_i$, there is a male-student that likes him$_i$.' B: 'For every singer$_i$, there is a male-student that likes him$_i$, too.'

c. *A: There is a male-student that likes every actor.' B: 'For every singer$_i$, there is a male-student that likes him$_i$, too.'

d. *A: For every actor$_i$, there is a male-student that likes him$_i$.' B: There is a male-student that likes every singer, too.'

(51) A: [$_{TP}$ motun namhaksayng-i enu paywu-lul coahay]
every male-student-Nom some actor-Acc like

B: [$_{FP}$ [ENU KASWU-to]$_i$ ~~[$_{TP}$ motun namhaksayng-i t$_i$ coahay]~~ (ya)]
some singer-also every male-student-Nom like be

a. A: 'There is an actor that every male-student likes.' B: 'There is a singer that every male-student likes, too.'

b. A: 'For every male-student$_i$, there is an actor that he$_i$ likes.' B: 'For every male-student$_i$, there is a singer that he$_i$ likes, too.'

c. *A: 'There is an actor that every male-student likes.' B: 'For every male-student$_i$, there is a singer that he$_i$ likes, too.'

d. *A: 'For every male-student$_i$, there is an actor that he$_i$ likes.' B: 'There is a singer that every male-student likes, too.'

First, let us consider (50). If the utterances in (50) are sent to LF as such, LF-identity is violated, because the terminal elements are different. Given that ellipsis is possible, one might argue that the universal quantifier *motun paywu-lul* 'every actor' undergoes QR-type operation and adjoins to TP at LF, as suggested by Heim and Kratzer (1998). After the raising of the universal quantifier phrase (QP), the representation in (52) is obtained:

(52) [motun paywu-lul]$_i$ [$_{TP}$ enu namhaksayng-i t_i coahay]
every actor-Acc some male-student-Nom like

After this operation, we have identical TP in both utterances, licensing the ellipsis. However, this analysis cannot hold for Korean, since as we have seen in section 2.2, Korean is a language that does not allow QR-type operations, which results in scope rigidity effects.

Given that ellipsis is possible, one might stipulate that ellipsis itself requires a structure where QR-type operations are allowed at LF, thus satisfying identity. Under this stipulation, LF-identity condition would be satisfied. However, this stipulation cannot be maintained because it fails to account for the unambiguity of (50). (As indicated in the glosses, (50) can only have one reading where the indefinite NP in both utterances has wide scope.) Under this stipulation, the representation in (52) is allowed. However, if (52) were the LF representation of (50A), we would incorrectly predict that (50) would allow wide scope of the universal quantifier in both utterances. In fact, we can test this by fronting the universal quantifier in (50A) in overt syntax, as shown (53A). When (53A) is followed by (50B), the wide scope of the universal quantifier is also allowed (in a parallel fashion in both utterances), as shown in (53):

(53) A: [motun paywu-lul]$_i$ [$_{TP}$ [$_{AgrsP}$ enu namhaksayng-i t_i coahay]] (=(52))
every actor-Acc some male-student-Nom like

B: [$_{FP}$ [MOTUN KASWU-to]$_i$ [$_{TP}$ ~~[$_{AgrsP}$ enu namhaksayng-i t_i coahay]~~] (ya)]
every singer-also some male-student-Nom like is

a. A: 'There is a male-student that likes every actor.' B: 'There is a male-student that likes every singer, too.'

b. A: 'For every $actor_i$, there is a male-student that likes him_i.' B: 'For every $singer_i$, there is a male-student that likes him_i, too.'

c. *A: There is a male-student that likes every actor.' B: 'For every $singer_i$, there is a male-student that likes him_i, too.'

d. *A: For every $actor_i$, there is a male-student that likes him_i.' B: There is a male-student that likes every singer, too.'

Likewise, (51) cannot be accounted for by the LF-identity condition, since the two TPs are not identical. One cannot simply stipulate that the indefinite NP must raise to satisfy LF-identity, as shown in (54):

(54) [enu paywu-lul]$_i$ [$_{TP}$ motun namhaksayng-i t_i coahay]
some actor-Acc every male-student-Nom like

Under this stipulation, the TP in (54) is identical with the one in (51B) at LF. However, this analysis cannot account for the scope ambiguity of (51). If (54) were allowed, we would incorrectly predict that (51) would be unambiguous. As an LF representation, (54) can only have one reading where the indefinite NP has wide scope, whether it is interpreted as a quantifier or via Choice Function. There is no way for the universal quantifier to have wide scope under this representation. Similarly, (51B) has only one reading where the indefinite NP has wide scope. Given that both utterances are unambiguous, we would incorrectly expect that the sequence in (51) would be unambiguous.[22]

[22] We have seen that the LF-identity condition faces problems in accounting for Korean data. It seems that it also faces similar problems for certain elliptical constructions in English. Let us consider (i):

4.2 Merchant (2001)

4.2.1 e-GIVENness

Based on an earlier version of Schwarzschild's (1999) theory of focus, Merchant proposes a licensing condition on VP/IP-ellipsis. Schwarzschild proposes a theory of licensing unfocused material. It is based on his definition of GIVEN:

(55) GIVENness

1. If a constituent α is not F(ocus)-marked, α must be GIVEN.
2. An expression E counts as GIVEN iff E has a salient antecedent A and, modulo $\exists$-type shifting,[23] A entails the F-closure of E.

(56) F-closure

The F-closure of α, written F-clo(α), is the result of replacing F-marked parts of α with $\exists$-bound variables of the appropriate type.

(i) a. A professor can teach Ling 206 but a student can't ~~teach Ling 206~~.
b. Someone from NY is likely to win the lottery and someone from Boston ~~is likely to win the lottery~~ too. [adapted from Fox 1999]

In (ia), the indefinite can have narrower scope than the modal *can*. It means that it is possible that a professor teaches Ling 206 but it is not possible that a student teaches it. Likewise, the indefinite in (ib) can have narrower scope than the adjective *likely*. It means that it is likely that someone from NY wins the lottery and it is likely that someone from Boston wins it, too. If narrow scope of the indefinite requires an LF-representation in which the indefinite is c-commanded by the modal/adjective (as argued for in May 1977 and more recently in Sportiche 1996), the antecedent and the elided VP would not be identical at LF but ellipsis is still possible. (I am grateful to Sigrid Beck for discussion.)

[23] $\exists$-type shifting is a type shifting operation that raises expressions to type <t> and existentially binds unfilled arguments. $\exists$-type shifting is necessary since entailment is a relation between propositions, not any other types of expressions.

Given the definition of GIVENess, Merchant proposes to replace LF-identity with the following licensing condition on ellipsis:

(57) A VP/IP α can be deleted only if α is e-GIVEN.

(58) e-GIVEness

An expression E counts as e-GIVEN iff E has a salient antecedent A and modulo $\exists$-type Shifting

i. A entails F-clo(E), and

ii. E entails F-clo(A)

Let us illustrate how this works with an example:[24]

(59) John$_i$ [$_{VP1}$ t$_i$ left] after **[Bill$_j$]$_F$** did ~~[$_{VP2}$ t$_j$ leave]~~

The first condition in (58) is satisfied since the antecedent VP entails F-clo(VP2): $\exists$x. x left entails $\exists$x. x left. The second condition in (58) is also satisfied since VP2 entails F-clo(VP1): $\exists$x. x left entails $\exists$x. x left. Given that the condition in (58) is satisfied, VP-ellipsis is licensed.

This condition also accounts for the ambiguity in (60):

(60) Sue believes that she is smart and Mary does ~~believe she is smart~~ too.

Suppose that the first conjunct means Sue believes that Sue is smart. The second conjunct is ambiguous: Either Mary too believes that Sue is smart, or Mary too has a belief about herself

[24] Expression inside the brackets [ ]$_F$ indicates that it is F(ocus)-marked.

being smart. The former reading is conventionally called a strict reading, and the latter a sloppy reading. The strict reading can be accounted for when the pronoun in (60) is interpreted as a free variable, to which the context assigns Sue (See Tomioka 1997 for discussion). Given the e-GIVENess condition in (57)/(58), ellipsis of VP in the second conjunct is licensed, as shown in (61):

(61) Sue_i $[_{VP1}$ t_i believes that Sue is smart] and **$[\text{Mary}_j]_F$** does ~~$[_{VP2}$ t_j believe Sue is smart]~~ too.

It is obvious that the condition in (57)/(58) is satisfied, licensing the VP-ellipsis in the second conjunct. When (60) has the sloppy reading, on the other hand, the pronouns are interpreted as a bound variable, bound by the matrix subject, as shown in (62):

(62) Sue_i $[_{VP1}$ t_i believes that she_i is smart] and **$[\text{Mary}_j]_F$** does ~~$[_{VP2}$ t_j believe she_j is smart]~~ too.

The VP of the second conjunct can be elided since the conditions in (58) are satisfied. The first condition in (58) is satisfied since the antecedent VP entails F-clo(VP2): $\exists$x. x believes that x is smart entails $\exists$x. x believes that x is smart. The second condition in (58) is also satisfied since VP2 entails F-clo(VP1): $\exists$x. x believes x is smart entails $\exists$x. x believes that x is smart.

The e-GIVENness condition, however, seems to fail to account for the dependency in (63), which is observed by Rooth (1992b):[25]

(63) First John told Mary_1 I was bad-mouthing her_1, and then

$[\text{Sue}]_F$ *told* **$[\text{Jane}]_F$** *I was* ~~bad-mouthing her~~.

[25] The reduced italic letters indicate that they are deaccented.

When the object in the first conjunct binds the pronoun, the object in the second conjunct can bind the pronoun: the second conjunct means Sue told Jane I was bad-mouthing Jane.[26] But in this case, the matrix subject in the second conjunct cannot bind the pronoun: so the second conjunct cannot mean Sue told Jane I was bad-mouthing Sue.

But the e-GIVENness condition cannot predict the dependency observed in (63). (64) illustrates the relevant representation of (63):

(64) First John told Mary$_i$ I$_j$ was [$_{VP1}$ t$_j$ bad mouthing her$_i$], and then
[Sue]$_F$ *told* **[Jane$_r$]$_F$** *I$_k$ was* [$_{VP2}$ t$_k$ bad mouthing her$_r$].

Given that ellipsis is possible, we assume that the two conditions in (58) are satisfied. This means that the indexical differences between the variables can be ignored for the purpose of checking the licensing conditions. Then, the first condition can be satisfied easily: the antecedent VP1(=$\exists$x. x was bad-mouthing y) entails F-clo(VP2)(= $\exists$x. x was bad-mouthing z), ignoring the indexical difference. The second condition is also satisfied: VP2(= $\exists$x. x was bad-mouthing z) entails F-clo(VP1)(=$\exists$x. x was bad-mouthing y). Under this analysis, however, the dependency cannot be captured, because under this analysis, whether the variable in the second conjunct is bound by the subject or the object, the conditions in (58) are satisfied. This indicates that a proper condition on ellipsis should consider a larger constituent than just a VP, possibly the whole sentence.[27]

In this section, we have introduced Merchant's (2001) e-GIVENness condition on ellipsis and have seen that it faces some problems. In the next section, I will discuss elliptical constructions in Korean with respect e-GIVENness.

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[26] As noted by Fox (1999), some speakers don't allow the sloppy reading for (63).

[27] Note here that as discussed in chapter 2 and 3, Local Parallelism needs to be checked within the elliptical constituent and its antecedent. In (63), Local Parallelism, which requires parallel dependency between the elliptical constituent and its antecedent, is not relevant since no relevant dependency is created within the VPs in both clauses.

4.2.2 Korean Data

Let us now consider the Korean ellipsis construction and see whether e-GIVENess condition can successfully account for them. The relevant data (50) is repeated as (65):

(65) A: [$_{TP}$ enu namhaksayng-i motun paywu-lul coahay]
some male-student-Nom every actor-Acc like

B: [$_{FP}$ [MOTUN KASWU-to]$_i$ ~~[$_{TP}$ enu namhaksayng-i t_i coahay]~~] (ya)]
every singer-also some male-student-Nom like be

a. A: 'There is a male-student that likes every actor.' B: 'There is a male-student that likes every singer, too.'

b. *A: 'For every actor$_i$, there is a male-student that likes him$_i$.' B: 'For every singer$_i$, there is a male-student that likes him$_i$, too.'

c. *A: There is a male-student that likes every actor.' B: 'For every singer$_i$, there is a male-student that likes him$_i$, too.'

d. *A: For every actor$_i$, there is a male-student that likes him$_i$.' B: There is a male-student that likes every singer, too.'

Recall that (65) can only have one reading, where the indefinite NP has wide scope in both utterances, as indicated in the glosses. With this in mind, let us check the conditions in (58). According to the first condition, the antecedent TP in (65A) should entail F-clo(TP) in (65B). That is, (66A) should entail (66B). The entailment holds between them.

(66) A: $\exists y$ [male-student(y) & $\forall x$[actor(x) $\rightarrow$ y likes x]]

B: $\exists x \exists y$[male-student(y) & y likes x]

However, the second condition is not satisfied. According to the condition, (66B) should entail (66A). But the entailment does not hold between them. Given that the second condition is not satisfied, it is predicted that the ellipsis should not be allowed, contrary to the fact.

There is another LF representation for (65B). As discussed in section 3, the element in Spec of FP can be reconstructed, as shown in (67). Note that this reconstruction is allowed because under this analysis, LF-identity is not required:

(67) [$_{TP}$ enu namhaksayng-i motun **[kaswu-to$_i$]$_F$** coahay] (ya)

some male-student-Nom every singer-also like be

The F-clo(TP) is shown in (68):

(68) $\exists P_{<e,t>} \exists y[\text{male-student}(y) \ \& \ \forall x[P(x) \rightarrow y \text{ likes } x]]$

The first condition in (58) seems to be satisfied, since the antecedent TP in (65A) entails F-clo(TP) in (65B): (66A) entails (68). However, the second condition is still not satisfied, since the TP in (67) does not entail F-clo(TP) in (65A): $\exists y[\text{male-student}(y) \ \& \ \forall x[\text{singer}(x) \rightarrow y \text{ likes } x]]$ does not entail $\exists y[\text{male-student}(y) \ \& \ \forall x[\text{actor}(x) \rightarrow y \text{ likes } x]]$(=66A). Since the second condition is not satisfied even after the reconstruction, under this analysis, it is incorrectly predicted that ellipsis should not be allowed.

For this problematic case, one might suspect that the object in (65A) is focused as well. If it were focused, the second condition in (58) could be satisfied. Crucially, this analysis predicts that in a context where the object in (65A) is not focused, the ellipsis will not be allowed. However, the prediction turns out to be false:

(69) X: nuw-ga motun paywu-lul coaha-ni?

Who-Nom every actor-Acc like-Q

'Who likes every actor?'

A: enu namhaksayng-i motun paywu-lul coahay

some male-student-Nom every actor-Acc like

B: motun **[kaswu-to$_i$]** $_F$ ~~[$_{IP2}$ enu namhaksayng-i t_i coahay]~~ (ya)

every singer-also some male-student-Nom like be

A: 'There is a male-student that likes every actor.' B: 'There is a male-student that likes every singer, too.'

(69A) and (69B) are repeated from (65A) and (65B), respectively, to which we add another utterance from a different speaker X. The utterance of X provides a context where the object in (69A) is given and thus cannot be focused. However, even in this context, IP-ellipsis in (69B) is possible, without changing interpretation.

The e-GIVENess condition also fails to account for (51), repeated as (70):

(70) A: motun namhaksayng-i enu paywu-lul coahay

every male-student-Nom some actor-Acc like

B: [$_{FP}$ [ENU KASWU-to]$_i$ ~~[$_{TP}$ motun namhaksayng-i t_i coahay]~~ (ya)]

some singer-also every male-student-Nom like be

a. A: 'There is an actor that every male-student likes.' B: 'There is a singer that every male-student likes, too.'

b. A: 'For every male-student$_i$, there is an actor that he$_i$ likes.' B: 'For every male-student$_i$, there is a singer that he$_i$ likes, too.'

c. *A: 'There is an actor that every male-student likes.' B: 'For every male-student$_i$, there is a singer that he$_i$ likes, too.'

d. *A: 'For every male-student$_i$, there is an actor that he$_i$ likes.' B: 'There is a singer that every male-student likes, too.'

In (70), the second condition in (58) is not satisfied. According to the condition, TP in (70B) must entail F-clo(TP) in (70A). Before we check this condition, recall that the F-clo(TP) in (70A) has two different representations, depending on whether the indefinite is interpreted as a quantifier or with Choice Function, as shown in (71):

(71) a. $\forall y$ [male student (y) $\rightarrow \exists x$ [actor(x) & y likes x]] (as a quantifier)

b. $\exists f$ [CH(f) & $\forall y$ [male student (y) $\rightarrow$ y likes f(actor)]] (with choice function)

The TP in (70B) has three different representations, depending on whether or not reconstruction of the fronted object takes place and whether or not Choice Function applies when reconstruction takes place, as shown in (72):

(72) a. $\exists x \forall y$[male-student(y) $\rightarrow$ y likes x] (without reconstruction)

b. $\exists P_{<e,t>} \forall y$[male-student(y) $\rightarrow \exists x$[P(x) & y likes x]]

(with reconstruction & without choice function)

c. $\exists P_{<e,t>} \exists f$[CH(f) & $\forall y$[male-student(y) $\rightarrow$ y likes f(P)]]

(with reconstruction & with choice function)

None of the representations in (72) entails any of those in (71), failing to satisfy the second condition. Thus, the e-GIVEness condition incorrectly predicts that the ellipsis in (70B) should not be allowed.

To complete the argument, it is necessary to show that the object in (70A) is not F-marked. Otherwise, the second condition could be satisfied. To make sure that the object is not F-marked, we can add a question (73) before the utterances in (70) take place:

(73) nuw-ga enu paywu-lul coaha-ni?

Who some actor-Acc like-Q

'Who likes some actor?'

With the addition of (73), the ellipsis in (70) is still possible, confirming that the second condition is in fact not satisfied.

In this section, we have discussed two existing accounts of ellipsis and have seen that neither of them could can a proper licensing condition on ellipsis. In the following section, we will propose a licensing condition, based on Rooth (1992b).

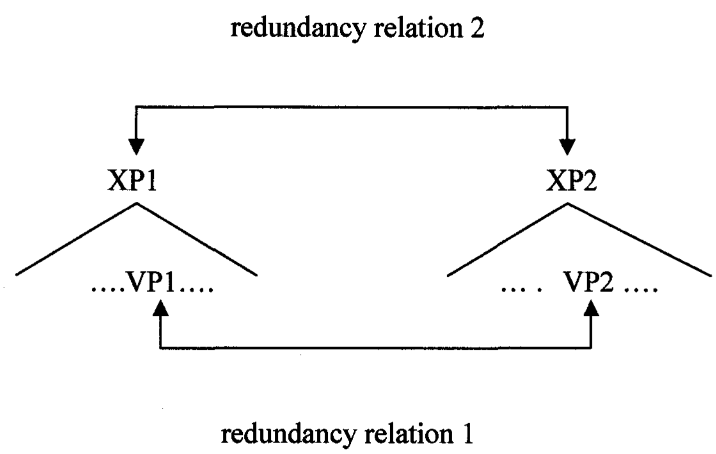
5 Towards an Analysis

In this section, I will discuss Rooth's analysis of ellipsis, which is based on Alternative Semantics for Focus (Rooth 1985, 1992a, 1992b). However, I will argue that a modification of his analysis is required to provide an appropriate licensing condition on ellipsis. We will start the following section by reviewing Rooth (1992b).

5.1 Rooth (1992b)

Following an early version of Fiengo and May (1994), Rooth (1992b) distinguishes two different relations between an elided VP2 and its antecedent VP1, as schematically shown in (74):

(74)



Fiengo and May claim that redundancy relation 1 is syntactic, which is to be identified with the notion of reconstruction/LF copying. This enforces identity of form of verb, with some allowances for variation such as pronominal indices. While Rooth adopts this, he is more concerned with redundancy relation 2, which Fiengo and May claim falls under their Dependency Theory, which essentially imposes syntactic isomorphism on the parallel structures, modulo indices. Rooth argues that redundancy relation 2 is in fact a semantic relation, which he identifies with his ~ operator (see Rooth 1985, 1992a, 1992b, 1996). The ~ operator attaches to an LF-constituent α and requires that there be a set of alternatives of the same type as α (see Büring 1995 for a lucid exposition of Rooth's theory of focus). Given this, Rooth argues for the following licensing condition on VP ellipsis (Rooth 1992b:18):

(75) "ellipsis should be possible exactly in configurations where[28]

(i) a verb phrase can be syntactically reconstructed ([copied]), and

(ii) some phrases identical with or dominating the reconstructed phrases can be related by the

~ relation to some phrases identical with or dominating the reconstruction([LF copying]) antecedent, as indicated by the possibility for prosodic reduction ([deaccenting]) in a non-ellipsis variant."

The condition in (75ii), applied to the schema in (74), requires that XP1 ~ XP2, in Rooth's term. Spelling this out, we can restate this condition as in (76) (as is usually done: see Johnson 1997, Romero 1997).

(76) **Licensing condition on deaccenting/VP-ellipsis**

For an antecedent XP1, an XP2 with deaccenting/VP-ellipsis,

(i) $[[XP1]]^{o}$ either is or implies an element of $[[XP2]]^{f}$

(ii) $[[XP1]]^{o} \neq [[XP2]]^{o}$

where $[[XP]]^{o}$ is the ordinary value returned by [[ ]] for XP; $[[XP]]^{f}$ is the focus value of XP, the set of alternatives to XP, derived from XP by replacing all F-marked constituents in XP by variables of the appropriate form.

Let us illustrate this with an example, adapted from Merchant (2001):

(77) a. John called Ben an idiot after **[Bill]$_{F}$** did ~~[$_{VP}$ call Ben an idiot]~~

b. John called Ben an idiot after **[Bill]$_{F}$** *called Ben an idiot.*

---

[28] Expression in [ ] here is mine.

The examples in (77) represent two ways of expressing redundant VP in the subordinate clause. (77a) makes use of VP-ellipsis, and (77b) deaccenting. The VP-ellipsis and deaccenting in (77) are licensed, since the two conditions in (76) are satisfied, as shown in (78):

(78) a. $[[\text{John called Ben an idiot}]]^{o} \in \{p: \exists x\ [p = \text{called Ben an idiot}(x)]\}$

'set of propositions such that there is an x: p is the proposition that x called Ben an idiot.'

b. $[[\text{John called Ben an idiot}]]^{o} \neq [[\textbf{Bill}]_F \text{ called Ben an idiot}]^{o}$[29]

The examples in (77) seem to indicate that we only need (76) as a licensing condition on VP-ellipsis. However, it turns out that (76) is not sufficient. Let us consider (79):

(79) a. John called Ben an idiot after **[Bill]**$_F$ *insulted Ben.*

b. John called Ben an idiot after **[Bill]**$_F$ did.

The deaccenting in (79a) is licensed, satisfying (76). The matrix clause in (79a) implies the focus value of the subordinate clause: $[[\text{John called Ben an idiot}]]^{o}$ implies $\{p: \exists x\ [p = \text{insulted Ben}(x)]\}$. If (76) were sufficient to license VP-ellipsis, the subordinate clause in (79b) could mean Bill insulted Ben. However, this is not the case. (79b) is true only if Bill called Ben an idiot, not if Bill insulted Ben in some other way. The discrepancy between VP-ellipsis and deaccenting suggests that licensing condition on ellipsis is subject to a stronger requirement.[30]

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[29] For simplicity, I will not check the second condition (=76ii) for the examples to be discussed below, because it is obvious that they all satisfy this condition.

[30] Note that being essentially pragmatic, it is extremely difficult to provide a precise definition for the notion 'imply', which Rooth calls 'implicationally bridge'. It relies on pragmatic aspects, such as the utterance contexts, shared assumptions between speakers and so on. For instance, under Rooth's theory, the focus marking in (i) is licensed as long as calling someone a Republican implies insulting that person in the

According to Rooth (1992b), this stronger requirement comes from the syntactic identity condition in (75i), which requires the antecedent VP be copied into the elided VP. This requirement forces the elided VP to be identical in meaning with the antecedent VP. Therefore, the elided VP in (79b) can only mean λx. x called Ben an idiot, when the copying operation takes place.

Rooth provides another argument in favor of the syntactic identity condition in (75i). (80) is adapted from Rooth (1992b):

(80) a. 5 is less than or equal to 5, and $[7]_F$ is *less than or equal to itself*, too.

b. 5 is less than or equal to 5, and $[7]_F$ is, too.

Rooth observes that the second conjunct in (80a) means 7 is less than or equal to 7. However, the second conjunct in (80b) cannot mean 7 is less than or equal to 7 (=sloppy reading). The second conjunct in (80b) can only mean 7 is less than or equal to 5 (=strict reading). The reason that sloppy reading is not allowed in (80b), Rooth suggests, is that the elided VP is subject to the syntactic identity condition (75ii). This condition forces the elided VP to be copied from the antecedent VP and thus, the second conjunct can only mean 7 is less than or equal to 5.

For Rooth, it seems necessary to assume LF-identity condition such as (75i). In section 3.1, however, we have seen that the identity condition in (75i) cannot account for the Korean data. In the next section, I will attempt to resolve this conflict. More specifically, I will attempt to modify Rooth's licensing condition on ellipsis (=(76)) and show the modified condition succeeds in accounting for the relevant data, with no recourse to LF-identity.

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utterance context (see Rooth (1992b) for detailed discussion):

(i) a. She_i called him_2 a Republican, and then $[he]_{2F}$ insulted $[her]_{1F}$.

5.2 'Is an element of'

In section 3.1, we have seen that LF-identity condition such as (75i) faces problems in accounting for the Korean elliptical construction. Given this problem, I would like to propose an alternative. More specifically, I suggest a modification of Rooth's (1992b) semantic condition in (76) provides a proper licensing condition. (76) is repeated here as (81) for convenience:

(81) **Licensing condition on deaccenting/VP-ellipsis**

For an antecedent XP1, an XP2 with deaccenting/VP-ellipsis,

(i) $[[XP1]]^o$ either is or implies an element of $[[XP2]]^f$

(ii) $[[XP1]]^o \neq [[XP2]]^o$

where $[[XP]]^o$ is the ordinary value returned by [[ ]] for XP; $[[XP]]^f$ is the focus value of XP, the set of alternatives to XP, derived from XP by replacing all F-marked constituents in XP by variables of the appropriate form.

I suggest that the proper licensing condition is obtained when we leave out the notion 'imply' from (81i), leaving everything else intact, as shown in (82):[31]

(82) **Licensing condition on ellipsis**

For an antecedent XP1, an XP2 with ellipsis,

(i) $[[XP1]]^o$ is an element of $[[XP2]]^f$

(ii) $[[XP1]]^o \neq [[XP2]]^o$

[31] Fox (1999) reaches a similar conclusion in some respects. However, he doesn't provide any empirical arguments for discarding the syntactic identity condition. Rather his argument was a conceptual one.

Note here that (82) is proposed as a licensing condition on ellipsis. As for the deaccenting case, we can adopt Rooth's original semantic condition (81).

Now, let us consider (34) and (36) again and see how ellipsis is licensed under this analysis. (34) and (36) are repeated as (83) and (84), respectively:

(83) A: [$_{TP}$ enu namhaksayng-i motun paywu-lul coahay]
some male-student-Nom every actor-Acc like

B: [$_{FP}$ [MOTUN KASWU-to]$_i$ ~~[$_{TP}$ enu namhaksayng-i t_i coahay]~~ (ya)]
every singer-also some male-student-Nom like be

a. A: 'There is a male-student that likes every actor.' B: 'There is a male-student that likes every singer, too.'

b. *A: 'For every actor$_i$, there is a male-student that likes him$_i$.' B: 'For every singer$_i$, there is a male-student that likes him$_i$, too.'

c. *A: There is a male-student that likes every actor.' B: 'For every singer$_i$, there is a male-student that likes him$_i$, too.'

d. *A: For every actor$_i$, there is a male-student that likes him$_i$.' B: There is a male-student that likes every singer, too.'

(84) A: [$_{TP}$ motun namhaksayng-i enu paywu-lul coahay]

every male-student-Nom some actor-Acc like

B: [$_{FP}$ [ENU KASWU-to]$_i$ ~~[$_{TP}$ motun namhaksayng-i t_i coahay]~~ (ya)]

some singer-also every male-student-Nom like be

a. A: 'There is an actor that every male-student likes.' B: 'There is a singer that every male-student likes, too.'

b. A: 'For every male-student$_i$, there is an actor that he$_i$ likes.' B: 'For every male-student$_i$, there is a singer that he$_i$ likes, too.'

c. *A: 'There is an actor that every male-student likes.' B: 'For every male-student$_i$, there is a singer that he$_i$ likes, too.'

d. *A: 'For every male-student$_i$, there is an actor that he$_i$ likes.' B: 'There is a singer that every male-student likes, too.'

Let us consider (83). Recall that (83A) by itself is unambiguous. It can only have the reading where the indefinite has wide scope. On the other hand, (83B) by itself is ambiguous. When (83A) is followed by (83B), they can only have one reading where the indefinite has wide scope.

We can capture this reading when the focused element undergoes reconstruction. The condition in (82) is satisfied when reconstruction takes place. As shown in (85), the ordinary value of (83A) is an element of the focus value of (83B). (The latter can be read as 'set of propositions such that there is a property P and there is a male-student who likes every x with the property P.'):

(85) $\exists y[\text{male-student}(y)\ \&\ \forall x[\text{actor}(x) \rightarrow y \text{ likes } x]] \in \{p{:}\exists P_{<e,t>}\ [p= \exists y[\text{male-student}(y)\ \&\ \forall x[P(x) \rightarrow y \text{ likes } x]]]\}$

Given that the condition in (82) is satisfied, the ellipsis is licensed. The condition is also satisfied when the indefinite is interpreted with Choice Function. (Recall that as discussed in section 2 indefinites in Korean are ambiguous between quantifier and choice function interpretation):

(86) $\exists f\,[CH(f)\ \&\ \forall x[\text{actor}\ (x) \rightarrow f(\text{male-student})\ \text{likes}\ (x)]] \in \{p{:}\exists P_{<e,t>}\ [p{=}\ \exists f[CH(f)\ \&$ $\forall x[P(x) \rightarrow f(\text{male-student})\ \text{likes}\ x]]]\}$

The left side of (86) says that a function exists, such that for every actor x, the male-student selected by this function likes x. The right side of (86) can be read as 'set of propositions such that a function exist such that for every x with property P, the male-student selected by this function likes x.' And the former is an element of the latter, satisfying the condition in (82). This shows that under the Choice Function analysis of indefinites, we can correctly predict the wide scope reading of the indefinite in both sentences.

Now let us consider how we can exclude the logically possible reading where (83A) has the wide scope of the indefinite and (83B) has the wide scope of the universal quantifier (=(83c)). For the universal quantifier in (83B) to have wide scope, it should remain in-situ, and the indefinite in (83A) is interpreted as a quantifier. However, in this case, the condition in (82) is not satisfied; the ordinary value of (83A), whether the indefinite is interpreted as a quantifier or with choice function, is not an element of the focus value of (83B), as shown below:

(87) a. $\exists y[\text{male-student}(y)\ \&\ \forall x[\text{actor}(x) \rightarrow y\ \text{likes}\ x]] \notin \{p{:}\exists P_{<e,t>}\ [p{=}\ \forall x[P(x) \rightarrow \exists y[\text{male-}$ $\text{student}(y)\ \&\ y\ \text{likes}\ x]]\}$ (as a quantifier)

b. $\exists f\,[CH(f)\ \&\ \forall x\ [\text{actor}\ (x) \rightarrow f(\text{male-student})\ \text{likes}\ x]] \notin \{p{:}\exists P_{<e,t>}\ [p{=}\ \forall x[P(x) \rightarrow$ $\exists y[\text{male-student}(y)\ \&\ y\ \text{likes}\ x]]\}$ (with choice function)

Given that the condition is not satisfied, it is not possible to have the reading in (83c).[32]

Let us now consider (84). Since each sentence is ambiguous, in principle we expect that there would be four-ways ambiguous. However, (84) is only two-ways ambiguous, as shown in (84a) and (84b). The parallel readings can be captured when the focused element in (84B) undergoes reconstruction as shown in (88). Note here again that reconstruction is allowed precisely because we have discarded LF-identity. If LF-identity were needed, reconstruction would be blocked:

(88) [$_{IP2}$ motun namhaksayng-i enu **[kaswu-to]**$_F$ coahay] (ya)

every male-student some singer like is

The wide scope of the universal quantifier for both sentences is obtained when the indefinite in both sentences is interpreted as a quantifier below the subject. In this case, the ordinary value of (84A) is an element of the focus value of (88), which satisfies the condition in (82):

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[32] The unavailability of the reading in (83c) deserves some comments. (83A) with wide scope of the indefinite in fact logically entails something which is an element of the focus value of (83B), as shown in (i):

(i) $\exists$y[male-student(y) & $\forall$x[actor(x) $\rightarrow$ y likes x]] $\rightarrow$ $\forall$x[actor(x) & $\exists$y[male-student(y) & $\rightarrow$ y likes x]].

That is, if there is a male student who likes every actor, it follows that every actor is liked by a male student, which is an element of the focus values of (83B). According to this, the reading (83c) would be allowed. This seems problematic not only for Rooth's (1992b) analysis but also for the analysis proposed in this chapter, which is based on Rooth (1992b). However, discussing the same problematic case in English, Tomioka (1997) concludes that not all logical entailment relations hold for Rooth's (1992b) implicational bridging (see also fn. 27). He concludes that implicational bridging largely relies on how conversational participants perceive the relation between the propositions (p. 67). In other wards, we need a concept of a contextual implication that is psychologically real. In the case above, this means, he concludes, that most of us are not aware of the entailment between $\exists > \forall$ and $\forall > \exists$ in our everyday life. In favor of this view, Tomioka discusses Johnson-Laid (1975), who reports a wide divergence in the relative difficulty of syllogisms.

(89) $\forall y[\text{male-student}(y) \rightarrow \exists x[\text{actor}(x) \;\&\; y \text{ likes } x]] \in \{p{:}\exists P_{<e,t>}\,[p= \forall y[\text{male-student}(y) \rightarrow \exists x[P(x) \;\&\; y \text{ likes } x]]\}$ (as a quantifier)

The wide scope of the indefinite for both sentences is obtained when the indefinite in both sentences is interpreted with choice function. Then the ordinary value of (84A) is an element of the focus value of (88), again satisfying the condition in (82), as shown in (90) (The latter can be read as 'set of propositions such that a function exists such that for every male-student y, y likes the individual with property P selected by this function.):

(90) $\exists f[CH(f) \;\&\; \forall y[\text{male-student}(y) \rightarrow y \text{ likes } f(\text{actor})]] \in \{p{:}\exists P_{<e,t>}\,[p= \exists f[CH(f) \;\&\; \forall y[\text{male-student}(y) \rightarrow y \text{ likes } f(P)]]]\}$ (with choice function)

Under this analysis, it is also correctly predicted that these are the only two readings available. Two other logically possible readings in (84c) and (84d) are excluded. First, let us consider these readings, under the option that focused indefinite in (84B) undergoes reconstruction. The reading in (84d) would be obtained when the indefinite in (84A) is interpreted as a quantifier and the focused indefinite in (84B) undergoes reconstruction and is interpreted with Choice Function (=(88)). This is not possible under the analysis, since the ordinary value of (84A) with the wide scope of universal quantifier is not an element of the focus value of (84B), as shown in (91):

(91) $\forall y[\text{male-student}(y) \rightarrow \exists x[\text{actor}(x) \;\&\; y \text{ likes } x]] \notin \{p{:}\exists P_{<e,t>}\,[p= \exists f[CH(f) \;\&\; \forall y[\text{male-student}(y) \rightarrow y \text{ likes } f(P)]]]\}$

Given that the condition in (82) is not satisfied, the reading is not allowed.

The reading in (84c) is also correctly excluded. The reading would be obtained when the indefinite in (84A) is interpreted with Choice Function and the focused indefinite in (84B) is reconstructed and interpreted as a quantifier. In this case, the ordinary member of (84A) is not an element of the focus value of (84B), as shown in (92):

(92) $\exists f[CH(f) \ \&\ \forall y[\text{male-student}(y) \rightarrow y \text{ likes } f(\text{actor})]] \notin \{p{:}\exists P_{<e,t>} [p= \forall y[\text{male-student}(y) \rightarrow \exists x[P(x) \ \&\ y \text{ likes } x]]\}$

To complete the argument, we also need to consider the option where the focused element in (84B) stays in situ and see whether the parallelism is observed. Under this option, the reading in (84d) is also correctly excluded by the condition (82). This reading would be obtained when the indefinite in (84A) is interpreted as a quantifier and the focused indefinite in (84B) is interpreted as a quantifier or with Choice Function as shown in (93a) and (93b), respectively:

(93) a. $\forall y[\text{male-student}(y) \rightarrow \exists x[\text{actor}(x) \ \&\ y \text{ likes } x]] \notin \{p{:}\exists P_{<e,t>} [p= \exists x[P(x) \ \&\ \forall y[\text{male-student}(y) \rightarrow y \text{ likes } x]]]$ (indefinite as a quantifier)

b. $\forall y[\text{male-student}(y) \rightarrow \exists x[\text{actor}(x) \ \&\ y \text{ likes } x]] \notin \{p{:}\exists P_{<e,t>} [p= \exists f[CH(f) \ \&\ \forall y[\text{male-student}(y) \rightarrow y \text{ likes } f(P)]]]\}$ (indefinite with choice function)

As shown in (93), whether the focused indefinite is interpreted as a quantifier or with Choice Function, the condition (82) is not satisfied.

The reading in (84) is not allowed in the first place, due to scope rigidity. The reading would be obtained when the universal quantifier subject has wide scope. But this reading cannot be obtained because when the focused indefinite in (84B) stays in the fronted position there is no way to get the wide scope of the universal quantifier, due to scope rigidity.

The analysis also provides a straightforward account for (80), repeated as (94) below:

(94) a. John called Ben an idiot after **[Bill]**$_F$ *insulted Ben.*

b. John called Ben an idiot after **[Bill]**$_F$ did.

Recall that the subordinate clause (94b) cannot mean Bill insulted Ben. It can only mean Bill called Ben an idiot. Under Rooth's theory, the impossible reading is blocked by appealing to the syntactic identity condition, according to which the elided VP in (94b) should be copied from the antecedent VP, *call Ben an idiot*. However, we have seen that the syntactic identity condition can be dispensed with. Under the proposed analysis, it is possible to block the impossible reading without appealing to the syntactic identity condition. Suppose the elided VP in (94b) is *insult Ben*, as shown below:

(95) John called Ben an idiot after **[Bill]**$_F$ did [$_{VP}$ insult Ben]

In (95), VP-ellipsis is not licensed because it does not satisfy the condition in (82); the ordinary value of the matrix clause is not an element of the focus value of the subordinate clause ([[John called Ben an idiot]] ^{o} $\not\in$ {p: $\exists$x [p= insulted Ben(x)]}). Note instantly that the deaccenting in (94a) is licensed since it is subject to Rooth's original semantic condition in (82); the ordinary value of the matrix conjunct in (94a) implies the focus value of the subordinate clause, licensing deaccenting.

So far, we have seen that a modification of Rooth's semantic condition on ellipsis successfully account for various ellipsis constructions. The proposed licensing condition does not rely on any syntactic identity condition such as LF-identity. We have seen that LF-identity condition predicts wrong scope interpretation in Korean. This suggests LF-identity condition is not needed as a necessary licensing condition on ellipsis.

5.3 When 'is an element of' Does Not Hold

Rooth (1992b) observes that ellipsis is possible even if the antecedent is not an element of the focus value of the elliptical clause. Let us consider the following example:

(96) First John told Mary$_1$ I was bad-mouthing her$_1$, and then **[Sue$_1$]$_F$** heard I was ~~bad-mouthing her$_1$~~ [33] [Adapted from Rooth (1992b)]

The availability of ellipsis in (96) constitutes a problem for the proposed licensing condition in (82), which is repeated as (97) below. According the condition, there must be an 'is an element of' relation between the two conjuncts in (96). However, this is not the case. The first conjunct is not an element of the focus values of the second conjunct.

(97) **Licensing condition on ellipsis**

For an antecedent XP1, an XP2 with ellipsis,

(i) $[[XP1]]^o$ is an element of $[[XP2]]^f$

(ii) $[[XP1]]^o \neq [[XP2]]^o$

In other words, the licensing condition in (97) is too strong. To account for the data such as (96) we need an additional condition.

To account for (96), I propose to add the following disjunctive condition to (97). Then we have a revised licensing condition on ellipsis as in (98):

[33] Some speakers don't allow the sloppy reading.

(98) **Licensing condition on ellipsis (revised)**

For an antecedent XP1, an XP2 with ellipsis,

(A) (i) $[[XP1]]^{o}$ is an element of $[[XP2]]^{f}$

(ii) $[[XP1]]^{o} \neq [[XP2]]^{o}$

OR

(B) (i) $[[XP1]]^{o}$ implies an element of $[[XP2]]^{f}$

(ii) $[[XP1]]^{o} \neq [[XP2]]^{o}$

(iii) e-GIVEness is satisfied

In (98), an additional condition (B) is disjunctively added to (97) (=A). The condition (B) is added to account for the data such as (96). In (96), the first conjunct implies an element of the focus value of the second conjunct. That is, the first conjunct implies *Mary$_1$ heard I was bad mouthing her$_1$*, which is an element of the focus values of the second conjunct. Given that there is an implication relation between the two conjuncts, Condition (B) requires that e-GIVEness should be satisfied between the two VPs. The definition of e-GIVENess is reproduced here as (99):

(99) e-GIVEness

An expression E counts as e-GIVEN iff E has a salient antecedent A and modulo $\exists$-type Shifting

i. A entails F-clo(E), and

ii. E entails F-clo(A)

(99i) is satisfied: the antecedent VP (=∃x. x was bad-mouthing z) entails F-clo(the elided VP) (=∃x. x was bad-mouthing z). (99ii) is also satisfied; the elided VP (=∃x. x was bad-mouthing z) entails F-clo(the antecedent VP) (=∃x. x was bad-mouthing z). Given that the condition (B) is satisfied, ellipsis is licensed in (96).[34]

5. 4 A residual issue?

Before we leave this section, let us consider a seemingly problematic case (80), which is repeated as (100):

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[34] In chapter 2 and 3, I argue that Local Parallelism must be satisfied for ellipsis possible. Local Parallelism requires that there be parallel dependency with the elliptical constituent and its antecedent. In this chapter, I argue that LF-identity is not needed. This seems to contradict Local Parallelism, which is also a syntactic requirement. (Note incidentally that the same problem would arise in Global Parallelism (Fiengo and May 1994, Fox and Lasnik 2003), which, as far as I can tell, is a syntactic requirement as well.) However, this is not necessarily so, since Local Parallelism is not exactly same as LF-identity. For instance, by definition Local Parallelism requires that there be parallel dependency between the elliptical constituent and the antecedent constituent, but it does not require that there be the same terminal elements between them, which is required by the LF-identity condition (up to different indices). They make different predictions. As discussed in chapter 2, in some cases where no dependency is established within the elliptical and the antecedent constituent, Local Parallelism is just irrelevant (see fn. 27 for an illustration). However, the LF-identity condition still requires that the two constituents be identical (morpho-)syntactically. For the Korean constructions discussed in this chapter, no Local Parallelism is violated even in the contexts where the LF-identity condition is violated. For instance, let us consider the example in (i), repeated from (51):

(i) A: $[_{TP}$ motun namhaksayng-i enu paywu-lul coahay]
every male-student-Nom some actor-Acc like

B: $[_{FP}$ [ENU KASWU-to]$_i$ ~~$[_{TP}$ motun namhaksayng-i t_i coahay]~~ (ya)]
some singer-also every male-student-Nom like be

a. A: 'There is an actor that every male-student likes.' B: 'There is a singer that every male-student likes, too.'
b. A: 'For every male-student$_i$, there is an actor that he$_i$ likes.' B: 'For every male-student$_i$, there is a singer that he$_i$ likes, too.'
c. *A: 'There is an actor that every male-student likes.' B: 'For every male-student$_i$, there is a singer that he$_i$ likes, too.'
d. *A: 'For every male-student$_i$, there is an actor that he$_i$ likes.' B: 'There is a singer that every male-student likes, too.'

As discussed above, for the reading in (b), where the indefinite in both clause has narrow scope, to be possible, the fronted indefinite in (iB) has to be reconstructed to the base position at LF. With this representation, Local Parallelism is simply irrelevant. However, the LF-identity condition must apply in this case and is violated since the object indefinite in both sentences are not identical.

(100) a. 5 is less than or equal to 5, and $[7]_F$ is *less than or equal to itself*, too.

b. 5 is less than or equal to 5, and $[7]_F$ is, too.

Recall that Rooth (1992b) provides these examples to argue for the syntactic identity condition in (75i). As discussed above, Rooth observes that the second conjunct in (100a) means 7 is less than or equal to 7 but the one in (100b) cannot have this reading. It can only mean 7 is less than or equal to 5. The reason that the second conjunct in (100b) cannot mean 7 is less than or equal to 7, Rooth suggests, is that the elided VP is subject to the syntactic identity condition. This condition forces the elided VP to be copied from the antecedent VP and thus, the second conjunct can only mean 7 is less than or equal to 5.

However, I have argued that the syntactic identity condition is not needed. As an alternative, I suggested the semantic condition in (98) is sufficient. But under this condition, it is incorrectly predicted that (100b) can mean *less than or equal to itself*. This is because the first conjunct in (100b) *5 is less than or equal to 5* denotes the same proposition as *5 is less than or equal to itself*. Then, the ordinary value of the latter (=$[[$*5 is less than or equal to itself*$]]^{o}$) is an element of the focus value of the second conjunct (={p:∃y[y is less than or equal to y]}), satisfying the condition in (98). Therefore it is predicted that the sloppy reading would be allowed, contrary to the fact.

As for this problematic case, I would like to suggest that the problem can be overcome if we assume following Fox (1999b) that elements of the focus value are structured propositions. (See also Krifka 1992 for structured propositions.) Under this analysis, the focus value of the second conjunct has the form *y λx.x is less than or equal to x,* and the first conjunct *5 is less than or equal to 5* does not have the appropriate form. Given that the ordinary value of the first conjunct is not an element of the focus value of the second conjunct, (98) is not satisfied, blocking the sloppy reading. Note that the deaccenting in (100a) is licensed because the condition on deaccenting is not as strict as ellipsis. More specifically, deaccenting can be licensed by implication. According to this, the first conjunct *5 is less than or equal to 5* implies the proposition *5 is less than or equal to itself.* And the ordinary value of the latter is an element of the focus value of the second conjunct

6. Conclusion

In this chapter, I discussed several licensing conditions on ellipsis proposed in the literature and argued that a modification of Rooth's (1992b) licensing conditions provides a best account of the data. First, I argued that the syntactic LF-identity condition is not needed. Then I argued that a modification of Rooth's semantic condition can replace the syntactic identity condition and provide a proper licensing condition on ellipsis. More specifically, I argued that LF-identity is not needed when the antecedent is an element of the focus values of the elliptical sentence. The empirical evidence comes from TP/IP-ellipsis constructions in Korean. I further argued that when the antecedent implies the elliptical sentence, an additional condition is needed.

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