ABSTRACT

Title of Dissertation:	AN ANALYSIS OF NEGATION DEPENDENT ITEMS *AMWU*-PHRASES IN KOREAN, AND ITS THEORETICAL CONSEQUENCES.
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In this thesis, I revisit the nature of a negation-dependent expression *awmu-* in Korean. The central claim is that *amwu*-s do not fall within one of the two well-established categories of Negative Polarity Item (NPI) and Negative Concord Item (NCI). Hence, the taxonomy of negation-dependent expressions needs to be expanded to include a new, third type. Furthermore, I argue that this third type of expression, as exemplified in Korean, calls for a different principle of grammar, which is syntactic in nature, to properly account for its distribution.

The thesis is organized as follows. In chapter 1, I introduce the taxonomy and theoretical background of negation-dependent expressions that have been discussed in the previous literature. Then, I review on-going discussions concerning the identity of

amwu- in Korean. In particular, two competing perspectives on *amwu-* are examined: Negative Polarity Item (NPI) approaches to *amwu-* (Sohn 1994 & Sells & Kim 2006) and Negative Concord Item (NCI) approaches (Giannakidou 2000, 2006 & Yoon & Giannakidou 2016). I also introduce a puzzle: *amwu*-s cannot be licensed by its apparent licensor (i.e. sentential negation) in derived positions, which is not accounted for under the previous accounts of NPIs or NCIs and motivates the main proposal of the thesis.

In chapter 2, I propose that *amwu-* is a third category of negation-dependent expressions and *amwu-* and negation stand in a base-generated relationship of constituency. In particular, I show that the interplay between the constituency of *amwu-* and negation and constraints on syntactic movement explains why *amwu-* cannot be licensed in derived positions. This argument is further supported by the bound pronoun effect (cf. Grano &Lasnik 2018 for English) that seems to relax the locality constraint between the base position of *amwu-* and the surface position of sentential negation.

In Chapter 3, I examine predictions of an argument I put forth in chapter 2 that the features responsible for the occurrence of overt negation in Korean can be acquired by the relevant heads derivationally. Following Chomsky (1965)'s featural constraint on deletion, I argue that only inherent features, which are not acquired derivationally, are subject to the identity requirement on ellipsis. Thus, the identity condition on ellipsis under my proposal amounts to a requirement to select a feature from the lexicon that is identical to the one selected from the lexicon in the antecedent. I argue that the fact that *amwu*-s can be used as fragment answers, despite the polarity mismatch with the

antecedent clause, receives a natural account as a consequence of the feature specification in the domain of ellipsis.

In Chapter 4, I investigate implications of the underlying constituency of *amwu-* and negation. In particular, I show paradigms of the extended version of Beck & Kim's intervention effect (1997) in constructions where a long-distance scrambled *amwu-* phrases interact with *wh*-phrases. I argue that long-distance scrambled phrase can participate in syntactic and semantic operations in its derived positions. This, in turn, challenges the view that long-distance scrambling in Korean should be relegated to PF.

In Chapter 5, I investigate the nominal structure of Korean based upon the Numeral Classifier constructions. In doing so, this chapter contributes to the proposed argument that NegP is an optional part of the extended nominal projection in Korean. In particular, I examine a variety of orderings of Numeral-Classifier constructions in Korean and how they are derived. The chapter also argues that elements within a nominal phrase in Korean are also constrained by Cyclic Linearization and Order Preservation (cf. Fox & Pesetsky 2003, 2005; Ko 2005, 2007; Simpson & Park 2019). This suggests the application domains of Cyclic Linearization are not only clausal domains (CP) but also nominal ones (DP), at least in Korean.

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by

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Dedication

To my family.

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List of Abbreviations

1SG	first person singular
3SG	third person singular
ACC	accusative
AN	animate
C	complementizer
CL	classifier
COP	copular
DEC	declarative particle
FEM	feminine gender
FIN	finite verb
FUT	future tense
GEN	genitive
HON	honorific
INAN	inanimate
INSTR	instrumental
LOC	locative
NEG	negation
NOM	nominative
NML	nominalizer
NUM	numeral
MOD	modifier
PL	plural
POSS	possessive marker
PRES	present tense
PROG	progressive
PRT	preterite
PST	past tense
Q	question particle
SG	singular
TOP	topic

Chapter 1: Introduction

Section 1 Negative Polarity Item

I begin by briefly reviewing the previous literature on negation-dependent expressions and their licensing conditions. First, let us consider Negative Polarity Items (NPIs). As exemplified in (1) and (2), using English *any* and Dutch *ook maar iets* anything, as representative cases, NPIs can occur in negative but not affirmative environments. In the earliest accounts of NPI licensing, it was proposed that NPIs had to be in the scope of negation, which often translates into overt c-command by negation (Klima 1964, Lasnik 1972 among many others).

(1) a. Bill didn't buy any books.

    b. *Bill bought any books.

    c. John did not say that Bill bought any books.

(2) a. Niemand   heeft ook maar iets   gezien.   Dutch

       nobody   has   even   something seen

       'Nobody saw anything.'

    b. *Jan   heeft   ook maar iets   gezien.

       John   has   even   something seen

       '(lit) John saw anything.'   Ginnakidou (2011)

However, it has been observed that the range of licensors of NPIs extends far beyond negations (Linebarger 1981, Giannakidou, 1994, 2002, 2006, Ladusaw 1979). Several

subsequent proposals have been made to account for NPI licensing. I will first focus on semantic approaches. Roughly speaking, there are two main approaches to NPI licensing in the semantics literature. The first approach is in terms of downward entailment, put forward by Ladusaw (1980), Zwarts (1986), Van der Wouden (2002). The second approach is in terms of non-veridicality, proposed by Giannakidou (1997, 1999, 2000).

Subsection 1 Semantic approaches to NPI licensing

Ladusaw (1980) argues that the common characteristic that licenses NPIs is Downward Entailment (henceforth, DE). The licensing condition of NPIs and definition of DE by Ladusaw (1980) are as follows.

(3) *Ladusaw's (1980) licensing condition*

    a. α is a trigger for negative polarity items in its scope iff α is downward entailing.

    (where *trigger* is the expression that is required to license the NPI)

    Ladusaw (1980: p 40)

    b. A function f is downward-entailing iff for all X, Y in the domain of

    f: $X \subseteq Y \rightarrow f(Y) \subseteq F(X)$[1]

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[1] The definitions rely on Zwarts 1986, Kas 1993.

This definition of DE allows inferences from more general to more specific properties. (4a) and (4b) exemplify DE contexts. For instance, *no student* in (4a) and *not* in (4b) are downward entailing in that they allow reasoning from sets, e.g. *car, vegetables* to their subsets, e.g. *red car, carrots*, as shown in (4a) and (4b), respectively. In this context, an NPI, e.g. *any car, anything* can be licensed, as shown in (4a) and (4b). On the other hand, positive DPs such as *some* in (4c) are not downward entailing; they disallow inferences from supersets, e.g. *works* to subsets, e.g. *works well*, as shown in (4c). Thus, in the context introduced by positive DPs, an NPI cannot be licensed. In this sense, negation and all negative DPs are appropriate NPI-licensors, as exemplified in (4a) and (4b), whereas non-negative DPs are not, as exemplified in (4c).

(4) a. No students bought a car → No students bought a red car.

No students bought any car.

b. John doesn't like vegetables → John doesn't like carrots.

John doesn't like anything.

c. Some student bought postcards ↛ Some student bought small postcards.

*Some student bought any postcards.

However, previous literature argues that DE does not suffice to characterize the distributions of NPIs cross-linguistically (Linebarger 1980, Giannakidou 1998, 2006, 2011, Zwarts 1995 among many). An alternative characterization, given by Giannakidou (1994, 2000, 2002), is that NPIs are allowed exactly and only in non-veridical sentences. According to Giannakidou, veridicality is a property of sentence-

embedding functions: a function F is veridical if Fp entails or presupposes the truth of p. Thus, if inference to the truth of p under F is not possible, F is non-veridical. For instance, 'Paul didn't leave' entails the falsity of the proposition it embeds, 'Paul left.' as in (5), which obviously means that inferences to the truth of this proposition is blocked.

(5) Paul didn't leave. → It is not the case that Paul left.

As reported, non-veridical contexts include downward entailing contexts, disjunctions, and non-assertive contexts (such as questions and the protasis of conditionals). As demonstrated from (6) to (7), *any* can appear in non-veridical contexts.

(6) Have you seen anything?

(7) If John steals anything, he'll be arrested.   Watanabe (2004)

Subsection 2 Syntactic approaches to NPI licensing

In this subsection, I discuss syntactic approaches to NPI licensing. First of all, Klima (1964; see also Lasnik 1972, Laka 1990 many others since) argues that in order for NPIs to be licensed, they must be c-commanded by an expression bearing the feature [+affective] like *not, no*, *wh* and *only,*[2] as shown from (8) to (10).

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[2] 1) The nature of this feature is not given a precise semantic characterization in Klima (1964). However, Ladusaw (1979) characterizes 'affective' as downward entailing, which is adopted and further developed by Hoeksema (1983), Zwarts (1986), among many others. Later, Giannakidou (1999) offers a semantic characterization of affective as non-veridicality. See Giannakidou (1999) for more detailed discussion.
2) To be precise, in his original work, Klima (1964) argues that NPIs are derived forms of indefinites which must appear "in construction with" their licensor (i.e. a [+affective] lexical item). The definition of "in construction with" is as follows:

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(8) a. *Anybody hasn't seen it yet.

b. Hasn't anyone seen it yet?

(9) He wondered whether young writers ever accept suggestions with any sincerity.

Klima (1964)

(10) No way anybody is gonna tell me what to do. Laka (1990)

Linebarger (1981, 1987) also argues for a structural condition on NPIs. However, she departs from Klima's theory in that NPIs are subject to the Immediate Scope Constraint (ISC) and this condition is stated at LF (not S-structure); NPIs must be in the "immediate scope" of negation in order to be licensed, as formulated in (11):

(11) The Immediate Scope Constraint (ISC) Linebarger (1987: 338)

A negative polarity item is acceptable in a sentence S if in the LF of S the sub-formula representing the NPI is in the immediate scope of the negation operator NOT. An element is in the immediate scope of NOT only if (1) it occurs in a proposition that is the entire scope of NOT, and (2) within this proposition there are no logical elements intervening between it and NOT.[3] Logical elements are defined in Linebarger (1981, 30) as elements capable of entering into scope ambiguities (e.g., quantified NPs, quantificational adverbs).

(i) A constituent is "in construction with" another constituent iff the former is dominated by the first branching node that dominates the latter.
The concept is an earlier version of 'c-command'. For ease of exposition, I will use 'c-command' to describe the structural relation to be met by NPIs and their licensor.
[3] There should no logical elements that are c-commanded by NOT while c-commanding the NPI.

Thus, there must be no logical operator that is located between an NPI and the negation licensing it. This constraint is supported by the following example. As shown in (12), the NPI *a red cent/anything* is not in immediate scope of negation; a scope-bearing element *every beggar* intervenes between the negation and the NPI *a red cent/anything*, thereby rendering (12) unacceptable.

(12) *Nobody gave every beggar a red cent/anything.   Linebarger (1987)

In order to account for the unavailability of NPIs in subject position in (13), Linebarger resorts to the assumption that *any* is an existential quantifier and this quantificational property of *any* is sufficient to predict the unacceptability of (13), as stated in (14).

(13) *Anyone did not come to the party.

(14) The surface order of logical elements does not determine the interpreted order, except that if the lexical representation of an existential quantifier precedes the negation in surface structure then ∃ must take wide scope with respect to the NOT in LF.   Linebarger (1980)

However, Linebarger's account of the behavior of NPIs in subject position in (13) is ad hoc (see also Progovac 1993). In addition, her analysis will not work if a type of NPI that is not an existential quantifier precedes negation. As shown below, when *yet* appears within an island, the construction is unacceptable. Since existentials can scope out of islands, the unacceptability of (15) is taken as evidence that 'yet' is not an

existential. One might wonder whether the unacceptability of (15) arises since the long-distance licensing of *yet* is impossible. However, as shown in (16), the embedded *yet* can be licensed by the matrix negation.

(15) *I won't believe [the story that John has told yet] until I see evidence.

(16) I won't think that John has told yet until I see the evidence.

On Linebarger's theory, if negation were scoping over the entire proposition at LF, *yet* in (17) would be able to be licensed in situ by satisfying the ISC, exactly as it is in (16). However, this seems not to be the case, as shown in (17).

(17) *That John was wrong yet didn't surprise me.

Another syntactic account of NPI licensing condition is proposed by Progovac (1993); she proposes a binding-theoretic account of NPIs, as shown in (18). In particular, she attempts to provide a unified account for the distribution of (most) NPIs and anaphors considering the similarity between the locality condition for NPI licensing and that of anaphor licensing across languages. [4] For instance, an NPI must be bound by clausemate negation, as shown in (19), in much the same way that an anaphor must be bound by a clausemate antecedent, as shown in (20).

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[4] Progovoc (1994) notes that English NPIs such as *any* appear to be incompatible with a binding account since no locality requirements seem to be imposed. For this matter, she argues that English *any* corresponds to long-distance reflexives *ziji* 'self' in Chinese. She further assumes that long-distance licensing of *any* is achieved via successive-cyclic movement of *any*.

(18) a. All NPIs must be bound and are subject to Binding Principles.

   b. Most NPIs are subject to Principle A: they must be bound by negation in their governing category (binding domain) (e.g. Serbian/Croatian NI-NPIs (beginning with *ni*), English NPIs, Turkish NPIs, Catalan NPIs, Chinese NPIs)

   c. Some NPIs are subject to Principle B (e.g. Serbian/Croatian I-NPIs (beginning with *i*). (Progovac 1993: p91)

(19) *I am not saying [that John arrived until seven o'clock].   Progovac (1993: p94)

(20) Jane$_1$ believes [that Mary$_2$ respects herself$_{*1/2}$]   Progovac (1993: p3)

Furthermore, Progovac argues that a null polarity operator (Op) in COMP also licenses NPIs in non-negative polarity contexts, such as conditionals or questions in (21) (see Progovac (1993) and Laka 1990 for related discussion). On this view, the contrast between (22a) and (22b) straightforwardly follows from the fact that complement clauses in (22a) have a COMP position that hosts Op, whereas NP complements do not. This contrast is unexpected under Ladusaw(1979)'s semantic account; the adversative predicate *forgot* as a Downward Entailment (DE) operator will license NPIs. Therefore, the DE account of NPI licensing fails to capture the unacceptability of (22b).

(21) a. Did Mary insult anyone?

   b. If Mary insults anyone, she will regret it.   Progovac (1993)

(22) a. I forgot [$_{CP}$ Op that anyone dropped by yesterday]

   b. *I forgot anything.

However, as already noticed by Horn & Lee (1995), Progovac's analysis makes false predictions about environments where idiomatic-verb phrasal NPIs such as *budge an inch* can be licensed.[5] If her analysis were correct, idiomatic-verb phrasal NPIs as non-quantifiers would not be able to adjoin to IP, the only position where they can be bound by a polarity operator, nor raise at LF to a higher clause where they can be locally bound by superordinate negation. Hence, on this view, it would be falsely predicted that idiomatic verb phrasal NPIs are licensed only by clausemate negation. However, they can be licensed either by a polarity operator or by superordinate negation, as shown in (23) and (24), respectively.

(23) Did Mary budge an inch to help her boyfriend?   Progovac (1993: p102)

(24) He didn't say that the car would budge an inch.   Linebarger (I987: p336)

Thus far, I have discussed the phenomenon of negative polarity and presented analyses of NPI licensing. In the following subsection, I will discuss another phenomenon,

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[5] Progovac (1993) provides the following generalization that captures the cross-linguistic variation in the distribution of NPIs, as shown in (i). According to her, all NPIs must be bound but variation still exists since the raising possibilities of NPIs can be parameterized, as can their binding requirements (e.g. clausemate negation, superordinate negation, a covert Op), as shown in (ii).
(i) NPI Binding Parameter generalization: Progovac (1993)
Most NPIs are subject to Principle A (e.g. Serbian/Croatian NPIs, English NPIs, Turkish NPIs, Catalan NPIs, Chinese NPIs); Some NPIs are subject to Principle B (e.g. Serbian/Croatian NPIs).
(ii) Raising Parameters: Progovac (1993)
    a. No raising (e.g., NI-NPIs, English strict NPIs, and Chinese *conglai*).
    b. Raising by either IP-adjunction or through the Spec of CP (English regular NPIs).
    c. Raising by IP-adjunction only (e.g., Italian *nessuno*, Catalan NPIs and Chinese *renhe*).
For instance, *any* in English as a quantifier can raise at LF; either it can be licensed by a polarity operator in COMP if adjoining to IP or it can be licensed by superordinate negation if moving through COMP. On the other hand, NPIs headed by negation in Serbo-Croatian cannot raise at LF because of their morphological complexity. Thus, they can be licensed only by clausemate negation. See Progovac (1993) for more detailed discussion.

Negative Concord, and turn to the analyses of the licensing of Negative Concord Items, in turn.

Section 2 Negative Concord Items

Another negation-dependent phenomenon that is widely attested across languages is Negative Concord (henceforth, NC), which can be defined as follows.

(25) Negative Concord

 Multiple negative constituents in a clause contribute only one instance of negation to
 the interpretation.   Penka (2011)

For instance, in (26) and (27), there are two negative elements within each sentence. However, these multiple negative elements together contribute only one semantic negation, a state of affairs which is dubbed the Negative Concord (NC henceforth) interpretation. Here, I call the negative elements other than clausal negation that appear in negative concord structures Negative Concord Items (NCIs). This shows us that NCIs are inherently non-negative. Thus, two negative expressions (a negative indefinite, *nessuno*, and sentential negation, *non*) do not yield an affirmative interpretation, dubbed the Double Negation (DN henceforth) reading, which can be observed in many Germanic languages as in (28), and in standard English in (29) and (30).

(26) Maria   **non**   ha   visto **nessuno**   (Italian)

Maria   NEG   has   seen   n-person

'Maria hasn't seen anybody'   '*Maria has seen somebody'

(27) Ja   **nikogo**   **ne**   vizu   (Russian)

    I   n-person   NEG   see

    'I didn't see anyone.'

    '*I saw someone.'   Penka (2011)

(28) Jan heeft **niet**   **niemand** gebeld.   (Dutch)

    'Jan has   NEG   n-person   called

    'Jan didn't call nobody.' = 'Jan called somebody.'   Zeijlstra (2004)

(29) I did**n't** see **nobody** = 'I saw somebody.'

(30) **Nobody** has seen **nothing** = 'Everybody has seen something.'

In fact, there are two varieties of NCIs, as first noted by Giannakidou (2000), depending on whether the presence of sentential negation is obligatory in all contexts; 1) NCIs in Greek and Slavic, where they are always accompanied by sentential negation, are called strict NCIs; 2) NCIs in Italian, and Spanish, where they are not always accompanied by sentential negation, are called non-strict NCIs. As shown in (31), strict NCIs require the obligatory presence of clausal negation regardless of their position with respect to verbs.

(31) a. KANENAS   *(dhen)   irthe   (Greek)

     n-body   NEG   came

     'Nobody came'

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b. *(Dhen) ipe   o   Pavlos   TIPOTA

   NEG   said   the   Paul   n-thing

'Not everybody is so lucky.'

On the other hand, non-strict NCIs in pre-verbal position cannot appear together with sentential negation, whereas in post-verbal position, they must be accompanied by sentential negation, as illustrated in (32).

(32) a. Nessuno   (*non) ha   telefonato   (Italian)

    N-body   NEG   has   called

    'Nobody called'

b. Gianni *(non)   telefona a nessuno

   Gianni   NEG   calls   to n-body

   'Gianni doesn't call anybody'   Zeijlstra (2008)

Given that NCIs do not contribute to negative force, it is often assumed that they are NPIs, which are not negative themselves but have to be licensed by negation (Ladusaw 1992, Giannakidou 1997, 2000, 2002). However, NCIs exhibit a different distribution from NPIs. First of all, unlike the NPIs in (1c), repeated here in (33), NCIs cannot be licensed across a clause boundary, as illustrated in (34), (35) and (36). These facts argue against the attempt to equate NCIs to NPIs.

(33) I didn't say that there was any food in the refrigerator.   Penka (2011)

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(34) *Milena nije   rekla   da   je niko   zaspao.   (Serbo-Croatian)

Milena NEG +is said   that   is n-person fallen-asleep

'Milena did not say that anyone fell asleep.   Bošković (2008)

(35) *O   Pavlos   dhen   ipe   [oti idhe   KANENAN].   (Greek)

the   Paul   NEG   said.3SG   that saw.3SG   n-person

Paul didn't say he saw anybody.   Ginnakidou (2002)

(36) *No   dije   que   habia   nada   en   el   frigorffico. (Spanish)

NEG   said.1SG   that   there-was.IND   n-thing   in   the   fridge

'I didn't say that there was anything in the fridge.   Linebarger (1987)

Also, NCIs can be used as fragment answers to questions, as illustrated in (37) and (38), whereas NPIs cannot be, as shown in (39). Thus, the differences between NPIs and NCIs have led to the conclusion that they cannot be subject to the same licensing conditions.

(37) Q: Chi   hai   visto?   (Italian)

who   have.2SG   seen

'Who have you seen?'

A: Nessuno.

n-person   (Zanuttini 1991)

(38) Q: Ti   idhes?   (Greek)

what   saw.2SG

What did you see?

A: TIPOTA.

Nothing.   (Giannakidou 2000)

(39) Q: What did you buy?

A: *anything.

Subsection 1 Semantic approaches to NCIs.

Now, let us review some of the existing semantic approaches to Negative Concord
Items. Ladusaw (1992) argues that NCIs are non-negative indefinites which must be
bound by a semantically appropriate operator. A negative operator such as *not* is one
of these operators, which are responsible for expressing negative meaning and licensing
NCIs. According to Ladusaw, NCIs are different from plain NPIs in the sense that they
are self-licensing, i.e. NCIs may license themselves if nothing else can license them.
His argument is based upon the observation that sentential negation in NC languages
is either expressed by a negative marker (in strict NC languages, and with post-verbal
NCIs in non-strict languages), or by an NCI that precedes the verb (only in strict NCI
languages). For instance, in Italian, the NCI *nessuno*s, regardless of its position, can be
licensed by sentential negation, as shown in (40a) and (40b). In the cases where
sentential negation is absent, a preverbal NCI can be licensed on its own; it must not
co-occur with sentential negation, as shown in (40c). On the other hand, a postverbal
NCI can be licensed by a preverbal NCI instead of by sentential negation," as shown
in (40d).

(40) a. Mario *(non) ha   visto   *nessuno*.

   Mario   NEG   has   see   n-body

   'Mario hasn't seen anyone.'

   b. *(Non)   ha   telefonato   *nessuno*.

   NEG   has telephone   n-body

   'Nobody telephoned.'

   c. *Nessuno* (*non*)   ha   vista Mario.

   n-body   NEG   has   seen Mario

   'Nobody hasn't seen Mario.'

   d. *(Nessuno)* ha   parlato con   *nessuno*.

   n-body   has spoken with anyone

   'No one has spoken with anyone.'

Thus, Ladusaw proposes that NCIs can only be licensed if either the specifier or the head position of NegP (or both in some languages), the position at which the negative feature is assumed to be semantically potent, is filled. The presence of NegP can be licensed either by assigning the negative operator a Neg^0 position, or by moving the highest NCI to Spec, NegP, when the negative operator is absent. This covers all licensing possibilities for NCIs.

However, Giannakidou (2000, 2002) argues that an indefinite approach to NCIs does not account for the locality constraint on the relation between NCIs and negation: they must be clausemates. According to her, if NCIs were indefinites, there would be no such locality constraint between NCIs and negation. This is because indefinites have

upward unbounded scope. Thus, the analysis of NCIs as indefinites incorrectly predicts that NCIs will be licensed as long as they are able to be in the scope of sentential negation.

Instead, Ginnakidou argues that NCIs are universal quantifiers that 1) cannot scope across a clause boundary and 2) must take scope over clausemate negation. In particular, she argues that the locality restriction on NCIs is similar to that on the covert raising of universal quantifiers. As is widely accepted, the scope of universal quantifiers cannot cross a tensed clause boundary (May 1977, Farkas 1981, Farkas and Giannakidou 1996), in contrast to the scope of indefinites, which is unbounded. Thus, the fact that NCIs cannot be licensed by a licensor located outside the clause where they occur immediately follows from NCIs being universal quantifiers. Also, the fact that strict NCIs can appear in the preverbal position preceding negation is no longer problematic under her analysis; the pre-verbal NCIs are in the position where they c-command negation, satisfying their licensing condition, i.e. they should outscope negation at LF.

However, as pointed out by Zeijlstra 2008 and Watanabe 2004, Giannakdou's analysis fails to explain how and why NCIs can occur in fragment answers. Giannakidou argues that the elliptical answer in (41A) has the underlying structure in (41A'). According to her, NCIs are not inherently negative, and hence, the elided part contains the negative marker *dhen* that is responsible for NCI licensing. Subsequently, this *dhen* is deleted under ellipsis.

(41) Q: Ti   idhes?

   what saw-2SG

   'What did you see?'

   A: TIPOTA.   A': TIPOTA   [~~dhen   idha~~].

   nothing.   nothing   NEG   saw-1SG

However, as first noticed by Watanabe (2004), this analysis does not consider the identity requirement on ellipsis; the antecedent and the material deleted under ellipsis should be identical to each other. In response to Watanabe's criticism, Giannakidou justifies her claim by appealing to Merchant (2001)'s idea that the licensing condition on ellipsis cannot be explained only under syntactic or LF-isomorphism. In particular, the elliptical proposition will be licensed if it is a member of the set of propositions denoted by the antecedent (i.e., a *wh*-question), based upon the assumption that a *wh*-question denotes a set of propositions (Hamblin 1973). She also argues that the meaning of the question should always contain the possibility of total negation in answers. Thus, the negative proposition is available as a possible answer to the question and hence the negative marker in the elliptical clause can be licensed, despite the syntactic non-isomorphism.

However, Giannakidou's analysis still does not overcome the problem argued by Watanabe. That is, her analysis overgenerates fragments with illicit negative meanings as answers to affirmative questions. For instance, the fragment answer *snake* should, on this analysis, be able to be interpreted as 'I did not see snakes' as an answer to the

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question 'what did you see?', as illustrated in (42). This is because in principle the elided

proposition can contain negation. However, this is not borne out.

(42) Q: Ti   idhes?

      what saw-2SG

      'What did you see?'

   A: FIDI

      snake

      '#I did not see snakes.'

      Subsection 2 Syntactic approaches to NCIs.

Zeijlstra (2004) proposes a syntactic analysis of the licensing condition on NCIs,

according to which NCIs enter into an agreement relation with sentential negation. He

argues that Negative Concord Items are non-negative elements that carry an

uninterpretable [uNEG] feature. Thus, the uninterpretable feature of NCIs needs to be

checked against a semantically negative operator carrying an interpretable [iNEG]

feature. Adapted from Ladusaw (1980)'s argument, Zeijlstra postulates a covert

negative operator $Op\neg$ which is solely responsible for the negative semantics.[6] NCIs

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[6] According to Zeijlstra, there are two possibilities with regard to the negative status of the overt negative marker (i.e., sentential negation). First, the negative marker may carry an uninterpretable Neg feature, just like other negative elements. This would mean that it has to establish an Agree relation with an abstract negative operator that carries an interpretable Neg feature. Another possibility is that the negative marker is the phonological realization of the negatively potent operator, with an interpretable Neg feature. Zeijlstra argues that these featural differences of the negative marker underlie the strict vs. non-strict NCIs distinction: in strict NCI languages, the overt clausal negation marker carries [uNEG]; in non-strict NC languages, it carries [iNEG].

with [uNEG] are the signpost of the presence of such a negative operator. Thus, at some point in the derivation, the uninterpretable [uNEG] feature of NCIs must be checked against the negative operator $Op\neg$ that carries an interpretable [iNEG] feature, via the syntactic Agree operation. Thus, (44) is the underlying structure of the fragment in (41A), repeated here in (43A).

(43) Q: Ti   idhes?

      what saw-2SG

      'What did you see?'

   A: TIPOTA.

      nothing.

(44) $Op\neg$ TIPOTA   ~~[dhen   idha]~~

         nothing   ~~[NEG   saw.1SG]~~

    'Nothing, I saw'

While other analyses of NPI and NCI phenomena do exist, these are – broadly speaking – the two types of negation-dependent expressions that have been identified in the literature. The rest of the chapter focuses on whether the Korean negation-dependent expression- *amwu* falls within one of these categories. What will be shown is that it behaves differently from NPIs and NCIs. I will argue that *amwu*-phrases instantiate a third category of negation-dependent expression, and hence an amendment of the traditional taxonomy of negation-dependent expressions is necessary.

There has been controversy in the literature about whether *amwu*-s are Negative Concord Items (NCIs) or Negative Polarity Items (NPIs), and furthermore, about how they are licensed. First, in subsection 1, I will critique the main approach that has been proposed to account for *amwu*-s as Negative Polarity Items. Then, in subsection 2, I will discuss the previous attempts to explain *amwu*-s as Negative Concord Items. Lastly, in subsection 3, I will propose that *amwu*-s cannot be NCIs either, by presenting novel data that *amw*u-s behave unlike NCIs.

Subsection 1 *Amwu*- is not a Negative Polarity Item

The negation-dependent item *amwu*- always requires the occurrence of a negative marker; it must be accompanied by either short-form negation *an*, which is preverbal, or long-form negation *ahn*, which is postverbal, as shown in (45a) and (45b), respectively. Thus, one might consider the possibility that *amwu*- is a negative polarity item (NPI). Such an item is not negative by itself, but it has to be licensed by negation.

(45) a. Mary-ka   amwukesto   *(an)   mek-ess-ta

     Mary-NOM amwu-INAN   NEG eat-PST-DEC

    '(lit) Mary did not eat anything'

    b. Mary-ka   amwukesto   mekci-*(anh)-ass-ta

     Mary-NOM amwu-INAN   eat- NEG-PST-DEC

    '(lit) Mary did not eat anything'

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However, it has been shown that *amwu-* is not an NPI (Tieu and Kang 2014, Yoon 2008). *Amwu-* cannot be licensed in many contexts where NPIs can be licensed, such as by non-local negation, as well as in other contexts that are downward-entailing without being negative (i.e. questions and conditionals). Furthermore, *amwu-* can occur in contexts where NPIs cannot, such as in the subject position, and as a fragment answer to a question.

Let us first consider the contexts where *any*-NPIs in English can occur while *amwu-* in Korean cannot. NPIs can be licensed by negation in a higher clause as shown in (33), repeated here in (46). However, such long-distance licensing is impossible for *amwu-*, as shown in (47); *amwu-* in the embedded clause cannot be licensed by negation in the matrix clause. One might consider the logical possibility that *amwu-* can be analyzed as a strong (strict) NPI, which requires a local licensor (i.e. clausemate negation). However, I will show shortly that this is also incorrect.

(46) I didn't say that there was any food in the refrigerator.   Penka (2011)

(47) a.*Na-nun   nayngcangko-ey   amwu-umsik-I   iss-ess-ta-ko

        I-TOP   refrigerator-LOC   amwu-food-NOM   COP-PST-DEC-C

        malhaci-**anh**-ass-ta.

        say-**NEG**-PST-DEC

        'I didn't say that there was any food refrigerator.'

   b. *Mary-ka   John-I   amwukesto   mek-ess-ta-ko   malhaci-**anh**-ass-ta.

       Mary-NOM   John-NOM   amwu-INAN   eat-PST-DEC-C   say-PST-**NEG**-DEC

       '(lit) Mary did not say that John ate anything.

Next, as previously mentioned, according to two competing semantic theories of NPI licensing, the property that licenses NPIs is downward entailment (DE) (cf. Fauconnier 1975, Ladusaw 1980) or non-veridicality (Giannakidou 2002, 2011, Giannakidou & Yoon 2016). There is a wide variety of such contexts. Let us first consider adversative predicates like *doubt,* which set up a DE context. In the complement clause of such predicates, NPI *any-* can be licensed without negation, as shown in (48). However, this is not the case when it comes to Korean *amwu-* phrases; (49) is still bad despite the fact that the matrix verb is *doubt*. Another DE context that allows NPIs to be successfully licensed is the antecedent of a conditional, as in (50). Again, however, *amwu-* cannot appear in the same context as shown in (51) and (52).[7]

(48) I doubted that John stole anything.

(49) *Na-nun   John-I   amwuto   h-ha-n-ta-ko   uysimhay-ss-ta.

    I-NOM   John-NOM   amwu-AN   love-LV-PRES-DEC   doubt-PST-DEC

    'I doubted that John loves anyone.'

(50) If John steals anything, he'll be arrested.   Watanabe (2004)

(51) *John-I   amwukesto   hwumchin-ta-myeon ku-nun swukamteo-l-kes-i-ta.

    John-NOM amwu-INAN   steal   -DEC-if   he-top prison-FUT-NML-COP-DEC

    'If John₁ steals anything, he₁ will be prisoned.'

---

[7] An (2007) shows that a polarity item *amwurato* in Korean can appear in the aforementioned DE contexts that *amwu-* cannot appear. This seems to suggest that *amwurato* is a bona fide NPI in Korean. However, unlike an English NPI, *any*, *amwurato* is disallowed in negative sentences. This calls for more investigation to identity *amwurato*.

(i)   *John-un amwuchayk-irato   ilkci-ahn-ass-ta.
          J-TOP   any book-even   read-NEG-PST-DEC
          'John didn't read any books.'

(52) *Amwuto   Kim-ul   pon-tamyen, na-eykey mal-halke-ta

amwu-AN   Kim-ACC   see-if   me-DAT   say-FUT-DEC

'If anyone sees Kim, (she or he) will tell me.'   Yoon (2008)

Furthermore, there are non-veridical contexts created by yes/no questions that may

license NPIs as in (53). However, this does not extend to Korean *amwu-* as illustrated

in (54); in the interrogative, *awmu-* cannot be licensed (Tieu and Kang 2014, Yoon

2008).

(53) Did you see anything?

(54) *(Neo-nun)   amwukesto   bo-ass-ni?

You-NOM   amwu-INAN   see-PST-DEC

'Did you see anything?'   Adapted from Tieu and Kang (2014)

However, as I alluded to earlier, one way to rescue the NPI approach might be to

assume that *amwu-* is a strong NPI, on par with *jackshit* in English, which is more

constrained in its distribution compared to other NPIs. To be specific, in order to be

licensed, a strong NPI must appear together with an anti-veridical or anti-additive

operator (i.e., negation). The logical properties of anti-veridicality (Giannakidou 2002,

2011) and anti-additivity (Zwarts 1998) are defined in (55) and (56), respectively.[8]

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[8] An anti-additivity account cannot derive the locality restrictions on *amwu*-s, which will be shown in
(76) and (77). In fact, even in English, Collins & Postal (2014) show that anti-additivity is not sufficient
to explain the distribution of strong NPIs. For instance, a strong NPI *jackshit* cannot be licensed though
it is in the anti-additive context introduced by negation, as in (i). On the other hand, they can be licensed
in non-anti-additive contexts. Note that the infinitival complement of negated *tell* is not an anti-addtive

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(55) Operator is *anti-veridical* iff Op p entails that p is false. [Op p] → ¬ p

(56) A function F is *anti-additive* iff for all x, y: F (x ∨ y) ⟺ F(x) ∧ F(y)

The data that has been presented so far against the NPI approach can be explained under this modified view. Let us consider the following sentences from Collins and Postal (2014); as shown in (57) to (61), a sentence that involves *jackshit* is grammatical only when there is sentential negation in the same clause. Thus, a theory that classifies *amwu-* as a strong NPI seems attractive prima facie.

(57) Jerome doesn't know anything/jackshit about Turkish.

(58) Mary does not realize that Jerome knows anything/*jackshit about Turkish.

(59) Have you seen anything/*jackshit?

(60) If he writes anything/*jackshit about that, it is a sign he is ill.

(61) Whether he stole any cocaine/*jackshit has not been determined.

<div align="right">Adapted from Collins and Postal (2014)</div>

Nonetheless, *amwu-* is not a strong NPI, because it can occur in environments where strong NPIs cannot. For example, *amwu-* can be used as a fragment answer to questions (as already noted by Tieu and Kang 2014, Yoon 2008), while a strong NPI cannot, as shown in (62) and (63).

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context since it is possible for (iia) to be true and (iib) false. However, a strong NPI *jackshit* can be licensed in such context, as shown in (iii) (see Collins & Postal (2014) for more detailed discussion).
(i) *I didn't find a person who knows *jackshit* about that.
(ii) a. They didn't tell Ted to sing and they didn't tell Ted to dance.
     b. They didn't tell Ted to sing or dance
(iii) They didn't tell Ted to do *jackshit*.   Collins & Postal (2014)

(62) A: Phathi-eyse (neo-nun) mwues-lul mek-ess-ni?

    party-LOC (you-TOP) what-ACC eat-PST-Q

    'What did you eat at the party?'

   B: Awmukesto

   amwu-INAN

   'I did not eat anything.' Adapted from Yoon (2008)

(63) A: What did you eat at the party?

   B: *Jackshit   Adapted from Penka (2011)

Note that there's variation with respect to the judgment about the acceptability of (63B). It is possible that the current analysis of *amwu-* underlies the grammar of *jackshit* for those speakers with the judgment that *jackshit* can be used as a fragment answer. However, English does not have scrambling; so, it is impossible to reproduce every datum involving *amwu-* with *jackshit* and test it. It is worth stressing that for the speakers who finds *jackshit* as a fragment answer acceptable, yet *jackshit* seems to be able to appear in the DE context introduced by *doubt*, as shown in (64), suggesting that *amwu-* and *jackshit* are still different from each other.

(64) Mary doubts John knows jackshit.

Up to this point, we have shown that *amwu-* and NPIs exhibit differences in their ability to occur in certain contexts. That is, *awmu*-phrases are not licensed in all contexts in

which NPIs are known to be licensed, and vice versa. This makes it dubious to equate *amwu-* with NPIs.[9]

Subsection 2 Attempting to account for *amwu-* as a Negative Concord Item

In Korean, just as in (true) NC languages, multiple *amwu*-phrases occurring in a single clause do not yield a Double Negation reading, but an apparent negative concord (NC) reading as in (65) and (66). The sentence in (65) involves a single *amwu-* and one sentential negation (regardless of the form of negation chosen, i.e., long-form, which is preverbal vs. short-form, which is preverbal). It results in only a single negation interpretation. In the construction (66), involving multiple *amwu*-s and one sentential negation, the multiple *amwu*-s do not each contribute a negative meaning to the sentence, in the same way that a single *amwu-* phrase does not (cf. the behavior of NC items, as exemplified in (10b) and (11b)).

(65) a. Amwuto   ppang-ul   **an**   mek-ess-ta

        amwu-AN   bread-ACC   **NEG**   eat-PST-DEC

        '(lit) Anyone did not eat bread.'= No one ate bread.'

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[9] Giannakidou (2002 and 2011) and Yoon & Ginnakidou (2016) present a characterization of Korean *amwu*-phrase distribution in terms of anti-veridicality; *amwu-* phrases are superstong NPIs which are licensed by anti-veridical operators such as negation and *eopei* 'without', but never indirectly (in counterfactual conditionals and rhetoric questions).
However, the anti-veridicality account cannot explain why *amwu*-phrase cannot be licensed in a derived position as in (77) and (78) though the locality condition (which is emphasized in Ginnakidou to be the clausemate condition) between the *amwu*-phrase and negation is satisfied via scrambling.

b. Amwuto   ppang-ul   mekci-**anh**-ass-ta.

    amwu-AN   bread-ACC   eat-**NEG**-PST-DEC

    '(lit) Anyone did not eat bread.'= No one ate bread.'

(66) a. Amwuto   amwukesto   **an**   mek-ess-ta.

    amwu-AN   amwu-INAN   **NEG** eat-PST-DEC

    '(lit) Anyone did not eat anything' = 'It is not the case that some ate something.'

   b. Amwuto   amwukesto   mekci-**anh**-ass-ta.

    amwu-AN   amwu-INAN   eat-**NEG**-PST-DEC

    '(lit) Anyone did not eat anything' = 'It is not the case that some ate something.'

In addition, as previously observed (Tieu & Kang 2014, Yoon 2008), Korean *amwu-* follows the behavior of strict NC languages like Polish and Russian. That is, as mentioned earlier, it appears to always require a negative marker within the same clause. In other words, if *amwu-* is not accompanied by a negative marker, the sentence becomes ill-formed, as shown in (67) - (70), and this is so even for subject-position *amwu*-phrases.

(67) Amwuto   ***(an)**   wa-ss-ta.

   amwu-AN   **NEG**   come-PST-DEC

  '(lit) Anyone did not come'= 'No one came.' Adapted from Tieu and Kang (2014)

(68) *Amwuto   amwukesto   ***(an)**   mek-ess-ta

   Amwu-AN   amwu-INAN   **NEG**   eat-PST-DEC

  '(lit) Anyone did not eat anything' = 'it is not the case that someone ate something.'

(69) *Mary-ka   amwukesto   ***(an)**   mek-ess-ta

    Mary-NOM   amwu-INAN   **NEG**   eat-PST-DEC

    '(lit) Mary did not eat anything'

(70) *Mary-ka   [John-I   amwukesto   mek-ess-ta-ko] malhaci-**anh**-ass-ta.

    Mary-NOM   John-NOM   *amwu*-INAN   eat-PST-DEC-C say-**NEG**-PST-DEC

    'Mary did not say that John ate anything.'   Adapted from Yoon (2008)

This is different from non-strict NC languages like Spanish and Italian, in which having a negative subject followed by a negative marker is impossible (with an NC reading). This is exemplified in (71) and (72). Therefore, if Korean is any kind of NC language, it must be a strict-NC language.

(71) Nadie   (*no)   vino.   (Spanish)

    n-person   NEG   came

    'Nobody came.'   Penka (2011)

(72) Nessuno (*non) ha visto Mario.   (Italian)

    n-person   NEG   has seen   Mario

    'Nobody saw Mario.'   Zanuttini (1991)

To sum up the data presented so far: *amwu*-phrases obligatorily co-occur with clausal negation regardless of their position in a sentence. Additionally, the combination of an *amwu*-phrase and a negative marker never yields a Double Negation reading.

So far, it would appear that *amwu* behaves exactly as an NCI in a strict-NC language would. We will see, in subsection 3, novel data showing that the behavior of *amwu* diverges from that of NCIs.

Subsection 3 *Amwu-* is not a negative concord item

Here, I will argue that *amwu*-s are not NCIs either, and in fact are not "licensed" in the sense the term is usually used; instead, *amwu-* simply is (and must be) part of a very particular kind of base-generated structure, and this is what gives rise to its sensitivity to negation. In what follows, I will present properties of Korean *amwu-* that cannot be captured by existing NPI and NCI analyses.

As mentioned in the previous subsection, *amwu-* appears to have to stand in a local (clausemate) relation with a sentential negation marker. Thus, *amwu-* cannot be licensed by a negative marker in a higher clause, as shown below in (72). In Korean, *amwu-* can undergo scrambling to the sentence-initial position locally or non-locally, as shown in (73) an (74), respectively (ex. (74b) is not an instance of scrambling to a sentence-initial position).

(73) *Mary-ka   [John-i   amwukes-to₁   ilk-ess-ta-ko]   malhaci-anh-ass-ta

     Mary-NOM   John-NOM   amwu-INAN   read-PST-DEC-C   say-NEG-PST-DEC

     'Mary did not say that John read anything.'

(74) awmukes-to₁   Mary-ka   t₁   ilkci-anh-ass-ta.

     amwu-INAN   Mary-NOM   read-NEG-PST-DEC

     'Mary did not read anything.'

(75) a. awmukes-to$_1$ John-i   Mary-ka   t$_1$ ilkci-anh-ass-ta-ko

       amwu-INAN   John-NOM   Mary-NOM   read-NEG-PST-DEC-C

       malhay-ss-ta.

       say-PST-DEC

       'John said that Mary did not read anything.

    b. John-i   awmukes-to$_1$ Mary-ka   t$_1$ ilkci-anh-ass-ta-ko

       John-NOM   amwu-INAN   Mary-NOM   read-NEG-PST-DEC-C

       malhay-ss-ta.

       say-PST-DEC

       'John said that Mary did not read anything.

Overt movement like scrambling in Korean then allows *amwu-* in the lower clause in (70), repeated here in (76), to end up in the same clause as a higher instance of negation, thereby yielding a surface structure (77a) that would appear to satisfy the relevant locality restriction. However, scrambling *amwu-* does not remedy the locality violation between *amwu-* and the negative marker in (73) and (74); despite the fact that *amwu-* and negation end up in the same clausal domain, the sentences are still unacceptable, as shown in (77) and (78).[10] That is, *amwu-* cannot be licensed in a derived position.

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[10] At this juncture, one might consider the possibility that the movement in question fails to repair the licensing problem because it is PF movement. I will show that avenue is unavailable for independent reasons in section 4 in chapter 1. Therefore, I do not pursue it further here.

(76) *Mary-ka   [John-I   amwukesto   mek-ess-ta-ko]   malhaci-**anh**-ass-ta.

     Mary-NOM   John-NOM   *amwu*-INAN   eat-PST-DEC-C   say-**NEG**-PST-DEC

     'Mary did not say that John ate anything.'   Adapted from Yoon (2008)

(77) a. *amwukes-to$_1$ Mary-ka   [John-i   t$_1$ ilk-ess-ta-ko]

     amwu-INAN   Mary-NOM   [John-NOM   read-PST-DEC-C]

     malhaci-anh-ass-ta

     say-**NEG**-PST-DEC

     'Mary did not say that John read anything.'

   b. *amwukesto$_1$ Mary-ka   [John-i   t$_1$ ilk-ess-ta-ko]

     amwu-INAN   Mary-NOM   [John-NOM   read-PST-DEC-C]

     cwucanghaci-anh-ass-ta

     claim-**NEG**-PST-DEC

     'Mary did not claim that John read anything.'

   c. *amwukes-to$_1$ Mary-ka   [John-i   t$_1$ ilk-ess-ta-ko]

     amwu-INAN   Mary-NOM   [John-NOM   read-PST-DEC-C]

     kocibhaci-anh-ass-ta

     insist-**NEG**-PST-DEC

     'Mary did not insist that John read anything.'

   d. *amwukes-to$_1$ Mary-ka   [John-i   t$_1$ ilk-ess-ta-ko]

     amwu-INAN   Mary-NOM   [John-NOM   read-PST-DEC-C]

     cinswul-anh-ass-ta

     state-**NEG**-PST-DEC

     'Mary did not state that John read anything.'

(78) a. *Mary-ka   amwukesto$_1$ [John-i   t$_1$ ilk-ess-ta-ko]

      Mary-NOM   amwu-INAN   [John NOM   read-PST-DEC-C]

      malhaci-**anh**-ass-ta

      say-**NEG**-PST-DEC

      'Mary did not say that John read anything.'

   b. *Mary-ka   amwukes-to$_1$ [John-i   t$_1$ ilk-ess-ta-ko]

      Mary-NOM   amwu-INAN   [John NOM   read-PST-DEC-C]

      cwucanghaci-anh-ass-ta

      claim-**NEG**-PST-DEC

      'Mary did not claim that John read anything.'

   c. *Mary-ka   amwukes-to$_1$ [John-i   t$_1$ ilk-ess-ta-ko]

      Mary-NOM   amwu-INAN   [John NOM   read-PST-DEC-C]

      kocibhaci-anh-ass-ta.

      insist-**NEG**-PST-DEC C

      'Mary did not insist that John read anything.'

   d. *Mary-ka   amwukes-to$_1$ [John-i   t$_1$ ilk-ess-ta-ko]

      Mary-NOM   amwu-INAN   [John NOM   read-PST-DEC-C]

      cinswulhaci-anh-ass-ta

      state-**NEG**-PST-DEC

      'Mary did not state that John read anything.'

In contrast, NCIs such as *af exad* in Hebrew can be licensed in derived positions, as shown in (79). Sichel (2018) has shown that in Hebrew where long-distance Neg-

licensing is impossible, long-distance overt movement (i.e. topicalization) allows the Neg-word to be licensed in a derived position, at least when the matrix predicate is factive (see Basse, 2008 and, De Cuba, 2006 for a detailed discussion in English). To illustrate, in (79a), the Neg-word *af exad* is located in situ in the embedded clause, and cannot be successfully licensed. This is because it is in a different clause than the sentential negation marker, *lo*. However, if the Neg-word undergoes long-distance movement to a position close enough to the matrix sentential negation, *lo*, the result is acceptable, as shown in (79b). This shows that Zeiljstra and Watanabe's accounts of NCI licensing work for the item *af exad* but not for the item *amwu*.

(79) a. *hu **lo** hicta'er [Se-hu nifgaS im **af exad** me-ha-soxnim].

he **NEG** regret that-he met with N-one of-the-agents

'Intended: He was sorry that he met none of the agents.'

b. [im **af exa**d me-ha-soxnim]$_1$ hu **lo** hicta'er [Se-hu nifgaS t$_1$].

with N-one of-the-agents he **NEG** regret that-he met

'With none of the agents was he sorry that he met.'

Giannakidou (2002 and 2011), Yoon (2008), Giannakidou & Yoon (2016) argue that *amwu*-s are NCIs, which lack semantically negative features on their own, are universal quantifiers which scope over negation at LF. According to them, the requirement that the licensor of *amwu*- must be in the same clause follows from the fact that the scope of universal quantifiers in Korean is clause-bounded (Farkas & Giannakidou, 1996,

Reinhart 1997 for English). As shown in (80), in Korean, an indefinite can scope freely across a clause-boundary whereas a universal quantifier cannot.[11]

(80) a. Motun sensayngnim-i   etten haksayng-i   hakkyo-lul   kumantwu-ess-ta-ko

Every teacher-NOM   some student-NOM   school-ACC   leave-PST-DEC-C

sayngkakhay-ss-ta.

think-PST-DEC   ($\forall > \exists$) & ($\exists > \forall$)

'Every teacher thought that some student dropped out of school.'

b. Etten haksayng-i   motun sensayngnim-i hakkyo-lul   kumantwu-ess-ta-ko

Some student-NOM every teacher-NOM   school-ACC   leave-PST-DEC-C

sayngkakhay-ss-ta.

think-PST-DEC

'Some student thought that every teacher left school.'   ($\exists > \forall$ only)

Thus, if *amwu-* is indeed a universal quantifier (scoping over negation) whose scope is clause-bounded, the licensing of *amwu-* would have to be local, Thus, Yoon concludes that the parallelism between *amwu-* and universal quantifiers in terms of "clause-boundness" is a straightforward consequence of the fact that *amwu-* is a universal quantifier.

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[11] Though Korean and Japanese exhibit scope rigidity, which supports the absence of QR, it has been observed that an indefinite can take wide scope even across a clause boundary as in (i). This scope fact can be captured under the choice function analysis (Reinhart 1997), which crucially does not involve movement.
(i) Motun haksayng-i   nwukwunka-ka/etten ai-ka yebbu-ta-ko   malhay-ss-ta.
    every student-NOM   someone/child-NOM   pretty-DEC-C   say-PST-DEC
    'Every student says that someone/a child is pretty.'   (both $\forall > \exists$ and $\exists > \forall$ possible)

However, this universal quantifier account cannot explain why an *amwu*-phrase still cannot be licensed in a derived position as in (77) and (78), even though the locality condition between the *amwu*-phrase and negation is satisfied via scrambling. While the Giannakidou (2002 and 2011), Yoon (2008), and Giannakidou & Yoon (2016)'s proposal might be able to be modified to cover (77) and (78), I note that there is no actual proposal on offer to consider.

The unacceptability of (77) and (78) cannot be accounted for under the existing syntactic analyses of NC (Zeijlstra's 2004 and Watanabe 2004), either. Recall Zeijlstra (2004)'s argument in section 2 that Negative Concord Items are non-negative elements that carry an uninterpretable [uNEG] feature. On Zeijlstra's view, NC is the result of (multiple) agreement between a covert negative operator (or clausal negation) carrying an interpretable [iNEG] feature and (multiple) NC items with an uninterpretable [uNEG] feature in an 'accessible' domain, as illustrated in (81).[12]

(81) **α** > **β** > **γ**, where **α** is probe and **β**, **γ** are matching goals for **α** and > is a c-command relation.   Zeijlstra (2004: p249)

 Thus, according to Zeijlstra's syntactic agreement approach, the scrambled *amwu-* with an [uNEG] feature should be able to Agree with an abstract negative operator, carrying an [iNEG] feature, in the matrix clausal spine. This is because, as a result of long-distance scrambling, the *amwu-* would be local enough to negation in the matrix,

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[12] Slightly deviating from the standard probe-goal relations of Agree (Chomsky 2000,2001), Zeijlstra (2004) argues that feature checking operates in a top-down fashion; the interpretable feature should be required to c-command the uninterpretable feature.

satisfying the locality condition imposed on Agree (i.e., the Phase Impenetrability Condition of Chomsky (2001)). This in turn would enable Agree(ment) between the two. Thus, we would expect that the examples in (77) and (78) would be good, contrary to fact.

Now let us consider the data in (77) and (78) under another syntactic analysis of NC, Watanabe (2004)'s focus-based agreement. Watanabe argues that negation-dependent words like *amwu-* are inherently negative, which means that they carry an interpretable NEG feature just like the negative head in NegP in the clausal spine. According to him, the feature of the probe (i.e., the Neg head) does not have to be uninterpretable, as long as the goal (i.e., the negation-dependent word) is active, as the result of some other uninterpretable features. An uninterpretable focus feature makes the negation-dependent word active as a goal and hence the negation-dependent word can enter into an Agree relation with the Neg head. His analysis is based upon Chomsky (2000,2001)'s probe-goal analysis of Agree, and, just like Zeijlstra's, it would require a reversal in the relation between interpretability and c-command (see fn. 10). Thus, the Agree operation between *amwu*-s and negation would have to obey the locality condition on Agree. Consequently, Watanabe's analysis would incorrectly predict that long-distance scrambled *amwu-* would successfully undergo Agree with the matrix negation; Agree matches the NEG feature of the Neg head and that of *amwu-*, and eliminates the uninterpretable focus feature of *awmu-*.

Sells & Kim (2006) provide data suggesting that *amwu-* can be licensed in a scrambled position, after all, as in (82). However, note that the matrix verbs are in (82) are crucially *neg*-raising verbs, such as *think*, *believe* and *suppose*. Here, I assume *neg-*

raising in Korean is syntactic (see Collins & Postal 2014 and Horn 1978 for syntactic analyses of neg-raising in English); negation starts out in the embedded clause and raises into the matrix clause when the embedding verbs are neg-raising verbs. Thus, *amwu-* can be licensed in its base-position in the embedded clause prior to *neg*-raising, and prior to *amwu*-scrambling to the matrix clause. The sentences are thus expected to be well-formed even on the stricter account involving a condition whereby *amwu-* and negation must be clausemates in their base-generated positions.[13] This, in fact, appears to be the only approach that can reconcile the facts in (82) with those in (77) and (78).

(82) a. $^{??}$amwukes-to$_1$ Mary-ka [John-i t$_1$ ilk-ess-ta-ko]

   amwu-INAN Mary-NOM [John-NOM read-PST-DEC-C]

   sayngkakhaci-**anh**-ass-ta

   think-**NEG**-PST-C   Adapted from Sells & Kim (2006)

   'Mary did not think that John read anything.'

   b. $^{??}$amwukes-to$_1$ Mary-ka [John-i t$_1$ ilk-ess-ta-ko] mitci-**anh**-ass-ta

   amwu-INAN Mary-NOM [John-NOM read-PST-DEC-C] believe-**NEG**-PST-C

   'Mary did not belive that John read anything.'

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[13]One might wonder whether neg-raising verbs can license an embedded *amwu*-phrase in situ. If negation in its base position licenses *amwu-*, prior to raising to the matrix, (i) is expected to be good. However, there is some speaker variation about the acceptability of (i). It would be worth investigating the detailed mechanism of neg-raising and its interaction with *amwu*-licensing, which may be a possible source of the variation in judgments. I leave this issue for future research.

(i)$^{??/*}$Mary-ka [John-i amwukes-to ilk-ess-ta-ko] sayngkakhaci/mitci-anh-ass-ta
    Mary-NOM [John-NOM amwu-INAN read-PST-DEC-C] think/believe-NEG-PST-DEC
    'Mary did not think that John read anything.'

Thus far, I have shown that a long-distance dislocated *amwu-* cannot be licensed in a derived position, even if it ends up in the same domain with negation. On the other hand, long-distance dislocated *amwu-* can still be licensed if there is negation in its base position (though it ends up in a different domain than negation) as illustrated in (83); (83b) is as good as (83a) in which *amwu-* and negation are in the same clause.

(83) a. Mary-ka   John-i   amwukesto$_1$ ilkci-anh-ass-ta-ko   malhay-ss-ta.

     Mary-NOM   John-NOM   amwu-INAN   read-NEG-PST-DEC-C   say-PST-DEC

     'Mary said that John did not eat anything.'

    b. Amwukesto$_1$ Mary-ka   John-i   t$_1$ ilkci-anh-ass-ta-ko   malhay-ss-ta.

     amwu-INAN   Mary-NOM   John-NOM   read-NEG-PST-DEC-C say-PST-DEC

     'Mary said that John did not eat anything.'

This asymmetry might suggest the possibility that the long-distance movement at issue is PF movement, which does not make any syntactic and semantic contribution. However, in this section, I will show that this is not true, based upon data in which the long-distance scrambled element can be involved in syntactic and semantic operations associated with its derived position. Hence, long-distance scrambling in Korean cannot be relegated to PF.

Before proceeding, I will briefly describe some background on long-distance scrambling in Korean. It has been widely adopted that a long-distance scrambled phrase in *Japanese* undergoes radical reconstruction all the way to its original position, with

the result that the surface position has no semantic import (Saito 1989, 1992). Likewise, in Korean, the following data shows us that the scrambled phrase is radically reconstructed at least past the R-expression, *John*, the subject of the embedded clause. (84a) contains the anaphor, *cakicasin* 'self', in the embedded object position, and it can only have the embedded subject, *John,* as its antecedent.

(84) a. [Mary-ka   [**John₁**-i   **caskicasin₁**-ul   pinanhay-ss-ta-ko]   malhay-ss-ta].

     Mary-NOM   John-NOM   self-ACC   criticize-PST-DEC-C   say-PST-DEC

     'Mary₂ said that John₁ criticized self₁/*₂.   [canonical word order]

    b. [[**caskicasin₁**-ul]ᵢ [Mary₂-ka   [**John₁**-i tᵢ   pinanhay-ss-ta-ko]   malhay-ss-ta].

     self-ACC   Mary-NOM John-NOM   criticize-PST-DEC-C   say-PST-DEC

     'Mary₂ said that John₁ criticized self₁/*₂.'   [long-scrambling]

In (84b), the anaphor undergoes long-distance scrambling to the sentence initial position. The anaphor cannot be bound in the surface structure. Given this, we can expect that (84b) should be ungrammatical due to a violation of Binding Condition A. As a matter of fact, the acceptability of (84b) is not degraded. Despite the difference in word-order between (84a) and (84b), the anaphor in (84b) has the same interpretive possibilities as in (84a). According to Saito, this is because the long-distance scrambled phrase moves at LF back to its original position, where it can be locally bound by the embedded subject. The interesting fact here is that the anaphor cannot be anteceded by the matrix subject, which would be possible if the scrambled phrase could reconstruct to an intermediate position. The unavailability of the latter interpretation is taken as

evidence that a long-distance scrambled phrase undergoes radical reconstruction to its base position. It is logically possible that radical reconstruction is not forced, and something else rules out the reading where the antecedent in (84b) is *Mary*. But if we were to assume that, we would already be granting the claim this section argues for, namely that reconstruction to the base position is not forced (and therefore, the movement cannot be PF movement). Therefore, let us assume for now that the reason the matrix subject bound reading is ruled out is indeed that, in a case like (84b), reconstruction all the way to the base position is forced.

Let us take a look at other long-distance scrambling examples whose Japanese counterparts have been considered as supporting evidence for the undoing property of long-distance scrambling. Note that in *wh*-interrogative constructions in Korean, a *wh*-phrase must be in the scope of an overt Q-marker. For instance, in (85a), a *wh*-phrase *nwuka* is located higher than any Q-marker; the *wh*-phrase is located in the matrix, whereas the Q-marker is in the embedded clause, which results in unacceptability of (85a). However, in acceptable constructions from (85b) to (85d), *wh*-phrases are located in the scope of the Q-marker; either a *wh*-phrase and a Q-marker are located in the same clause (in the matrix in (85b), and the embedded clause in (85c), respectively) or a Q-marker is in the matrix whereas a *wh*-phrase is in the lower clause, as shown in (85d).

(85) a. ***Nwu-ka**   John-i   ttena-ss-**nunci**   mola-ss-ta.

     who-NOM   John-NOM   leave-PST-**Q**   not.know-PST-DEC

     'Who did not know John left.'

b. **Nwu-ka**   John-i   ttena-ss-ta-ko   malhay-ss-**ni**?

   who-NOM John-NOM   leave-PST-Q   say-PST-**Q**

   'Who said that John left?'

c. John-i   **nwu-ka**   ttena-ss-**nunci** mola-ss-ta.

   John-NOM   **who-NOM**   leave-PST-**Q**   not.know-PST-DEC

   'John did not know who left.'

d. John-i   **nwu-ka**   ttena-ss-ta-ko   malhay-ss-**ni**?

   John-NOM   **who-NOM**   leave-PST-DEC-C say-PST-**Q**

   '(lit) Did John say who left?'

Given the facts above, let us consider the following example:

(86) a. John-i   Taroo-ka   mwues-ul sa-ss-nunci mol-ass-ta.

   John-NOM   Taroo-NOM what-ACC buy-PST-Q   not.know-PST-DEC

   'John did not know what Taroo bought.'

   b. mwues-ul$_1$ John-i   Taroo-ka   t$_1$ sa-ss-nunci mol-ass-ta.

   what-ACC   John-NOM Taroo-NOM   buy-PST-Q   not.know-PST.DEC

   'John did not know what Taroo bought.'

In (86a), in the canonical word order, the construction is well-formed. This is because the *wh*-phrase *mwues-ul* is in the scope of the Q-marker in the embedded clause. If the *wh*-phrase undergoes long-distance scrambling to the matrix, it would end up being outside the scope of the Q-marker. Consequently, we might expect that (86b) would be

ill-formed just like (85a). However, despite the change in the surface word order, (86b) is still well-formed. Here, the long-distance scrambled phase behaves as if it does not undergo long-distance movement at all. This in turn shows us that this long-distance scrambled element is subject to radical reconstruction.[14]

However, I will demonstrate that radical reconstruction of long-distance scrambled phrases can be relaxed under certain circumstances, despite the facts we have discussed so far. That is, when it comes to long-distance scrambled phrases in Korean, under particular circumstances, reconstruction can be implemented in a more liberal manner; either it can be implemented only to the intermediate position, or not implemented at all (yielding a surface-position interpretation).

Let us see the relevant examples. The construction in (87) is ill-formed due to violations of conditions A and C; an anaphor in the embedded subject position is not locally bound, and an R-expression *Mary* in the embedded object position is not free. However, when the object, *Mary*, undergoes long-distance scrambling to a sentence initial position, the construction is ameliorated as in (88). If long-distance scrambling were PF movement, (88) would be as bad as (87), because the anaphor still remains unbound whereas the R-expression remains bound. However, this is not the case.

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[14] One might argue that if reconstruction were implemented only to the intermediate position in (86b), the construction would be still well-formed, just as (i) is. (86b) just shows that reconstruction 'at least as far as the embedded periphery' is possible because the non-reconstructed reading is ruled out on other grounds (in this case, the licensing requirements on *wh*-phrases vis-à-vis Q-markers). I assume for now that the acceptability of (86b) is the result of radical reconstruction, as argued in the previous literature, to continue the discussion.

(i) John-i   mwues-ul₁   Taroo-ka   t₁   sa-ss-nunci   mol-ass-ta.
    John-NOM   what-ACC   Taroo-NOM   buy-PST-Q   not.know-PST-DEC
    '(lit) John did not know Taroo bought what.'

(87) *Robert-ka   kunyecasin$_1$-i   Mary$_1$-lul   pinanhay-ss-ta-ko   malhay-ss-ta.

     Robert-NOM   herself-NOM   Mary-acc   criticize-PST-DEC-C   say-PST-DEC

     '(lit) Robert said that herself$_1$ criticized Mary$_1$.'   [canonical word order]

(88) Mary-lul$_1$ Robert-ka   kunyecasin-i   t$_1$ pinanhay-ss-ta-ko   malhay-ss-ta.

     Mary-ACC   Robert-NOM   herself-NOM   criticize-PST-DEC-C   say-PST-DEC

     '(lit) Robert said that her$_1$ sister criticized Mary$_1$.'   [long-distance scrambling]

The acceptability of (88) shows that the long-distance scrambled phrase can reconstruct to an intermediate position, where it can satisfy all the relevant binding conditions. In the intermediate position, the R-expression *Mary* can be free and it can also locally bind the anaphor in the embedded subject position, as shown in the short-scrambling construction in (89).

(89) Robert-ka   Mary-lul$_1$ kunyecasin-i   t$_1$ pinanhay-ss-ta-ko   malhay-ss-ta.

     Robert-NOM   Mary-ACC   herself-NOM   criticize-PST-DEC-C   say-PST-DEC

     "(lit) Robert said that her$_1$ sister criticized Mary$_1$.'

In similar fashion, we can also observe the acceptability difference between the canonical word order construction in (90) and long-distance scrambling in (91). To illustrate, in the canonical word order construction in (90), the anaphor *cakicasin* 'self' in the embedded object position is not locally bound, thereby violating binding condition A. At the same time, the R-expression, *Jane*, is bound by the embedded subject (*kunye*, 'she'), resulting in a violation of binding condition C.

In contrast, once long-distance scrambling of the embedded object takes place, the sentence becomes acceptable, as shown in (91). If radical reconstruction were obligatory, the structure of (91) would become identical to (90) at LF. Thus, (91) would be unacceptable, contrary to fact.

(90) *John$_1$-i   kunye$_1$-ka   Jane$_1$-i   chingchanha-n   cakicasin$_1$-uy os-ul

John-NOM she-NOM   Jane-NOM   compliment-MOD   self-of   clothes-ACC

sacwe-ss-ta-ko   malhay-ss-ta.

buy-PST-DEC-C   say-PST-DEC   [canonical word order]

'(lit) John said that she bought self's clothes that Jane complimented.'

(91) $^?$[Jane-i   chingchanha-n   cakicasin-uy os-ul]$_1$ John-i   kunye-ka

Jane-NOM compliment-MOD   self-of   clothes-ACC John-NOM   she-NOM

t$_1$ sacweo-ss-ta-ko   malhay-ss-ta.

buy-PST-DEC-C   say-PST-DEC   [long-distance scrambling]

'(lit) John said that she bought self's clothes that Jane complimented.'

The acceptability of (91) can be explained if the scrambled phase is reconstructed to an intermediate position where all binding conditions can be satisfied; there, it would be low enough for the anaphor, *cakicasin*, to be bound by the matrix subject, *John*, and high enough for R-expression, *Jane*, to avoid being bound by the pronoun, *kunye*. The same acceptability is observed in (92) where the embedded object undergoes scrambling to the intermediate position. What these facts show us is that reconstruction (of Korean scrambling) is less than total, at least when total reconstruction would result

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in an illicit structure. In what follows, I will refer to this as a scenario where reconstruction is 'relaxed for convergence'.

(92) ʔJohn-i [Jane-i chingchanha-n cakicasin-uy os-ul]₁ kunye-ka

John-NOM Jane-NOM compliment-MOD self-of clothes-ACC she-NOM

t₁ sa-ss-ta-ko malhay-ss-ta.

buy-PST-DEC say-PST-DEC [scrambling to the intermediate position]

'(lit) John said that she bought self's clothes that Jane complimented.'

We have seen some evidence that radical reconstruction can be relaxed for convergence.[15] Given the data in (87) to (92), long-distance scrambling cannot be PF movement (which would not bear any syntactic and semantic import). This shows us that we cannot resort to the hypothesized PF nature of long-distance movement in order to explain the fact that *amwu-* cannot be licensed in a derived position.

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[15] See Bae (2018) for further details and more detailed discussion.

Chapter 2: Proposal

The data discussed in the previous chapter indicates that *amwu-* in Korean should not be analyzed as an NCI nor as an NPI. Most importantly, it was shown that *amwu-* can be licensed only by negation in the same clause, and only in its clause of origin. In this chapter, I present an analysis of *amwu-* whereby *amwu-* and negation are base-generated as a single constituent, NegP. As I will demonstrate, this accounts for all the key features of *amwu-* and its apparent licensing conditions. Furthermore, I confirm the analysis with additional supporting evidence. In addition, I propose that in a given language, it is not necessarily the case that clausal negation is base-generated in the clausal spine. It can also arise derivationally. This will be further supported by the behavior of *amwu-* fragment answers in chapter 3.

Section 1 Derivational process

In developing a theory of the restrictions on *amwu-*'s distribution, let me first propose that there are two different polarity projections in the clausal spine in Korean, μP and $\sum$P, which are, responsible for Short-Form Negation (SFN), which is preverbal, and Long-Form Negation (LFN), which is postverbal, respectively.[16] μP is located lower than $\sum$P as illustrated in (93a) and (93b).[17] Also, there are two featurally distinct

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[16]I assume that negation markers are heads. Given that SFN and LFN can co-occur, they should be the heads of two different projections. Thus, I reject the argument that SFN and LFN originate from an identical syntactic position, NegP, in the clausal spine (Hagstrom 2000).

[17] See Johnson 1991 and Koizumi 2000 for μP, and Laka 1990 for $\sum$P. Note that μP here is somewhat different from μP for Johnson and for Koizumi, as they do not propose that μP hosts polarity operators in particular.

variants of the μ and Σ heads in the lexicon; each can come from the lexicon either with

an interpretable NEG feature (iNEG), or without it, as shown in (94):

(93) (a)

(b)

(94)

$$\mu^0 \quad or \quad \mu^0$$
$$\downarrow \qquad\qquad \downarrow$$
$$[iNEG] \qquad [\quad]$$

$$\Sigma^0 \quad or \quad \Sigma^0$$
$$\downarrow \qquad\qquad \downarrow$$
$$[iNEG] \qquad [\quad]$$
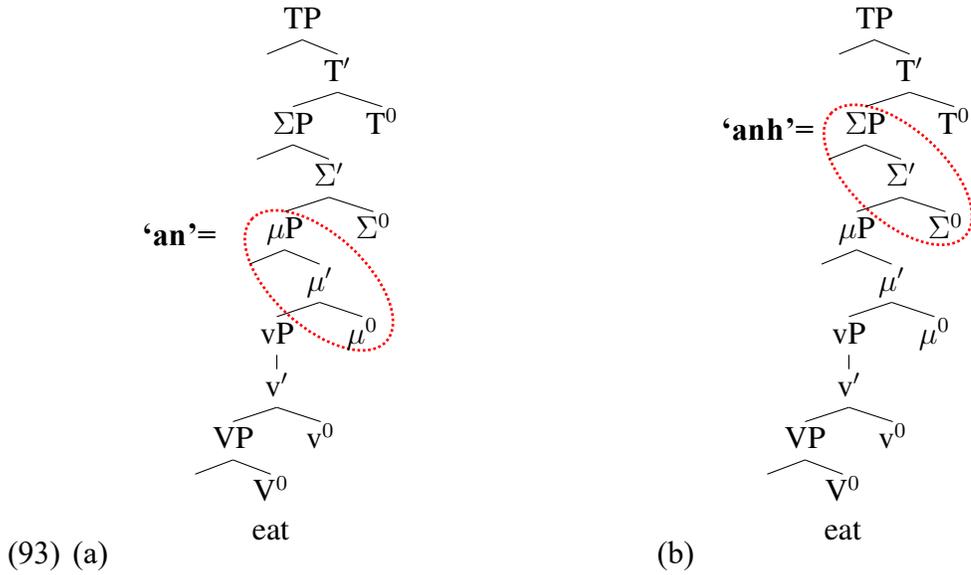
I propose that when polarity projections are not born with their own interpretable NEG

(iNEG) feature, they can get the feature from a Neg head, which is generated together

with *amwu-* as a single constituent NegP, as illustrated in (95). Here, the negatively

potent Neg^0 carrying iNEG in NegP is phonologically null. Neg^0 undergoes long-

distance head movement in the sense that it can skip intermediate head(s) as in (96),

and head-adjoins to μ^0 or Σ^0 as in (97). [18]

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[18] Moving Neg^0 out of which also assume clausal negation arises derivationally – such as Collins &
Postal (2014). The present discussion has the virtue of at least making this explicit. The subject NegP
(vP Spec) into a head position in the clausal spine in (96a) violates the Condition on Extraction Domains
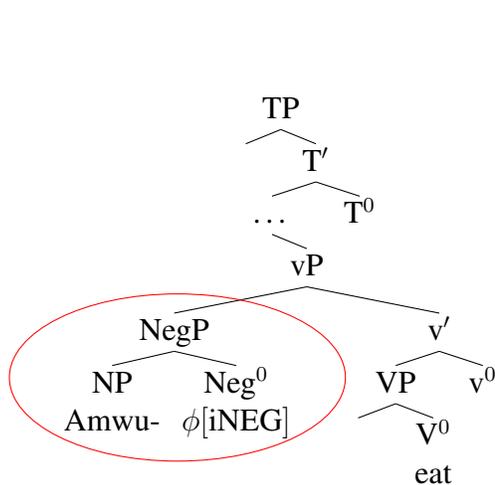
(95) a. *Amwu-* in subject position
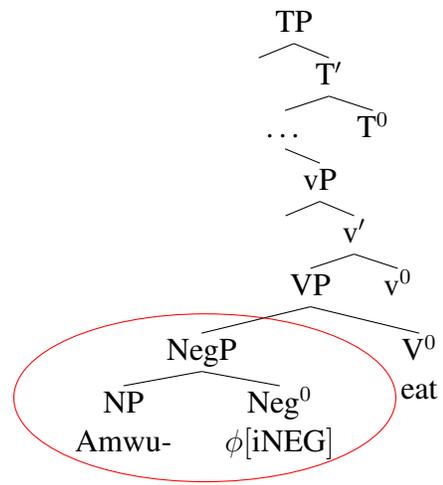
b. *Amwu-* in object position
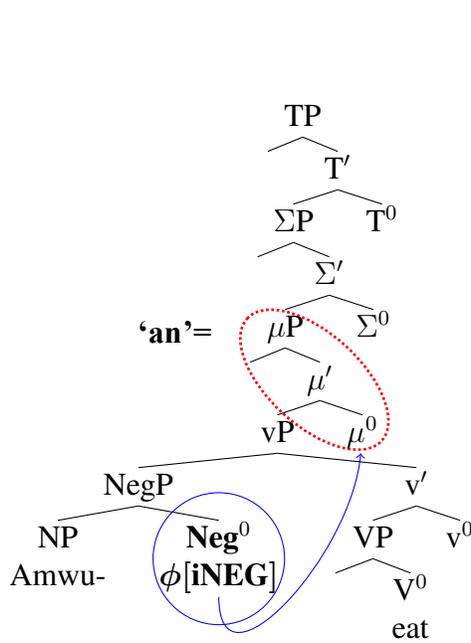
(96) a.
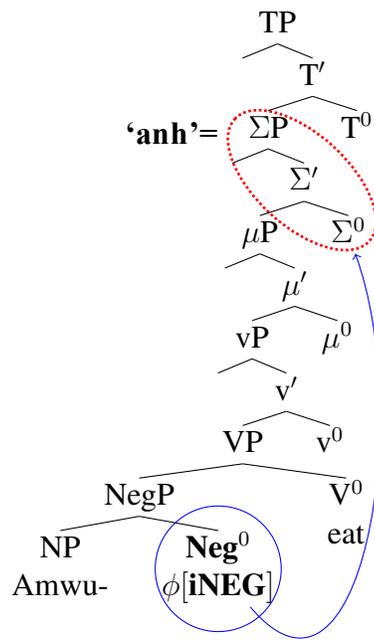
b.

(CED) (Huang 1982, Nunes & Uriagereka 2000). Notice, however, that the same mechanism is an implicit part of other accounts in the literature.

(97) a.
$$\mu^0 \quad \Sigma^0$$
$$| \qquad |$$
$$[\text{iNEG}] \quad [\text{iNEG}]$$

b.
$$\mu^0 \to (\mu^0, \ \text{Neg}^0 \ \phi[\text{iNEG}]) \qquad \Sigma^0 \to (\Sigma^0, \ \text{Neg}^0 \ \phi[\text{iNEG}])$$

c.
$$\mu^0 \to (\mu^0 \to (\mu^0, \ \text{Neg}^0 \ \phi[\text{iNEG}]), \ \text{Neg}^0 \ \phi[\text{iNEG}]) \qquad \Sigma^0 \to (\Sigma^0 \to (\Sigma^0, \ \text{Neg}^0 \ \phi[\text{iNEG}]), \ \text{Neg}^0 \ \phi[\text{iNEG}])$$
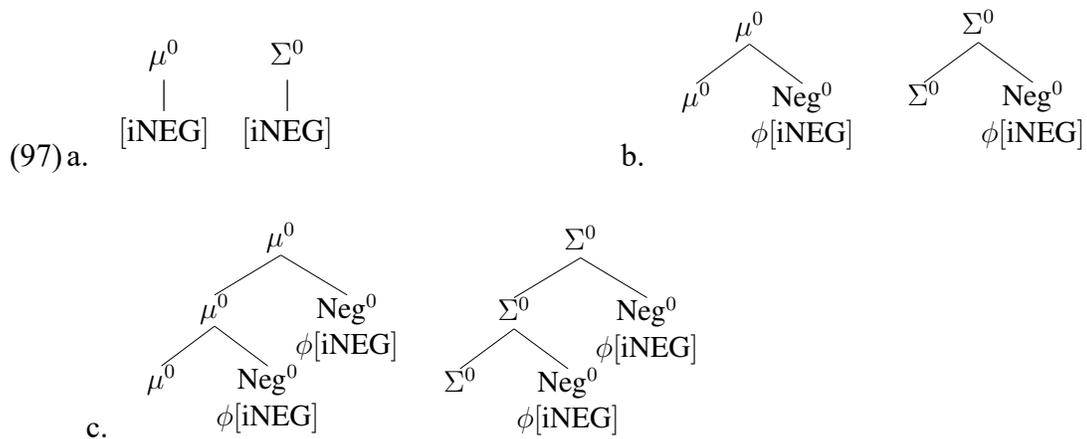
One might notice that the head movement that I postulate here violates Travis' (1984) Head Movement Constraint (HMC), according to which heads can only move into the immediately c-commanding head position. However, the HMC has proven inadequate on empirical grounds (Borsley et al 1996, Roberts 2001, 2004, 2010 among many). For instance, Roberts (2010) argues that the construction in (98) in Breton involves long v-head movement. Here, the verb, *linnet,* has been fronted across the intervening auxiliary head (the compound element *en deus*). One might be tempted to view (98) as an instance of remnant VP fronting. However, Roberts argues against this by pointing out several differences between long-head movement and the independently attested phenomenon of VP-fronting in Breton. One of the most important differences is that in Breton, long-head movement is clause-bounded whereas VP fronting is not, as shown in (99). Based on this and the other diagnostics Roberts discusses, we can conclude that the verb movement in (98) is a genuine case of long head movement.

(98) Lennet   en deus Anna al levr.

     Read   has   Anna the book

     'Anna has read the book.

(99) a. [VP O   lenn al levr]   a   ouian emañ Yann.   (VP-fronting)

         PROG   read the book PRT   know is   Yann

        'I know Yann is reading the book.'

    b. *Desket   am   eus   klevet   he deus Anna he c'hentelioú.

       learned1SG have   heard 3SG.FEM has   Anna her lessons

       'I have heard that Anna has learned her lessons.'   (Long verb movement)

This shows us that the commonly assumed locality constraint on head movement (HMC) cannot be universally correct.

Returning to Korean, I propose the phonological rule in (100):

(100)   Phonological rule for Korean polarity projections

     a. If μ^0 dominates any occurrence of iNEG under its projection,

       it is phonologically realized as *an*. Otherwise it is null.

     b. If Σ^0 dominates any occurrence of iNEG under its projection,

       it is phonologically realized as *ahn*. Otherwise it is null.

      PF: Pol^0 (μ^0/Σ^0)   →   'an' or 'ahn'   / ___ [iNEG]

                     → ϕ / elsewhere

Thus, if the polarity projection (either μ or $\sum$) dominates any occurrence of iNEG, the iNEG feature on the polarity head is phonologically realized as '*an*'. Here, note that the iNEG feature at issue may have either originated on the $\mu/\sum$ head lexically, or may have started out as part of NegP base-generated as a constituent with *amwu-*, and arrived at μ/Σ via long-head movement. [19]

An analogous rule governing the semantic interpretation of the polarity projection is given in (101): μ or Σ is interpreted as negation if and only if it dominates at least one instance of iNEG, which again could have come with μ or Σ from the lexicon, or arrived there via long-head movement and head adjunction.

(101) Interpretational (semantic) rule for Korean polarity projections

If either μ or $\sum$ dominates any occurrence of iNEG under its projection,

it is interpreted as negative.

LF: Pol^0 (μ^0/Σ^0) $\rightarrow$ $\neg$[20]   / __ [iNEG]

$\rightarrow$ $\lambda x.x$ (identity)   / elsewhere

Note that, given the rules just proposed, if either of these projections is born with its own interpretable iNEG feature as in (97a) (as allowed by (94), above), this head is also phonologically realized as *an* (in this case, functioning as what we would informally call "real" sentential negation) and interpreted as negative. And this is so of

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whether an iNEG-bearing Neg[0] does or does not move into the already iNEG-bearing μ^0/Σ^0. That would only serve to bring a second [iNEG] into the relevant head (μ/Σ), which would not affect the outcome, given the rules in (100-101) (see also the discussion in section subsection 1, below).

As noted above, μ is the site for short-form negation as in (102), (104) and (107), whereas Σ is the site for long-form negation as in (103), (105) and (108). As demonstrated in (106) and (109), long-form and short-form negation can co-occur, which shows that μ and Σ are independent from each other, as the current approach predicts. The approach being developed here captures the fact that the long-form or short-form negation that is "real" sentential negation (which is independent from *amwu-*), as in (107) to (109), is pronounced the same as the long-form and short-form negations that appear together with *amwu-*, shown in (102) to (106).

(102) Amwuto   **an**   wa-ss-ta.

    amwu-AN   **NEG**   come-PST-DEC

    '(lit) Anyone did not come'= 'No one came.'   (= 18)   [short-form negation]

(103) Amwuto   oci-**anh**-ass-ta.

    amwu-AN   come-**NEG**-PST-DEC

    '(lit) Anyone did not come'= 'No one came.'   [long-form negation]

(104) Mary-ka   amwukesto   **an**   mek-ess-ta

    Mary-NOM   amwu-INAN   **NEG**   eat-PST-DEC

    '(lit) Mary did not eat anything'   (= 19)   [short-form negation]

(105) Mary-ka   amwukesto   mekci-**anh**-ass-ta

      Mary-NOM   amwu-INAN   eat-**NEG**-PST-DEC

      '(lit) Mary did not eat anything'   [long-form negation]

(106) Mary-ka   amwukesto   **an**-mekci-**anh**-ass-ta

      Mary-NOM   amwu-INAN   **NEG**-eat-**NEG**-PST-DEC

      '(lit) it is not that Mary did not eat anything'   [double negation]

(107) Mary-ka   ppang-ul   **an**-mek-ess-ta.

      Mary-NOM   bread-ACC   **NEG**-eat-PST-DEC

      'Mary did not eat bread.'   [short-form negation]

(108) Mary-ka   ppang-ul   mekci-**anh**-ass-ta.

      Mary-NOM   bread-ACC   eat-**NEG**-PST-DEC

      'Mary did not eat bread.'   [long-form negation]

(109) Mary-ka   ppang-ul   **an**-mekci-**anh**-ass-ta.

      Mary-NOM   bread-ACC   **NEG**-eat-**NEG**-PST-DEC

      '(lit) It is not that Mary did not eat bread.'   [double negation]

Now, let us consider an account of this Neg head movement based on feature-attraction (Chomsky 2000, 2001). There exists a complication in furnishing such an account, in that the featural structure of μ^0 and $\sum^0$ must be able to vary, given that there are three possible combinations of overt clausal negation markers in Korean (short-form, long-form and double negation).[21] To be specific, each head must be able to differ in how

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[21] In fact, long-form negation markers in Korean can be iterated as shown below. Each negation contributes to the negative meaning of a sentence. Thus, odd number of negations result in the negative sentence, as shown in (i), whereas even numbers of negations result in the affirmative sentence, as shown in (ii).

many times it attracts the relevant feature, iNEG; we need to allow for three variants of the putative attractor: Attract-none, Attract-one-F and Attract-all-F (Bošković 1999). Attract-none means that the attractor ($\mu^0/\sum^0$) does not attract any relevant iNEG feature. Note that unless the Attract-none option existed, there would be no way to derive the constructions in (103) and (105) involving long-form negation without short-form negation in the presence of an *amwu*-phrase. Attract one means that the head attracts only one relevant iNEG feature whereas Attract-all means that it attracts every accessible instance of the iNEG feature to the same position. This variability in the featural content of each head seems to allow us to derive all different negative constructions; 1) short-form negation; 2) long-form negation; 3) double negation; and 4) affirmative constructions. This is summarized in the table below:

(110) Table 1.

μ (SN)	Attract all iNegs	Attract none	Attract one iNeg	attract none
$\sum$ (LN)	Attract none	Attract all iNegs	Attract one iNeg	attract none
	short-form (102), (104), (107)	long-form (103), (105), (108)	double negation (106), (109)	affirmative construction

---

(i) Mary-ka   hakkyo-ey   oci-ahnci-ahnci-ahnci-ahnci-ahn-ass-ta.
   Mary-NOM   school-LOC   come-NEG-NEG-NEG-NEG-NEG-PST-DEC
   'Mary did not come to school.'
(ii) Mary-ka   hakkyo-ey   oci-ahnci-ahnci-ahnci-ahn-ass-ta.
   Mary-NOM   school-LOC   come-NEG-NEG-NEG-NEG-PST-DEC
   'Mary came to school.'

However, under this account, it is possible to derive the ill-formed constructions (111) to (113), which include an *amwu*-phrase co-occurring with μ^0 and $\sum^0$ both of which have the Attract-None property (assuming that the lexical variant lacking the underlying [iNeg] feature has been selected for both polarity heads, which should be an allowable option).

(111) *Amwuto   wa-ss-ta.

  amwu-AN   come-PST-DEC

  '(lit) Anyone came.'

(112) *Amwuto   amwukesto   mek-ess-ta

  amwu-AN   amwu-INAN   eat-PST-DEC

  '(lit) Anyone ate anything'

(113) *Mary-ka   amwukesto   mek-ess-ta

  Mary-NOM   amwu-INAN   eat-PST-DEC

  '(lit) Mary ate anything'

To rule out the ill-formed constructions, instead of the feature-driven account that involves multiple featurally distinct heads (of polarity projections), I will postulate an output constraint that forces a Neg head bearing iNEG to be displaced, as stated in (114).

(114) Output constraint on iNEG

  iNEG cannot remain in NegP

On this view, movement of Neg^0 bearing iNEG is not a response to a featural need of the μ^0 or Σ^0 projection (i.e., not an instance of featural attraction by μ^0/Σ^0).[22] We can thus avoid not only the theoretical complexity but also the empirical inadequacy caused by postulating all the featural variants of μ^0 and Σ^0, enumerated in (109). Note that on this view, there are only two different kinds of μ^0 and Σ^0 as far as their featural content is concerned: either with iNEG or without iNEG. On this revised account, the ungrammaticality of (111) to (113) is the result of a failure to dislocate the Neg head bearing iNEG, in violation of (114). The only work that the Attract model is actually doing here is in specifying what the possible landing sites are when iNEG-bearing Neg^0 vacates NegP.

Given this proposal, let us precisely illustrate the derivation of the sentences containing *amwu*-phrases that were given in (102) to (106). First, *amwu*- is generated in Spec of NegP whose head carries iNEG, as the argument of the verb, and then *amwu*- on its own moves out of NegP.[23] Then, the subject *amwu*- moves from NegP to Spec, TP and the object *amwu*- does so to Spec, ΣP. Furthermore, the lexical verb overtly raises all the way to the functional head μ: the verb undergoes V-to-v-to-μ movement as in (115a) and (116a). As stated in (114), Neg^0 cannot stay in-situ and hence it must vacate NegP

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[22] Here, I stipulate that this is a PF constraint that the phonologically-null Neg head must obey. Just as with English 'do support', PF constraints can in fact apply to null elements. As shown in (ia), even null affixes are subject to the Stranded Affix Filter (Lasnik 1981, 1995), a constraint which prevents affixes without an overt host. Thus, as in (i), dummy verb 'do' is inserted as a last resort to satisfy the constraint. I assume that this constraint applies to every Neg^0 head bearing iNEG.

(i) a. * $\phi_{[3rd.pl.pres]}$ they go to school?
     b. Do they go to school?

[23] Alternatively, one might suggest that *amwu*- is the head and the interpretable NEG feature is a null operator in the specifier. However, I reject this because 1) this cannot explain that movement of Neg^0 is always clause-bounded whereas movement of *amwu*-phrase can exit a clause under Grano & Lasnik (2018)-type circumstances; see subsection 3 in chapter 2 for discussion 2) *amwu*- can have more complex structures containing noun phrases, which will be shown in the chapter 5.

and move to either μ^0 or $\sum^0$. If Neg^0 undergoes long-head movement and adjoins to μ^0, the iNEG feature on the complex head μP gets spelled out as 'an', resulting in short-form negation as in (115b) and (116b). Here, when Neg^0 adjoins to μ^0, it has to be a prefix on the raised verb, yielding '*an* + verb' order.[24] On the other hand, if Neg^0 undergoes long-head movement and adjoins to $\sum^0$, the iNEG feature on the head Σ^0 gets spelled out as '*anh*', resulting in long-form negation as in (115c) and (116c).
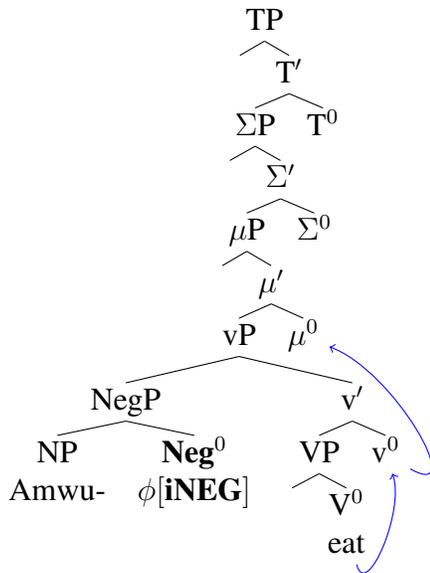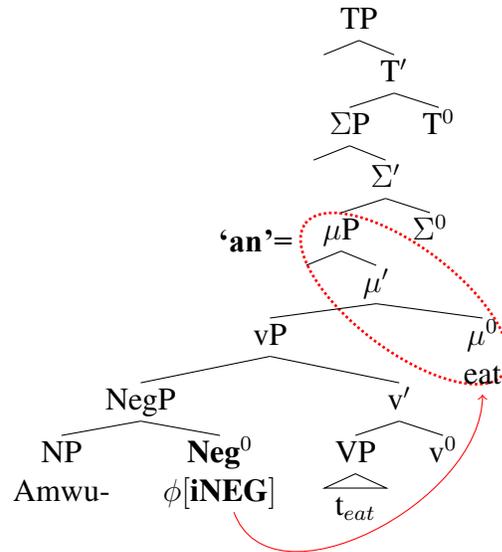
(a) base-generation   (b) short-form negation

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[24] Han et al. (2007) suggest a different way of deriving short form negation (SN) in Korean; SN *an*, being the head of its own projection NegP, is base-generated to the left of VP and cliticizes onto the verb in a strictly local manner. However, under Han et al's account, it is incorrectly predicted that *an* would always precede nominal verbs (i.e., *sayngkak* 'think'), which are verbal nouns used in light verb constructions. As originally observed by Park (2017), SN must always follow the nominal verb *sayngkak*, as shown in (i).

(i) Mary-nun   [_{CP} tolkolay-ka   ttokttokhata-ko]   sayngkak-**an**/***an**-sayngkak-hay-ss-ta.
    Mary-TOP   dolphin-NOM   clever-C   think-**NEG**   /**NEG**-think-LV-PST-DEC
    'Mary did not think that dolphins are clever.'   Park (2017)
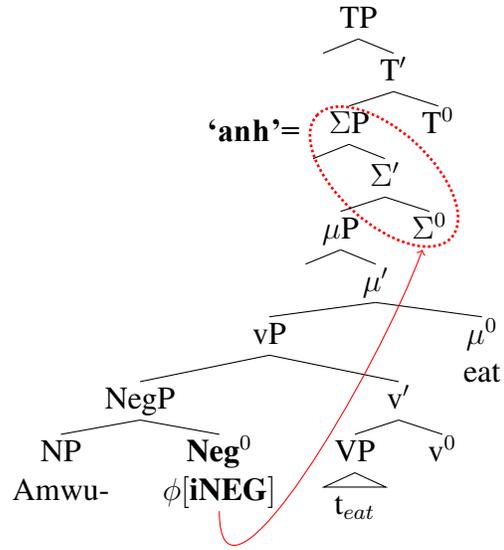
(c) long-form negation

(115) *Amwu-* in object position
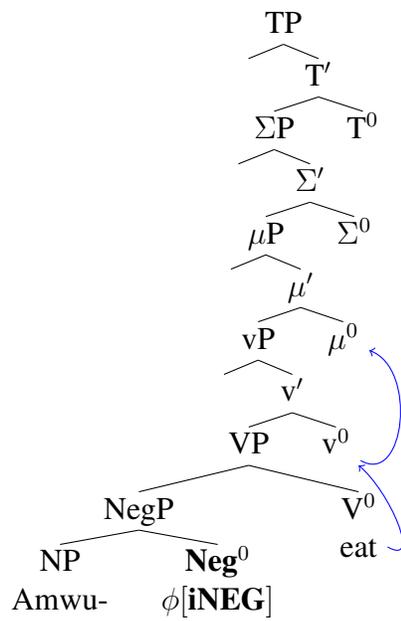
(a) base-generation
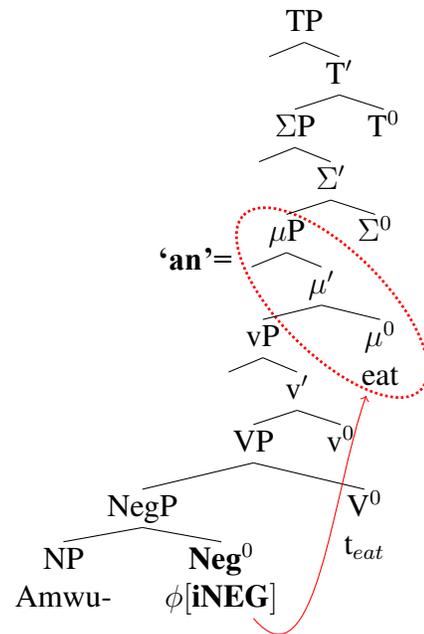
(b) short-form negation
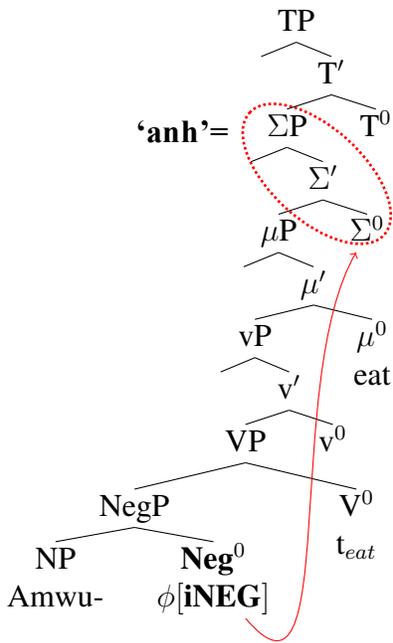
(c) long-form negation

(116) *Amwu-* in object position

Thus, the current approach can derive all instances of *awmu-* constructions, in which *amwu-*-phrases, regardless of their position, must accompany at least one sentential negation (either long-form negation or short-form negation). In addition, the free distribution of sentential negation in the clausal spine receives a natural account.

Subsection 1 Multiple *amwu-* constructions

Our base-generation approach opens up an interesting issue when there is more than one *amwu-* in a single clause. In (117), two *amwu-*-s accompany an equal number of negation markers, which results in a double negation reading. However, multiple *amwu-*-s can also appear with only one negation, yielding a negative concord

interpretation, as shown in (118). This may seem puzzling given the assumption that each *amwu-* is base-generated with its own iNEG-bearing Neg^0 head.

(117) Amwuto   amwukesto   **an**-mekci-**anh**-ass-ta

     amwu-AN   amwu-INAN   **NEG**-eat-**NEG**-PST-DEC

    1)   '(lit) it is not the case that anyone did not eat anything.'

       = 'Someone ate something'

    2)   'Everyone ate something'   DN reading only

(118) Amwuto   amwukesto   **an**-mek-ess-ta.

     amwu-AN   amwu-INAN   **NEG**-eat-PST-DEC

    '(lit) Anyone did not eat anything.' = no one ate anything.   NC reading only

However, I argue that the contrast between (117) and (118) depends on the way in which multiple iNEGs are distributed across μ^0 and Σ^0 as in (119). Recall the phonological and interpretational rules for the polarity projections, given in (100) and (101) and summarized here in (120).

(119) a.

$$\mu^0 \qquad \Sigma^0$$
$$| \qquad\qquad |$$
$$[\text{iNEG}] \quad [\text{iNEG}]$$

b.

$$\mu^0 \qquad\qquad\qquad \Sigma^0$$

$$\mu^0 \quad \text{Neg}^0 \qquad \Sigma^0 \quad \text{Neg}^0$$
$$\phi[\text{iNEG}] \qquad\qquad \phi[\text{iNEG}]$$

c.

$$
\begin{array}{cc}
\mu^0 & \Sigma^0 \\
\diagup\diagdown & \diagup\diagdown \\
\mu^0 \quad Neg^0 & \Sigma^0 \quad Neg^0 \\
\quad \phi[\text{iNEG}] & \quad \phi[\text{iNEG}] \\
\mu^0 \quad Neg^0 & \Sigma^0 \quad Neg^0 \\
\quad \phi[\text{iNEG}] & \quad \phi[\text{iNEG}]
\end{array}
$$
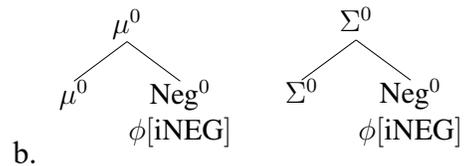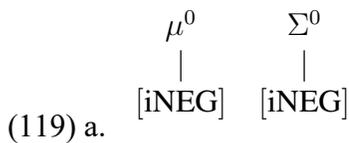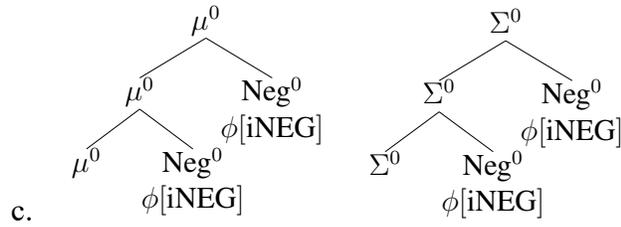
(120) The phonological and interpretational (i.e., semantic) rules for the polarity

projections

1) If μ^0 dominates any occurrence of iNEG under its projection,

   it is phonologically realized as '*an*' and interpreted as negative.

2) If Σ^0 dominates any occurrence of iNEG under its projection,

   it is phonologically realized as '*ahn*' and interpreted as negative.

According to (120), if μ^0 dominates every instance of iNEG, only μ^0 is spelled-out

overtly as (short-form) negation and interpreted negatively, as illustrated in (121a).

Alternatively, when Σ^0 dominates every instance of iNEG, only Σ^0 is spelled-out

overtly as (long-form) negation and interpreted negatively to the exclusion of Σ^0, as

illustrated in (121b). Thus, multiply adjoined iNEGs under one projection give rise to

a single negation interpretation, and a single negation marker.

(121) multiple *amwu-s*
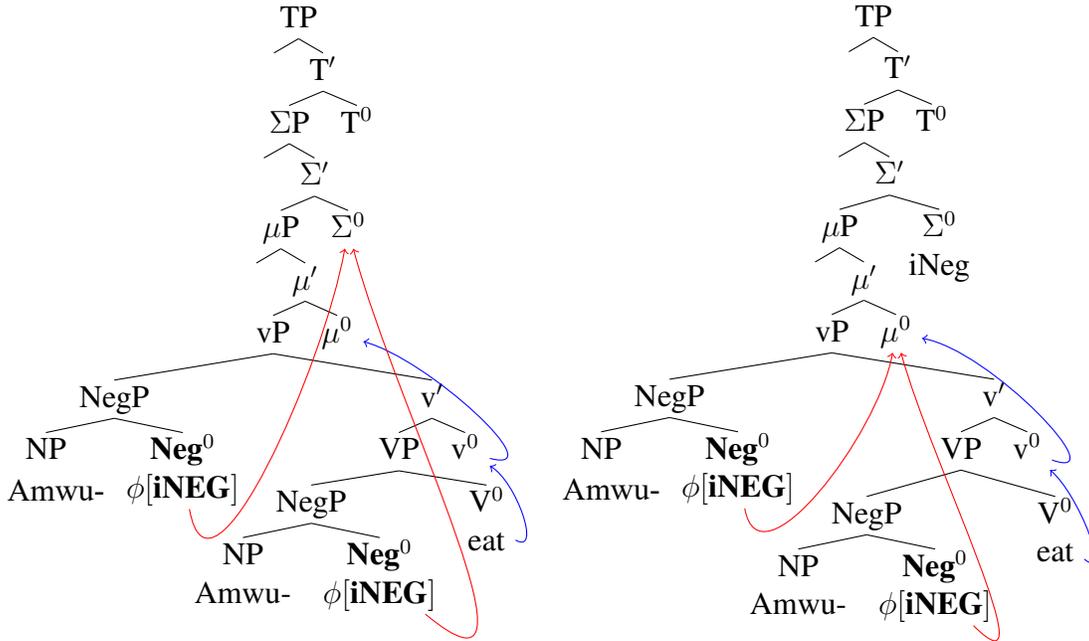
(a) short-form negation   (b) long-form negation

What is of particular importance is that, to get a single negation marker and a single-negation interpretation, one of the polarity heads must remain featureless. Otherwise, the result is the construction with two instances of negation and a Double Negation interpretation. To illustrate, if either μ^0 or Σ^0 is born with iNEG (lexically) and the two iNEG-bearing heads from NegP move into the other polarity head, this yields either (122a) or (122b).

Another possible derivation is that the iNEG-bearing heads from the two NegPs move to different polarity hosts (one to μ^0 and the other to Σ^0), and the iNEG features on both projections are phonologically realized as short-form and long-form negation, respectively as in (122c). This too gives rise to the DN interpretation, as illustrated in (122c).

(122)
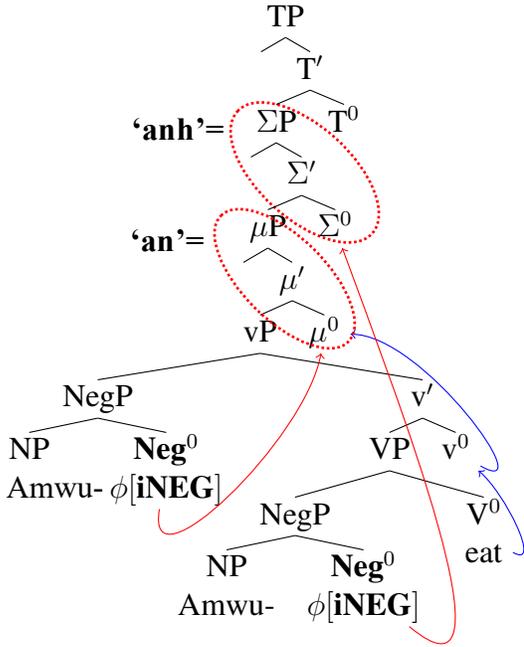
(a) double negation
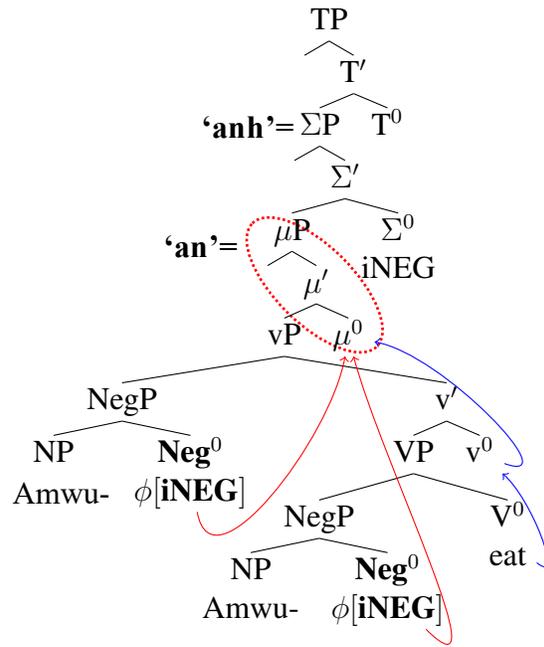
(b) double negation
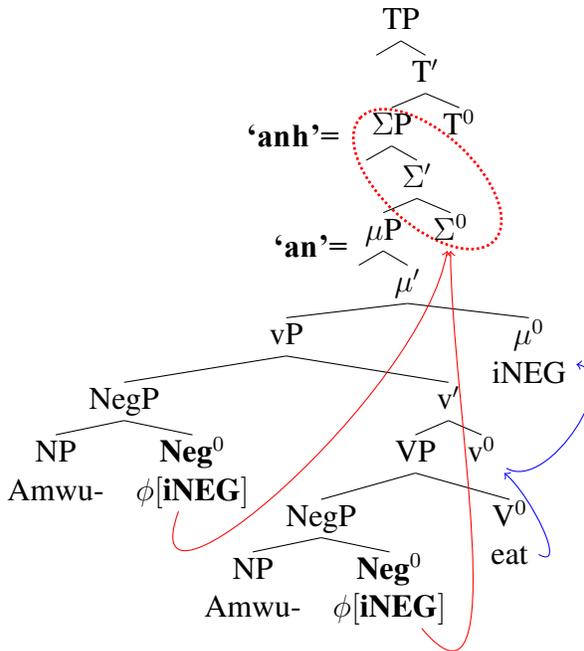
(c) double negation

Importantly, from the perspective of the facts surveyed in chapter 1, there is no special principle of the grammar that enforces the proper (local) relation between negation and *amwu-* in the course of or at the end of the derivation. Rather, the resistance to licensing *amwu-* in a derived position, discussed in the chapter 1, is in virtue of the fact that *amwu-* is always base-generated in Spec of a NegP whose head bears an interpretable NEG feature (iNEG). That is, the only operative grammatical locality constraint is the locality of constituency (upon base generation) — a general principle of grammar — coupled with what we will see below are independently established constraints on movement.

Section 2 Analysis

Now, let us consider constructions where negation and *amwu-* are not clausemates. It has already been made clear that an *amwu-* inside the embedded clause cannot be licensed by matrix negation and that an *amwu-* in the matrix clause cannot be licensed by an embedded instance of negation, as indicated by the unacceptability of (123) and (124), respectively.

(123) *Mary-ka   John-i   amwukesto   mek-ess-ta-ko   malhaci-**anh**-ass-ta.

      Mary-NOM   John-NOM   amwu-INAN   eat-PST-DEC-C   say-PST-**NEG**-DEC

      '(lit) Mary did not say that John ate anything.

(124) *Amwuto   Mary-ka   ppang-ul   mekci-**anh**-ass-ta-ko malhay-ss-ta.

   amwu-AN   Mary-NOM   bread-ACC eat-**NEG**-PST-DEC   say-PST-DEC

   '(lit)   Anyone   said   that   Mary   did   not   eat   bread.'

I will first consider (123). There are two possible derivations of (123), as shown in (125). In one of these, Neg^0 undergoes long-head movement across a clause boundary to the matrix $\sum^0$, which allows $\sum^0$ to be spelled-out as long-form negation in the matrix, as in (125a). In the other, the matrix $\sum^0$ is spelled-out as long-form negation because it is born with iNEG in the lexicon, while iNEG which is base-generated with *amwu*- remains in its original position, as in (125b).

(125) a. [Matrix [Emb [NegP *amwu*- t_{iNeg}]] iNEG]

      $\rightarrow$ violation of the clause-bounded head movement constraint

   b. [Matrix [Emb [NegP *amwu*-iNeg]] iNEG]

      $\rightarrow$ violation of the output constraint on Neg^0 movement

Note that in the previous literature, it has been argued that even though is long head movement not subject to the Head Movement Constraint (Travis 1984), it still cannot proceed across a clause boundary. For example, in Breton, which furnishes a very clear case of long head movement, such movement is nevertheless clause bounded (in contrast with VP-fronting in the very same language; see Roberts 2010 and references therein). If the same constraint holds in Korean, then the derivation in (125a) is invalid.

On the other hand, (125b) violates the constraint requiring iNEG-bearing Neg^0 to vacate NegP, repeated below in (126). Thus, both derivations in (125) are ruled out.

(126) Output constraint on iNEG

iNEG cannot remain in NegP   (= 114)

In similar fashion, there are two possible derivations of (124), as illustrated in (127). The derivation in (127a) violates the constraint in (126); the embedded $\sum^0$ is spelled-out as long-form negation because it is born with iNEG, while iNEG which is base-generated with *amwu-* remains in its original position. In contrast to its counterpart (125b), however, the reason that the derivation in (127b) is invalid is because it involves the illegitimate lowering operation of iNEG-bearing Neg^0 into a lower clause.

(127)   a. $[_{Matrix}$ $[_{NegP}$ *amwu-*   iNEG] $[_{Embedded}$ iNEG]]

$\rightarrow$ violation of the output constraint on Neg^0 movement

b. $[_{Matrix}$ $[_{NegP}$ *amwu-* t_{iNEG^0}] $[_{Embedded}$ iNEG]]

$\rightarrow$ lowering of iNEG into a lower clause

Now, let us consider derivations where an *amwu*-phrase undergoes long-distance scrambling. Recall from chapter 1 that the constraint on the distribution of Korean *awmu-* is blind to its final destination and is instead sensitive to base-generated structural relations. That is, an instance of *amwu-* (which is non-clausemate with

negation in its base position) cannot be licensed in a derived position, even if it ends up in the same clause with negation via movement, as in (43a), repeated here in (128).

(128) *amwukes-to$_1$ Mary-ka   [John-I   t$_1$ ilk-ess-ta-ko]   malhachi-**anh**-ass-ta

      amwu-INAN   Mary-NOM [John-NOM   read-PST-DEC-C] say-**NEG**-PST-C

      'Mary did not say that John read nothing.'   (= 43a)

Given that long head movement is clause-bounded, the long-form negation in (128) must be the result of a lexical iNEG feature of the Σ^0 in the matrix, not iNEG that comes from NegP in the embedded clause. Though *amwu-* can be dislocated from the embedded clause via scrambling in (128), the Neg head still remains in-situ (in NegP in the embedded clause), since, if it vacated NegP, it would be to the embedded μP or ΣP, resulting in negation in the embedded clause (which is not what we see in (128)). This, in turn, violates the constraint requiring obligatory movement of an iNEG-bearing Neg^0 in (126). Therefore, dislocating *amwu-* to the matrix where negation exists does not ameliorate the ill-formedness of (128).

Alternatively, one might consider another version of the derivation in which the entire NegP, including Neg^0 and *amwu-*, undergoes scrambling to the clause-initial position and hence ends up being in the edge position, spec CP, as in (129a). [25] Thus, the

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[25] Note that *amwu-* cannot be topicalized, as shown in (i), similar to English NPIs and other quantifiers, as shown in (ii).
(i)   *Amwukesto-nun $_1$ Mary-ka   t$_1$ **an**-mek-ess-ta.
     amwu-INAN-TOP   Mary-NOM   **NEG**-EAT-PST-DEC
(ii) a.*Anyone, I don't like
    b. $^{??}$As for some boy, he is here.
    c. $^{??}$As for every boy, he is here.

scrambled NegP can be readily accessible for further computation (cf. Chomsky 2000, 2001) before Neg^0 splits with the *amwu*-phrase, as illustrated in (129b) and (129c). This seems to be plausible at first glance, since NPs can scramble rather freely in Korean. However, if this derivation were possible, we would falsely rule in the ill-formed construction in (128).[26] Hence, to rule out this and the derivation in (129), I assume that NegP can only undergo A-movement.[27] Consequently, NegP cannot move across a (finite) clause boundary. I also claim that if NegP moves, the *amwu*-phrase within NegP cannot undergo further movement out of the moved NegP. I will discuss this constraint in more detail in subsection 2 in the following section. Therefore, the derivation in (129) is impossible. Further supporting the A-movement analysis of NegP movement, I will show that the clause-boundedness of NegP movement can be relaxed under certain circumstances. Specifically, NegP can undergo long-distance A-movement across a clause boundary when the embedded subject is a bound pronoun/anaphor, precisely in the manner that has been documented for other instances of A-movement. These cases will be discussed in the following section.

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[26] I am grateful to Gesoel Mendes for bringing this issue to my attention.

[27] I argue that NegP is an optional part of the extended nominal projection in Korean (similar claims have been made about PP being an optional part of the extended nominal projection, and that thematic roles are assigned to extended projections (Grimshaw 1979)). This seems on a par with what is assumed in other domains: e.g.1) Bittner & Hale (1996) assume that some noun phrases are KPs, whereas others are DPs, but (presumably) theta-assignment treats the two equally; 2) Perelstsvaig (2006) proposes that referential nouns are DPs whereas non-referential ones are NPs; theta-assignment would treat them equally; 3) many predicates that embed 'clauses' can embed different sizes of clauses (cf. believe + non-finite vs. believe + finite CP), presumably without any thematic differences.

(129) (a)

TP
T′
… T⁰
μP
μ′
vP μ⁰
CP
NegP C′
NP Neg⁰ TP C⁰
Amwu- ϕ[**iNEG**]
T′
… T⁰
μP
μ′
vP μ⁰
v′
VP v⁰
t$_{NegP}$ V⁰
say
VP v⁰
V⁰
read

A′-scrambling

(b)

TP
T′
ΣP T⁰
Σ′
… Σ⁰
vP
CP v′
NegP C′ VP v⁰
NP Neg⁰ TP C⁰ V⁰
Amwu- ϕ[**iNEG**] John read t$_{NegP}$ say

(c)

TP
NP T′
Amwu- ΣP T⁰
Σ′
Σ⁰
… vP Σ⁰ Neg⁰
CP v′ ϕ[**iNEG**]
NegP C′ VP v⁰
t$_{NP}$ t$_{Neg⁰}$ TP C V⁰
John read t$_{NegP}$ eat
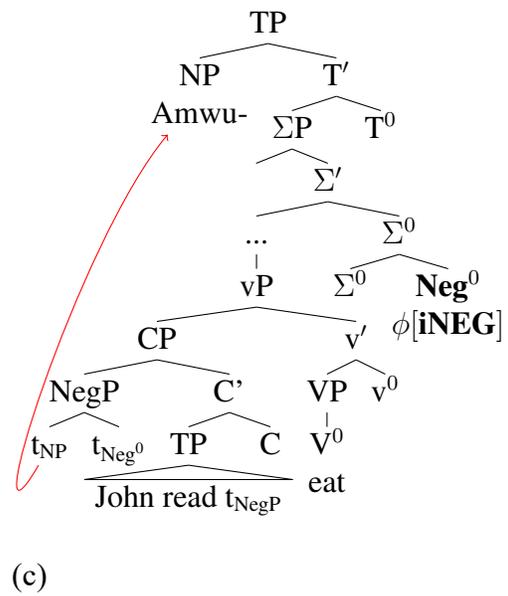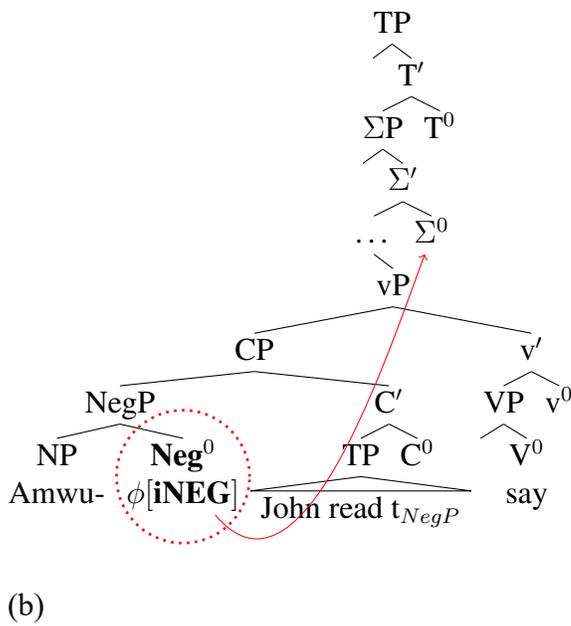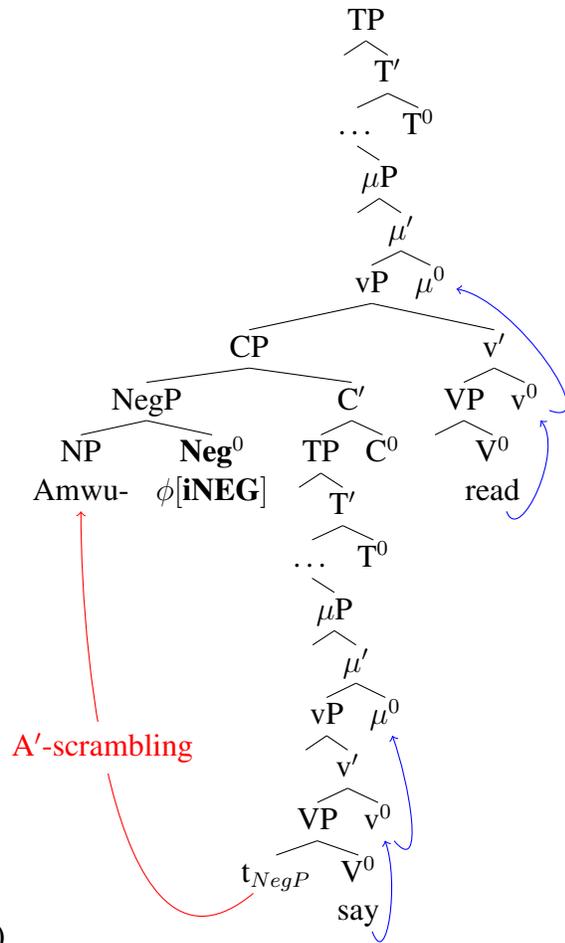
On the current analysis, *amwu-* obligatorily moves from its base position, spec NegP, to a Case-position — in particular, spec TP for subjects and spec ∑P for objects, respectively.[28] If this analysis is on the right track, it is predicted that an object *amwu-* would always precede VP-adjoined adverbs when occurring with such adverbs. This prediction is indeed borne out, as shown in (130) and (131): only when *amwu-* precedes VP-adverbs like *ppalli*, "fast" and *phokhu-lo*, "with fork", is the result acceptable.

(130) Mary-ka   amwukesto   ppalli/phokhu-lo   **an**   mek-ess-ta.

     Mary-NOM   amwu-INAN   fast/fork-INST   **NEG**   eat-PST-DEC

     '(lit) Mary ate nothing fast/with fork'

(131) *Mary-ka   ppalli/phokhu-lo   amwukesto   **an**   mek-ess-ta.

     Mary-NOM   fast/fork-INST   amwu-INAN   **NEG**   eat-PST-DEC

     'Mary ate nothing fast/with fork.'

Given these facts and the previous demonstration in chapter 1 that *amwu-* in Korean is neither an NPI nor an NCI, we are forced to thus acknowledge a third category of negative elements.

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[28]For ease of exposition, I assume, in reality, whatever the relevant XP whose specifier is the Case position for objects, that XP is located, located higher than vP but lower than TP. Thus, objects are forced to move to this position, causing them to precede all other complements in vP/VP (cf. μP in Johnson (1991)), as shown in (130) and (131).

In the previous chapter, I showed that the locality constraint that appears to hold between *amwu-* and negation is nothing more than the locality of constituency. This section is mainly devoted to showing some exceptional cases where *amwu-* can seemingly establish a local relation with negation in a derived position after all. I will show how these facts can be explained under the current analysis.

There is recent work showing that many syntactic locality effects are relaxed when the embedded subject is a bound pronoun. I will show that the apparent locality restriction between the base position of *amwu-* and clausal negation is relaxed under the exact same circumstances. This lends support to my claim that the conditions on the appearance of *amwu-* are conditions on syntactic representations, which would not follow directly from rules related only to semantic interpretation.

Subsection 1 Grano & Lasnik (2018)

Before proceeding, let me introduce the empirical and theoretical background on which the analysis of these cases will be built. Grano & Lasnik (2018) note that many syntactic operations and relations are clause-bounded, that is, they cannot span a finite clause-boundary.[29] These include *too/enough* movement, gapping, comparative deletion,

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[29]As Grano & Lasnik (2018) note, the degradedness effect caused by clause-boundedness disappears when the finite clause boundary is replaced by a nonfinite clause (e.g. introduced by control verb or raising verb), as shown in (i).
(i) a. This magazine is too lowbrow [for John to claim/tend to read _].
    b. Mary claims/tends to like apples and [Ann ~~claims/tends to like~~ oranges].
    c. More people claim/tend to like apples [than ~~claim/tend to like~~ oranges].
    d. John claims/tends to read everything [Bill does ~~claim/tend to read~~].
    e. [**At least one professor** claims/tends to read **every journal**.] ($\forall > \exists$)
    f. Tell me [**who** claims/tends to read **which journal**].

antecedent-contain deletion (ACD), quantifier scope interaction, and multiple questions. Representative examples are given in (132). The unacceptability of (133) exemplifies the finite clause-boundedness of all the syntactic operations and relations presented in (132).

(132) a. *Too/Enough-movement*

   This magazine is too lowbrow [for John to read_].

   b. *Gapping*

   Mary likes apples and [Ann ~~likes~~ oranges].

   c. *Comparative deletion*

   More people like apples than [~~like~~ oranges].

   d. *Antecedent-contained deletion*

   John reads everything [Bill does ~~read~~].

   e. *Quantifier scope interaction*

   [**At least one professor** reads **every journal**.] (∀>∃)

   f. *Multiple questions*

   Tell me [**who** reads **which journal**].

(133) a. *This magazine is too lowbrow [for John to claim that Bill reads __].

   b. *Mary claims that Jill likes apples and [Ann ~~claims that Jill likes~~ oranges].

   c. *More people claim that Bill likes apples [than ~~claim that Bill likes~~ oranges].

   d. *John claims that Mark reads everything [Bill does ~~claim that Mark reads~~].

   e. *[**At least one professor** claims that Ann reads **every journal**]. (∀>∃)

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f. *Tell me [**who** claims that Mary reads **which journal**].

However, a bound pronoun in the subject position of a finite embedded clause renders the clause boundary transparent to this requirement, as shown in (134). In other words, a clause-bounded syntactic operation can nevertheless cross a clause boundary as a result of the presence of the bound pronoun. Grano & Lasnik (2018) call this *the bound pronoun effect*.

(134) a. ?This magazine is too lowbrow [for John$_1$ to claim that **he$_1$** reads _].

b. ?Mary$_1$ claims that **she$_1$** likes apples and [Ann$_2$ ~~claims that **she$_2$** likes>~~

   oranges].

c. ?More people$_1$ claim that **they$_1$** like apples [than ~~claim that **they$_1$** like>~~

   oranges].

d. ?John$_1$ claims that **he$_1$** reads everything [Bill$_2$ does ~~claims that **he$_2$** reads>~~].

e. ?[**At least one professor$_1$** claims that **she$_1$** reads **every journal**]. ($\forall > \exists$)

f. ?Tell me [**who$_1$** claims that **he$_1$** reads **which journal**].

Let me elaborate on G & L's analysis of clause-boundedness and the bound pronoun effect under discussion. Here, for ease of exposition, I focus on *too*-movement constructions. Consider the minimal pair in (135a) and (135b). As shown in (135a), the *too*-movement construction is ill-formed when the structure involves a finite clause boundary. However, replacing the embedded subject *Bill* with a bound pronominal subject improves the acceptability of the sentence, as shown in (135b).

(135) a. *This book is too long [for John to claim [that Bill read in a day]]

b. ?This book is too long [for John₁ to claim [that he₁ read in a day]].

Following G & L, I assume here that *too*-movement constructions instantiate A'-movement of an operator to spec CP of the complement to the embedding predicate (in this case, the embedding predicate is *long*).[30] To account for the contrast between (134a) and (134b), G & L put forth the following proposal. First, they argue that the 'phase' is the locality domain for movement dependencies in the syntactic phenomena that give rise to the *bound pronoun effect*. Furthermore, they argue that only 'convergent' domains can be phasal.[31] Thus, according to them, unvalued features which stand in a local configuration with the phase edge (more specifically, the features on the head of the complement of the phase head) keep the phase open and therefore extend the locality domain for syntactic operations. Lastly, they propose that bound pronouns optionally enter the derivation with unvalued ϕ-features.[32] This proposal relies on the view that pronominal binding involves valuation of features on the bindee

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[30] See Chomsky (1977) for more detailed discussion.

[31] Chomsky (2000) considers phasehood in terms of 'propositionality' and 'convergence'. As opposed to Chomsky, who settles on the static version of phasehood in (ia), G&L suggest that both (ia) and (ib) need to play a role in determining phasehood to account for the *bound pronoun effect* and its subject orientation.
(i) a. Phases are propositional.
 b. Phases are convergent.   Chomsky (2000:107, (19))

[32] According to G&L, this optionality is required to rule in a construction like (i) while also capturing the *bound pronoun effect* at issue. In (i), the bound pronoun is at least two phase heads apart from its antecedent *every man*, and hence, it is inaccessible for feature transmission under binding. Thus, it is necessary to assume that the bound pronoun can enter the derivation with ϕ-features already valued and so, in (i), ϕ-feature agreement has taken place via the workings of presupposition projection, which is not subject to the PIC. See G&L (2018) for more detailed information.
(i) Every man₁ thinks [CP that Ann said [CP that Mary saw him₁]].

by the binder (the antecedent DP) (see Kratzer 1998a,b, 2009, Rullmann 2004, and Heim 2008 for various versions of this view).

Keeping this in mind, consider (135). In (135a), the locality domain for *too*-movement dependencies is violated due to the phasal status of CPs, as indicated by brackets. In contrast, locality is extended in (135b) in virtue of the unvalued features on the bound pronoun *he* in the subject position in the embedded CP, rendering (135b) more acceptable. The crucial property of the subject position is that the ϕ-features of the subject value the ϕ-features on T (via subject-verb agreement). Thus, if the subject's ϕ-features are unvalued, the agreeing ϕ-features on T also remain unvalued. Consequently, the unvalued T voids the phasal status of CP (since, as noted above, non-convergent domains cannot be phasal). Thus, the contrast between (135a) and (135b) comes from whether the unvalued bound pronoun in the embedded subject position prevents the embedded T from valuing its phi-features. In other words, the phi-features on the embedded T in (135a) are valued by *Bill* and hence CP counts as a phase, blocking further movement. On the other hand, the phi-features on the embedded T remain unvalued in (135b).

Subsection 2 Korean Paradigms

In this section, I investigate how the *bound pronoun effect* works in Korean. Recall that in the construction in (136) where negation and *amwu-* are not clausemates, long-distance scrambling of *amwu-* to the matrix clause hosting negation does not improve the unacceptability of the sentence, as shown in (43a), repeated here in (136).

(136) a.*Mary-ka   [John-I   amwukesto   mek-ess-ta-ko] malhaci-**anh**-ass-ta.

　　　Mary-NOM John-NOM   *amwu*-INAN   eat-PST-DEC-C   say-**NEG**-PST-DEC

　　　'Mary did not say that John ate anything.'   (= 75) [canonical word order]

　　b. *Amwukesto₁ Mary-ka   [John-I   t₁ ilk-ess-ta-ko]   malhaci-**anh**-ass-ta.

　　　Amwu-INAN   Mary-NOM [John-NOM   read-PST-DEC-C] say-**NEG**-PST-DEC

　　　'(lit) Mary did not think that John read anything.'   (= 43a)

　　　　　　　　　　　　　　　　　　　　　　　　　[Long-distance scrambling]

Now, consider the example in (137). As shown below, the construction where *amwu*-

undergoes long-distance scrambling to the sentence-initial position becomes more

acceptable, when the embedded subject is bound by the matrix subject.

(137) ??Amwukesto   Mary-ka   PRO/cakicsin-I   t   ilk-ess-ta-ko

　　　Amwu-INAN   Mary-NOM   self-NOM   read-PST-DEC-C

　　　malhaci-**anh**-ass-ta.

　　　say-**NEG**-PST-DEC   [Long-distance scrambling]

　　　'(lit) Mary₁ did not say that she₁/self₁ read nothing.'

However, this amelioration effect induced by a null bound pronoun/anaphor in (136)

disappears when *amwu*- remains in its original position. (138) is still unacceptable,

even with the bound embedded subject. This indicates that in Korean, when there is a

bound pronoun/anaphor in the embedded subject position, the relaxation of the locality

constraint between *amwu*- and negation in its base position is only apparent.

(138) *Mary-ka   [PRO/cakicsin-I   amwukes-to   ilk-ess-ta-ko]

Mary-NOM   [self-NOM   amwu-INAN   read-PST-DEC-C]

malhachi-**anh**-ass-ta

say-**NEG**-PST-DEC

'(lit) Mary$_1$ did not say that she$_1$/self$_1$ read nothing.'

Given that bound pronouns/anaphors in the embedded subject position extend the locality domain for syntactic operations, it seems puzzling that such an effect is attested only in the cases that involve long-distance scrambling of *amwu-*.

Before delving into the derivation of each construction introduced above, let us recall the assumption that NegP can only undergo A-movement, not other types of movement. [33] Given this assumption, NegP cannot move across a finite clause boundary. Here, following Grano and Lasnik (2018), I assume that the presence of a bound pronoun/anaphor in the embedded subject position gives rise to a domain expansion effect. In other words, the bound pronoun renders the clause non-phasal, so that NegP is then able to move (crucially, via A-movement) to the next clause. I will strengthen this point by showing that a bound pronoun in the embedded subject position

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[33] A-binding by *amwu-* is possible, as shown in (i), It has been argued that short-scrambling in Korean is A-movement (Hong 1985 and Saito 1989, Miyagawa 2005 for Japanese). As shown in (i), short-scrambling of the complex *amwu*-phrase to the sentence initial position improves the acceptability of (ii) in which the anaphor in the subject position remains unbound. This suggests that the short-scrambled *amwu-* binds the anaphor in the subject position, thereby satisfying the binding condition A.

(i) $^{??}$[Haksayngtul-ul amwuto]$_1$ cakicain-i   t$_1$ chingchanhaci-ahn-ass-ta.
    students-ACC   amwu-AN self-NOM   praise-NEG-PST-DEC
    'Self$_1$ did not praise any students$_1$.'

(ii) *cakicain-i   haksayngtul-ul   amwuto   chingchanhaci-ahn-ass-ta.
    self-NOM   students-ACC   amwu-AN   praise-NEG-PST-DEC
    'Self$_1$ did not praise any students$_1$.'

indeed allows a noun phrase to undergo cross-clausal A-movement.[34] Let us consider the examples in (139).

(139) a. *John-ul   cakicasin-i   [Mary-ka   t   chingchanhay-ss-ta-ko] malhay-ss-ta.

John-ACC self-NOM   Mary-NOM   praise-PST-DEC-C   say-PST-DEC

'Self$_1$ said that Mary praised John$_1$.'

b. ??John-ul   cakicasin-i   [PRO t   chingchanhay-ss-ta-ko] malhay-ss-ta.

John-ACC   self-NOM   praise-PST-DEC-C   say-PST-DEC

'Self$_1$ said that PRO$_1$ praised John$_1$.'

The embedded object, *John,* in (139a) cannot bind the anaphor in the matrix via long-distance scrambling (which is necessarily A'-movement), resulting in outright ungrammaticality. However, the sentence improves when a null bound pronoun appears in the embedded subject position. This shows us that the bound pronoun enables cross-clausal A-movement of the object, satisfying Condition A; the anaphor in the matrix is bound by *John* in (139b) in the sentence-initial position. Crucially, note that only A-movement can create new antecedents for binding (as first observed by Saito 1989 for Japanese, Cho 1994 for Korean). For instance, as shown in (140), the phrase that has undergone short-scrambling, which can be A-movement, creates a new binding relationship; the reciprocal *selo* 'each other' can be bound by the scrambled *kutul* 'they', satisfying binding condition A.

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[34] See Nemoto (1993) for extensive discussion of A-movement out of control clauses in Japanese.

(140) **kutul-ul₁** [**selo-uy₁** chinkwu-ka] t₁ kosohay-ss-ta.

they-ACC each-GEN friend-NOM sue-PST-DEC

'Each other₁'s friends sued them₁.

Cho (1994a: 101); cf. Mahajan (1990), Saito (1992)

On the other hand, a phrase that has undergone long-distance scrambling, which is known to be A'-movement, does not create a new A-binding relationship.[35] That is, the long-distance scrambled phrase *John* cannot create a new binder for the reciprocal, thereby rendering (141) unacceptable, unlike short-scrambling (see also (139a), above).

(141) ***kutul-ul₁** [**selo-uy₁** chinkwu-ka] [John-i t₁ kosohay-ss-ta-ko]

they-ACC each.other-GEN friend-NOM John-NOM sue-PST-DEC-C

malhay-ss-ta.

say-PST-DEC

'Each other's₁ friends said that John sued them₁.' Cho (1994b: 263)

Thus far, I have argued that Korean NegP can only undergo A-movement, not A-bar movement. I have also shown that an embedded subject bound pronoun allows cross-clausal A-movement of a noun phrase. With this in mind, let us consider the derivation of (136), repeated here in (142), which exhibits the bound pronoun effect.

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[35] Contrary to the Japanese counterpart in Saito (1992), there is controversy about the grammatical status of (141) among Korean speakers, as Ko (2017) acknowledges in her paper. Cho (1994) and Ko report a different judgment on (141).

(142) ??Amwukesto   Mary-ka   PRO/cakicsin-i   t   ilk-ess-ta-ko

amwu-INAN   Mary-NOM   self-NOM   read-PST-DEC-C

malhaci-**anh**-ass-ta.

say-**NEG**-PST-DEC

'Mary$_1$ did not say that she$_1$/self$_1$ read anything.'   (= 136)

First, (144a) illustrates how (142) can be derived. The entire NegP can undergo long-distance A-movement to the matrix vP due to the bound pronoun in the embedded subject position.

I assume here that A-movement can be implemented in a successive cyclic manner (Chomsky 1981). For instance, the subject *they* in (143) A-moves to the matrix TP where its Case-feature can get checked. If movement proceeds in a cyclic fashion, we can explain the acceptability of (143); *they* stops off at the spec TP in the middle clause (as indicated sub2) where it can bind *each other*, satisfying binding condition A.[36]

(143) They appear to John [$_{sub2}$ t' to seem to each other [$_{sub1}$ t to be happy]]

Adapted from Chomsky (1981)

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[36] Note that the 'to-PP' experiencer argument of *appear* can bind into the infinitive, as shown in (i). However, the *to*-experiencer is not sufficiently local to the anaphor in (ii) to satisfy Condition A. In (ii), if the experiencer *to John* were able to bind the anaphor (*himself* within the infinitive), it is incorrectly predicted that (ii) would be good. Taking (ii) into consideration, the binding domain for *himself* does not contain *to John*. Thus, in (143), if *they* didn't stop off in the subject position of the *seem*-clause, there would be no possible binder for *to each other*, and a Condition A violation would arise. I thank Howard Lasnik and Omer Preminger (p.c) for clarifying this point.
(i) Mary appears to him to like John   <disjoint reference effect>
(ii) *They appeared to John [to seem to himself [to be happy]].

In a similar fashion, NegP A-moves successive-cyclically from its base position to the matrix vP and then to the matrix TP. Then, at the point in the derivation when NegP is in the matrix but still lower than the matrix $\sum$P, Neg^0 undergoes (long but still clause-bounded) head movement and adjoins to the matrix $\sum^0$ as in (144). As a final step, the headless NegP moves further to spec TP as in (144c).[37]

Another possible derivation involves *amwu-* being extracted from the A-moved NegP, as shown in (144c'). However, I argue that this derivation is ruled out by the following constraint: in a single derivation, either *amwu-* on its own can be dislocated, or the entire NegP can be pied-piped, but both cannot occur in one and the same derivation.[38] Thus, once NegP moves, the *amwu-*phrase inside of NegP cannot be sub-extracted. Conversely, when the NP *amwu-* is independently extracted from NegP, the NegP itself cannot undergo feature-driven movement. This can be seen as an instance of Müller's (1996) Generalization, which entails that a remnant created by a movement of type X cannot itself be X-moved. Similarly, *amwu-* cannot A-move once NegP has already undergone the same type of movement. It is important to note that the feature, whose percolation or non-percolation from *amwu-* to NegP governs the relevant alternation,

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[37] Following Funakoshi (2014)'s argument that the availability of headless XP-movement relates to the availability of multiple specifiers, I assume that Korean, as a multiple spec language, allows headless XP movement, just like Japanese does.

[38] This is reminiscent of the argument that the size of what can be pied-piped can be determined by the extent to which the head of a phrase projects its features up (Chomsky 1973). Chomsky proposes a version of this regarding stranded prepositions; preposition movement can be optional as the *wh*-feature can be optionally attached to PP. Crucially, once a *wh*-phrase percolates its feature to the entire PP, it cannot strand the preposition at any of the intermediate positions, as in (i)- (ii), because of the A-over-A constraint. On the other hand, if the *wh*-feature percolates only up to NP, the preposition must be left behind in its base position.

(i) *Whom did you expect to to give the book?   Chomsky (1973)
(ii) a. Who do you believe Mary thinks Joan talked to?
     b. To Whom do you believe Mary thinks Joan talked?
     c. *Who/Whom do you believe to Mary thinks Joan talked?
     d. *Who/Whom do you believe Mary thinks to Joan talked?   Postal (1972)

is not iNEG (since iNEG originates in the head position of NegP, and is thus not subject to this logic of optional percolation), but some A-movement related D-feature.

(a)

TP
- Mary$_1$
- T′
  - …
  - T^0
    - vP
      - NegP
        - NP: Amwu-
        - NEG^0: ϕ[iNeg]
      - vP
        - CP
          - C′
            - TP
              - NP: PRO$_1$ /cakicasin$_1$-I
              - T′
                - …
                - T^0
                  - vP
                    - v′
                      - VP
                        - t$_{NegP}$
                        - V^0: read
                      - v^0
          - C^0
        - v′
          - VP
            - V^0: say
          - v^0

A-scrambling

(b)

TP
- Mary$_1$
- T′
  - ΣP
  - T^0
    - Σ′
      - …
      - Σ^0
        - vP
          - NegP
            - NP: Amwu-
            - NEG^0: ϕ[iNeg]
          - vP
            - CP
              - C′
                - TP
                  - NP: PRO$_1$ /cakicasin$_1$-I
                  - T′
                    - ΣP
                    - T^0: read t$_{NegP}$
                - C^0
            - v′
              - VP
                - V^0: say
              - v^0

(144)

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(c)   (c')

Tree (c):
- TP
  - NegP
    - NP: Amwu-
    - t_{Neg^0}
  - TP
    - Mary$_1$
    - T'
      - ΣP
        - 'anh'= Σ'
          - …
          - Σ^0
            - vP
              - $t_{remnantNegP}$
              - vP
                - CP
                  - C'
                    - TP
                      - NP: **PRO$_1$/cakicasin$_1$-I**
                      - T'
                        - ΣP T^0: read t$_{NegP}$
                    - C^0
                  - v'
                    - VP
                      - V^0: say
                    - v^0
            - Σ^0
            - **NEG^0** $\phi[$**iNeg**$]$
      - T^0

remnant movement

Tree (c'):
- TP
  - NP: Amwu-
  - TP
    - Mary$_1$
    - T'
      - ΣP
        - 'anh'= Σ'
          - …
          - Σ^0
            - vP
              - NegP
                - t_{NP}
                - t_{Neg^0}
              - vP
                - CP
                  - C'
                    - TP
                      - NP: **PRO$_1$/cakicasin$_1$-I**
                      - T'
                        - ΣP T^0: read t$_{NegP}$
                    - C^0
                  - v'
                    - VP
                      - V^0: say
                    - v^0
            - Σ^0
            - **NEG^0** $\phi[$**iNeg**$]$
      - T^0

Let us move on to the case where the ill-formedness is not remedied despite the presence of a bound pronoun, as in (138), repeated here in (145): *amwu-* stays in its original position.

(145) *Mary-ka   PRO/cakicasin-i   amwukesto   ilk-ess-ta-ko

       Mary-NOM   /self-NOM   amwu-INAN   read-PST-DEC-C

       malhaci-**anh**-ass-ta.

       say-**NEG**-PST-DEC

       '(lit) Mary$_1$ did not say that she$_1$/self$_1$ read nothing.'   (= 138)

Consider now the derivation of (145) in (146). The derivation in (146) is illicit since it violates the aforementioned NegP movement constraint: prior to the NegP movement, *amwu-* is already dislocated from its base position as in (146a). Hence, NegP cannot move at all, as illustrated in (146b).

(146) (a)   (b)
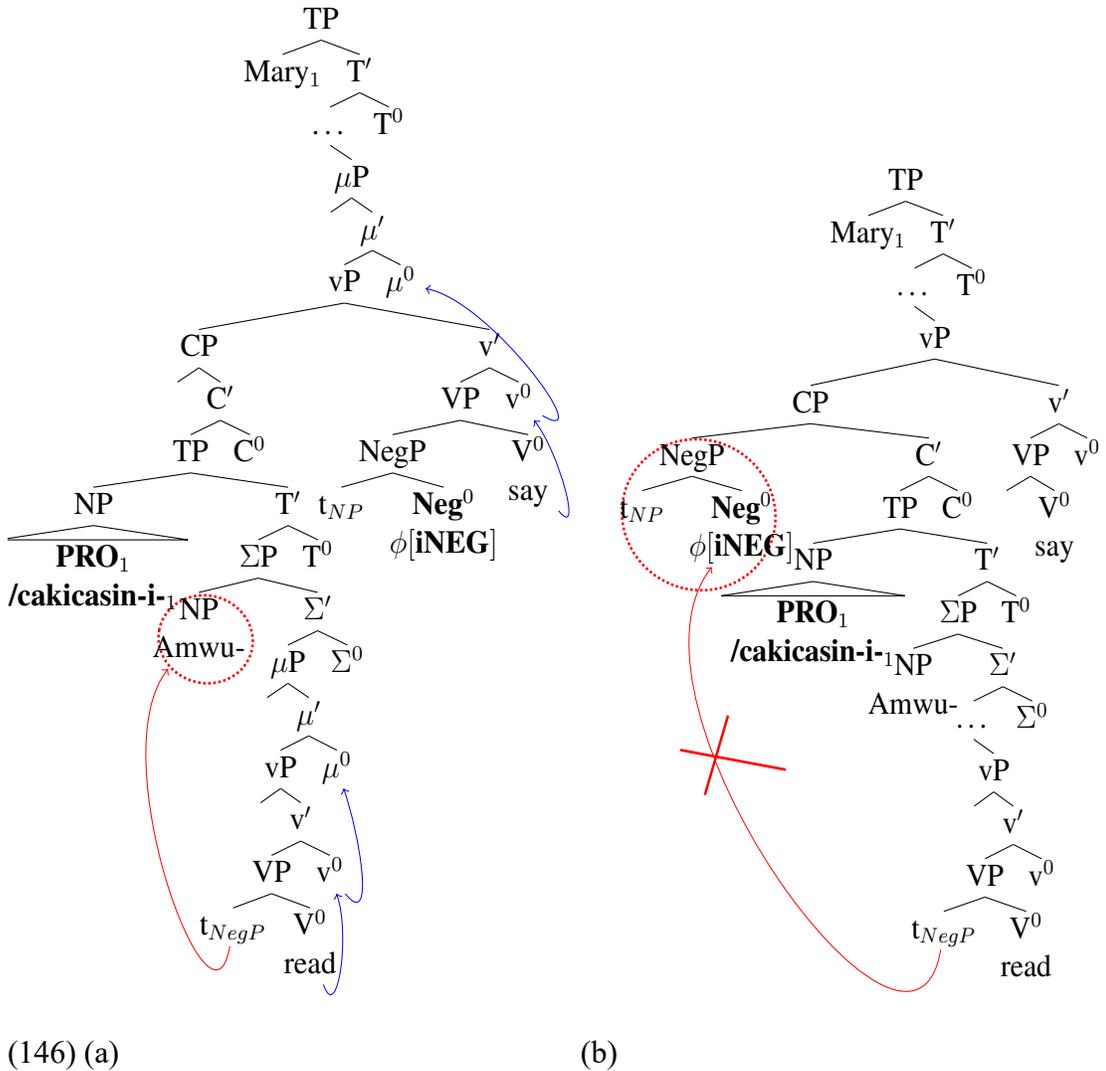
As an alternative to (146), one might consider the derivation where the Neg head moves across the clause boundary to give rise to the string in question. As argued earlier,

however, this violates the constraint against cross-clausal long-head movement. Thus, we can correctly rule out (145) on any derivation.

To summarize: in Korean, a bound pronoun in the embedded subject position induces a domain expansion effect, but only in the limited context where *amwu-* undergoes A-movement across a (relaxed) clause boundary. The Müller-style NegP-movement constraint and the cross-clausal head movement constraint play a role in blocking illicit movement of NegP and of the Neg head. Thus, the crucial grammaticality difference between the constructions with a bound pronoun follows directly from whether the movement in question obeys these constraints. Therefore, the data presented in this section constitute direct evidence supporting the current proposal that the limits on the positions of *amwu-* and clausal negation arise through an interplay of constituency upon base generation and a set of conditions on syntactic movement, as well as for the fact that the movement of NegP is A-movement.

Section 4 Nanimo in Japanese and kimse in Turkish

In previous subchapters, we have seen that the restricted distribution of *amwu-* relative to clausal negation naturally follows from the locality of constituency and limits on syntactic movement. In this section, I investigate possible parallels between *amwu-* and other negation-dependent items in Japanese (*nanimo*) and in Turkish (*kimse*). I begin by introducing the locality relation between a negation-dependent item and clausal negation in Japanese and Turkish and showing that similar paradigms regarding the bound pronoun effect (G&L 2018) are observed in Japanese, but not in Turkish.

Let us first consider the negation-dependent item *nanimo* in Japanese. *Nanimo* requires the presence of sentential negation in the same clause, as shown in (147) and (148a). In addition, the clausemate condition between *nanimo* and negation cannot be achieved via long-distance scrambling of *nanimo* into the higher clause hosting negation, as shown in (148b).

(147) a. John-wa   nanimo   tabe-nak-atta.

         John-TOP   anything   eat-NEG-PST

         'John didn't eat anything.'

     b. *John-wa   nanimo   tabe-ta.

         John-TOP   anything   eat-PST

         'John ate anything.'

(148) a. *John-wa   [Mary-ga   nanimo   tabe-ta-to] iwa-nak-ata.

         John-TOP   Mary-NOM   anything   eat-PST-C   say-NEG-PST

         '(lit) John did not say that Mary ate anything.'

     b. *Nanimo₁ John-wa   [Mary-ga   t₁   tabe-ta-to] iw-anakata.

         anything   John-TOP   Mary-NOM   eat-PST-C say-NEG-PST

         '(lit) John did not say that Mary ate anything.'

However, in a similar fashion to *amwu*-phrases in Korean, when the embedded subject is replaced with a bound pronoun, we can observe the *bound pronoun effect* (G&L 2018) in the long-distance scrambling construction in (149b) but not in the canonical word-order construction in (149a). That is, only when *nanimo* undergoes long-distance

scrambling to a higher clause hosting sentential negation, we can observe the *bound pronoun effect*.

(149) a.*John₁-wa   [PRO₁   nanimo   tabetato]   itta.

      John-TOP   anything   ate   say-NEG-PST

      '(lit) John₁ did not say that he₁ ate anything.'

    b. ᵀNanimo₂   John-wa   [PRO₁ t₂   tabetato]   iw-anakata.

      anything   John-TOP   ate   say-NEG-PST

      '(lit) John₁ did not say that he₁ ate anything.'

Given the parallels between *nanimo* in Japanese and *amwu-* in Korean, I suggest that my analysis for *amwu-* in Korean directly extends to the corresponding Japanese paradigms in (147) to (149).

Now, let us move on to *kimse* in Turkish. *Kimse* in Turkish, just like *nanimo* in Japanese and *amwu-* in Korean, must accompany negation in the same clause, as shown in (150) and (151).

(150) a. *Kimse*   git-me-di.

      anyone   go-NEG-PST

      'No one went.'

    b. *Kimse   git-ti.

      anyone go-PST

(151) *Cem   [Pelin-in   kimse-yi   gör-düğ-ün-ü]   bil-mi-yor.

      Cem-NOM   Pelin-GEN   anybody-ACC   see-NOML-3SG.POSS-ACC   know-NEG-PRES

      'Cem doesn't know that Pelin saw anybody.'

Şener (2007) observes that bringing the negation-dependent item *kimse* in the embedded clause into the same clause with matrix negation does not improve the unacceptability of (151), as shown in (152).

(152) *Kimse-yi₁   Cem   [Pelin-in t₁ gör-düğ-ün-ü]   bil-mi-yor.

      anybodyACC   CemNOM   PGEN   seeNOML-3SG.POSS-ACC   knowNEG-PRES

      'Cem doesn't know that Pelin saw anybody.'   Şener (2007)

This shows that in Turkish, the locality condition on *kimse'*s distribution cannot be satisfied in a derived position, just as the condition on *amwu-*'s distribution cannot. Şener rejects the argument that the unacceptability of (152) arises because long-distance scrambling in Turkish is PF movement. As shown in (153a), when the negation-dependent item *kimse* and negation are in the same clause, the sentences are acceptable. However, the sentence becomes bad when the negation-dependent item undergoes scrambling to the sentence-initial position, thereby creating a configuration where *kimse* and negation are not clausemates.[39] If the long-distance scrambling under

---

[39] It is not that the unacceptability of (152) and (153b) arises because *kimse* cannot be left-dislocated. As shown in (i), *kimse*, in fact, can be dislocated to the sentence-initial position without causing unacceptability of a sentence.
(i) kimseyle   ben   buluş-ma-dım t1.
    anyone1   I   meet-neg-past-3sg
    (lit) anyone, I did not meet.

discussion had taken place at PF, then (153b) would be acceptable just like (153a), contrary to fact. Note that in Turkish, noun phrases other than *kimse* can be dislocated long-distance in the same manner shown in (153b), as shown in (154). Thus, it is not the case that long-distance scrambling is not allowed in Turkish.

(153) a. Cem   [Pelin-in   kimse-yi   gör-me-diğ-in]-i

       Cem.NOM   Pelin-GEN   anybody-ACC   see-NEG-NOML-3SG.POSS-ACC

       bil-iyor.

       know-PRES

       'Cem knows that Pelin did not see anybody.'

  b. *kimse-yi$_1$ Cem   [Pelin-in   t$_1$ gör-me-diğ-in]-i

       anybody-ACC   CemNOM   Pelin-GEN   see-NEG-NML-3SG.POSS-ACC

       bil-iyor.

       know-PRES

       'Cem knows Pelin did not see anybody.'   Adapted from Şener (2007)

(154) Uğur'u$_1$ Ecem   Tolga'nın   t$_1$ ara-dığ-ı-nı   biliyor.

       Uğur-ACC   Ecem   Tolga-GEN   phone-FIN-3SG-ACC   know-PROG

       'Ecem knows that Tolga phoned Uğur.'

In contrast, *kimse* shows the opposite pattern when it comes to the *bound pronoun effect* and its interaction with long-distance scrambling. The canonical word order example (155), which contains a bound pronominal subject, shows the *bound pronoun effect*; a null bound pronominal subject in the embedded clause ameliorates the

unacceptability which was observed in (151). However, the *bound pronoun effect* goes away when *kimse* undergoes scrambling to the sentence initial position, as shown in (155b).

(155) a. Cem$_1$ [PRO$_1$ kimse-y$_i$ gör-düğ-ün-ü]   bil-mi-yor.

     Cem-NOM   anybody-ACC   see-NML-3SG-ACC   know-NEG-PST

     '(lit) Cem$_1$ doen't know he$_1$ saw anybody.'

    b. *Kimse-yi$_2$ Cem$_1$ [PRO$_1$ t$_2$ gör-düğ-ün-ü]   bil-mi-yor.

      anybody-ACC Cem-NOM   see-NML-3SG-ACC   know-NEG-PST

     '(lit) Cem$_1$ doen't know he$_1$ saw anybody.'

Though it is not that negation-dependent items *amwu-* in Korean and *kimse-* in Turkish are immune from the *bound pronoun effect*, they exhibit opposite behaviors under long-distance scrambling. We can consider the possibility that the difference at issue arises because properties of non-local scrambling between the two languages are different, given that moving negation-dependent items from the lower negative clause to the higher affirmative clause yields different grammaticality between two languages. However, this issue is beyond the scope of this thesis, and I leave it for future research.

Chapter 3: *Amwu-* under ellipsis and its scope

This chapter is mainly devoted to showing how negative elliptical answers in Korean can be derived, building on the theory of *amwu-* proposed so far. Thus, to the extent that the current analysis is successful, it provides further support for the idea that negation can be arrived at derivationally. Next, I review Collins & Postal's (2014) analysis and why it cannot be applicable to Korean *amwu-*.

The remainder of this chapter is concerned with the quantificational status of *amwu-*. I discuss the two main approaches that have been proposed in the previous literature; 1) existential under negation approaches ($\neg > \exists$) and 2) universal over negation ($\forall > \neg$) approaches. Then, I will show that none of the analysis can fully explain Korean data.

Section 1 Amwu- as a fragment answer

As is well-known, *amwu-* can be used as an elliptical answer, as in (156) (Sells & Kim 2006 Giannakidou & Yoon 2008, Watanabe 2004 on Japanese). Here, as argued in the previous literature (Park 2005, An 2016), I assume that the fragment answer in (155A) is derived via movement of *amwu-* followed by clausal ellipsis, which will be discussed further in subsection 3 in this chapter. The full-fledged form of (156A) is (156A'). The issue here is that the inherently non-negative *amwu-* can stand alone as a negative elliptical answer even though its antecedent clause is affirmative. For the semantically non-negative *amwu-* to appear in the elliptical answer, the elided part would have to include sentential negation, which is absent in the antecedent in (156A'). However, this

leads to a polarity mismatch between the antecedent and the elliptical answer, appearing to violate the formal identity condition on ellipsis.

(156) Q: Mary-ka   mwues-ul   po-ass-ni?

   Mary-NOM   what-ACC   see-PST-Q

   'What did Mary see?'

   A: Amwukesto

   amwu-INAN

    'Mary did not see anything.'

   A':Amwukesto   [~~Mary-ka   t   poci-anh-ass-ta~~.]

   amwu-INAN   Mary-NOM   see-NEG-PST-DEC

   'Mary did not see anything.'

Before I elaborate the specifics of my proposal, let me briefly sketch Watanabe (2004)'s analysis of fragment answers in Japanese.

Subsection 1 Previous Analysis of Negative Fragment Answers

Having observed the same phenomenon in Japanese, Watanabe (2004) proposes a feature-copying analysis to resolve the issue. As introduced in the previous chapter, Watanabe's analysis is based upon two crucial assumptions: 1) both negation-dependent items (the goals) and negation (the probe) are inherently negative, that is, they have an interpretable NEG feature (iNEG), 2) the feature that renders the negation-dependent item active is an uninterpretable focus feature (uFoc), as illustrated in

(157a). Watanabe argues that as a result of Agree, the iNEG feature of the negation-dependent item is copied onto the instance of negation in the clausal spine, thereby eliminating uninterpretable Foc feature and nullifying the negative feature of the negation, as illustrated in (157b). The two iNEGs on the Neg head cancel each other out to be interpreted as affirmation. Therefore, the polarity of the elided part of the clause is formally/syntactically identical to that of the antecedent, satisfying the identity condition on ellipsis.

PolP (cf. NegP in Watanabe 2004)   PolP (cf. NegP in Watanabe 2004)

Pol′   Pol′

vP   Pol⁰   vP   Pol⁰

negation-dependent item   [iNEG]   negation-dependent item   [iNEG] [iNEG]

[iNEG] [uFOC]   [iNEG] [~~uFOC~~]
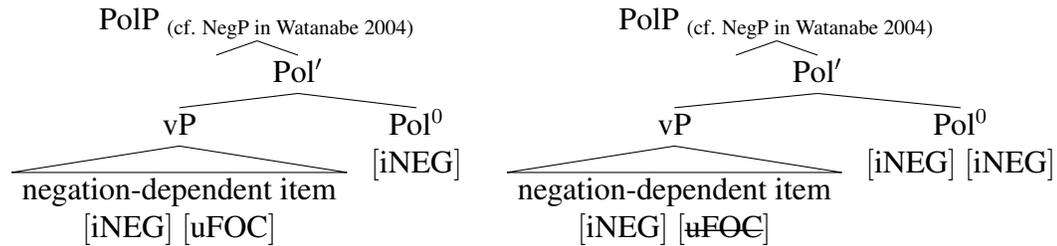
(157) (a)   (b)

However, recall that in chapter 1, I showed that Watanabe (2004)'s analysis cannot work for *amwu-* in Korean; his analysis falsely predict that the long-distance scrambled *amwu-* in (77) and (78) would be able to Agree with the matrix negation and this, in turn, would result in acceptability. Thus, I put his analysis aside as an analysis of *amwu-* fragment answers.

Subsection 2 Analysis (Chomsky (1965)'s featural specification approach)

As an alternative to Watanabe's analysis, I argue that the apparent absence of full identity in negative fragments can be explained under a version of Chomsky (1965)'s

featural specification account of deletion recoverability. First, I lay out the main arguments for Chomsky's featural specification analysis. I then show how Chomsky's analysis motivates the proposal that I pursue, and how the polarity mismatch at issue is accounted for under the current proposal.

Chomsky (1965) argued that deleted material must be recoverable and this calls for an identity condition – that is, a condition that limits deletion to an item that occurs in the context of another element which it is (syntactically) identical to (see also Katz & Postal 1964, for discussion of the recoverability condition on ellipsis). Furthermore, he argued that inherent features are subject to strict identity whereas derivationally-acquired (non-inherent) features, introduced by transformations, are not. For instance, in an example like (158), the singular form of the copula *is* in the elided part is not identical to the plural form in the antecedent *are*. Despite the violation of strict identity (in terms of number features) between the antecedent and the ellipsis site, ellipsis is still allowed, as shown in (158). Chomsky argues that a difference in the value of inflectional ϕ-features does not matter, and this accounts for why non-identity of the copula (in number features) in (158) is licit under ellipsis. Chomsky notes that the relevant feature in (158) is a non-inherent feature that is determined by the syntactic context and hence, is recoverable even if deleted. More precisely, Chomsky argues for a weaker notion of "non-distinctness" in the domain of deletion under identity. Thus, in the base structure of (158), the copula *be* is not singular; rather, it is just unspecified with respect to number. This means that it is (featurally) non-distinct from the corresponding copula in the antecedent "these men are clever". The acceptability of (158) suggests that non-distinctness is sufficient to permit deletion.

(158) These men are more clever than Paul.   Adapted from   Chomsky (1965)

Let us next consider the French case, discussed in Chomsky (1965), in (159). (159) also violates strict identity between the antecedent clause and the elided part; the deleted adjective differs in terms of the number feature ±plural just like the copula, and also in terms of being +masculine. However, the apparent non-identity does not prevent the application of ellipsis. Thus, as Chomsky argues, the inflectional features that are added by agreement transformations are apparently not considered for ellipsis.

(159) Ces   femmes sont   plus   intelligentes que   Pierre

These   women   are   more   intelligent   than Pierre

'These women are more intelligent than Pierre.' Adapted from Chomsky (1965)

In the same vein, I will argue that negation in Korean ('an' or 'anh') also arises derivationally and is therefore not considered in determining identity for the purposes of ellipsis. What counts as an inherent (lexical) feature here is the featural properties of the polarity heads, $\sum$ and μ (whether they are featureless or feature-bearing) *when they are selected from the lexicon*. In the theory pursued in this thesis, the clause can be rendered negative derivationally, as shown in (92) and (94), repeated here in (160) and (161), respectively.

$$
\begin{array}{ccccccc}
\mu^0 & \text{or} & \mu^0 & & \Sigma^0 & \text{or} & \Sigma^0 \\
\downarrow & & \downarrow & & \downarrow & & \downarrow \\
[\text{iNEG}] & & [\ \ ] & & [\text{iNEG}] & & [\ \ ]
\end{array}
$$

(160)

95
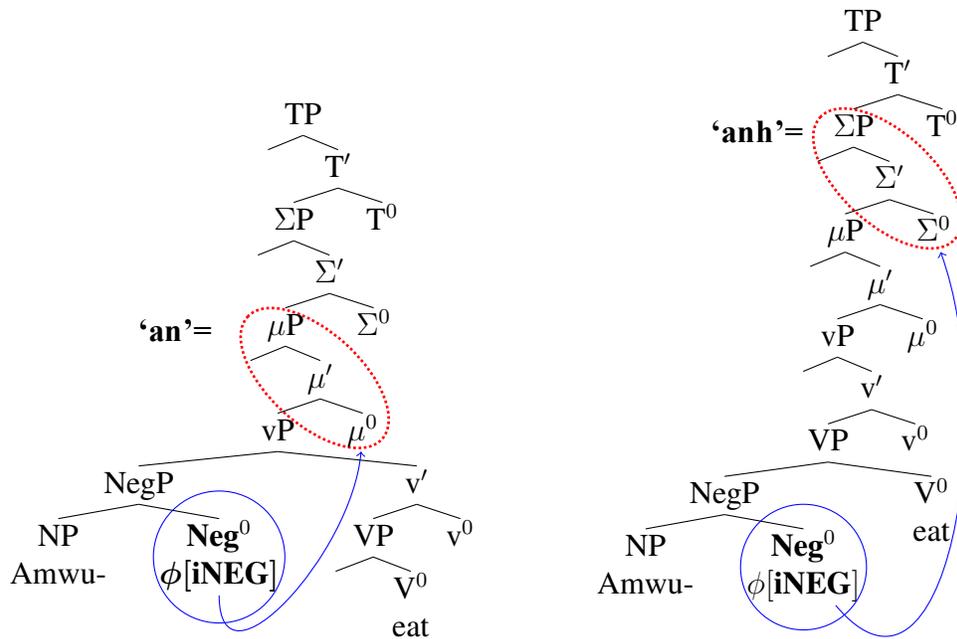
(161) a.   b.

Thus, 'polarity matching' under the current system amounts to selecting an identical $\sum/\mu$ head from the lexicon. Now, let us consider the *amwu-* fragment answer in (156), repeated here in (162).

(162) Q: Mary-ka   mwues-ul   po-ass-ni?

      Mary-NOM   what-ACC   see-PST-Q

      'What did Mary see?'

    A: Amwukesto

      amwu-INAN

      'Mary did not see anything.'

A':Amwukesto [~~Mary-ka   t   poci-anh-ass-ta~~.]

amwu-INAN   Mary-NOM   see-NEG-PST-DEC

'Mary did not see anything.'

In the antecedent (162), the $\sum/\mu$ head selected from the lexicon is featureless, given that it is affirmative. The same featureless $\sum/\mu$ head must be selected in the elliptical construction in (162A) in order to satisfy the identity condition on inherent (i.e, non-derivationally-acquired) features under ellipsis. At the same time, *amwu-* is base-generated in a NegP whose head bears iNEG, and the featureless $\sum/\mu$ head then acquires an iNEG feature derivationally via Neg^0 head movement. As a result, the negative answer in (162A) can be successfully derived; the sentence can successfully get a negative interpretation (see (74)) while the acquired negative feature on the $\sum/\mu$ head is ignored for the identity requirement on ellipsis.[40]

Under this system, since the same $\sum/\mu$ head without an iNEG feature is selected from the lexicon in the elliptical construction and its antecedent, we can successfully rule out the fragment answer in (163A) being construed as 'Mary did not eat an apple.' to

---

[40] On this theory, we predict that the negative answer in (i) should be good, since we can satisfy the polarity matching requirement on ellipsis by selecting the same feature-bearing $\sum/\mu$ head from the lexicon and ignoring the derivational negative feature. However, contrary to the prediction, the construction is infelicitous. I argue that the negative answer in (i) is ruled out for an independent pragmatic reason. Given the English example in (ii), it is presupposed in the question that 'Mary did not eat *something*'. The interlocuter is asked to narrow down what that '*something*' is. However, the answer in (iiA) does not contribute to the information that is already known, yielding the infelicity of (iiA). Likewise, the answer in (iA) is odd beacuse it does not provide any new information. Rather, it provides the same amount of information that is already available, violating the Gricean Maxim of quantity.

(i) Q: Mary-ka   mwues-ul   mekci-anh-ass-ni?
       Mary-Nom   what-Acc   eat-Neg-Pst-Q
       'what didn't Mary eat?'
    A: #Amwukesto
       Amwu-INAN
(ii) Q: What didn't Mary eat?
    A: #Something

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the question 'What did Mary eat?'. Recall that the only way for a lexically-featureless polarity head to acquire iNEG features derivationally is through the presence of an *amwu-*/Neg phrase, which is not present in (163A). In other words: while the derivationally-acquired feature in question ([iNeg]) is not semantically inert – unlike those features that Chomsky (1965) discusses in his mismatch examples – it is still the case that the present account raises no recoverability issues. That is because whether or not there is an [iNEG]-hosting NegP from which μP or ΣP can acquire their [iNEG] is entirely recoverable from the contents of the ellipsis remnant (*amwukesto* in (162), *saka-ul* "apple-ACC" in (163)).

(163) Q: Mary-ka   mwues-ul   mek-ess-ni?   A: saka-ul

      Mary-NOM what-ACC   eat-PST-Q   apple-ACC

      'What did Mary eat?'   'Mary ate an apple.'

                                              #Mary did not eat an apple.'

Subsection 3 Fragments as clausal elliptical constructions

The discussion of *amwu-* fragment answers so far has taken it for granted that fragment answers are instances of ellipsis. This assumption can be questioned. Thus, in this sub-section, I will show that fragment answers in Korean are derived via (clausal) ellipsis. Fragment answers are non-sentential XPs, which nevertheless convey the propositional content just as their fully sentential counterparts do, as shown in (164). In the previous literature (Park 2005, An 2016 for Korean, and Hankamer & Sag 1976, Merchant 2005 for English), it has been argued that fragment answers involve focus movement

followed by clausal ellipsis. Under the ellipsis approach, the fragment in (164A) is derived by eliding all other parts of a sentence (164A"), except the focused element, *John.*

(164) Q: Who did she see?

    A: John

    A': She saw John.   Merchant (2005)

    A": John$_1$ [~~she saw~~ ~~t$_1$~~].

In similar fashion, in Korean, as an answer to the question in (164Q), a speaker can provide a fragment as in (165A). Despite its form, this fragment answer in (165A) conveys the same meaning as its sentential counterpart in (165A').

(165) Q: John-i   mwuess-ul   mek-ess-ni?

    John-NOM what-ACC   eat-PST-Q

    'What did John eat?'

  A: sakwa-lul

    apple-ACC

    'an apple'

  A': (John-i)   sakwa-lul   mek-ess-e

    John-NOM   apple-ACC   eat-PST-DEC

    'John ate an apple.'

I argue that fragment answers are derived via focus movement followed by clausal ellipsis. To investigate whether there is phonologically invisible syntactic structure in fragment answers, a wide range of diagnostics have been suggested in the previous literature (Morgan 1973, Merchant 2005 for English, and Park 2005 for Korean, among many others); fragment answers exhibit grammatical dependencies such as binding connectivity and case connectivity, which are equally attested in their sentential counterparts. Here, I review previous arguments in favor of the ellipsis analysis of fragment answers.

First, as noted in Park (2005), if fragment answers are indeed derived via clausal ellipsis, the case marker on the fragment must match with the case that its counterpart would bear in the fully sentential structure. As shown in (166), the construction is well-formed when the case marker of the fragment answer is nominative, which is exactly the same as the case of the corresponding noun in a full-fledged sentential answer in (166A'). On the other hand, when the fragment appears with accusative case marker, the construction is ill-formed.

(166) Q: Nwu-ka   ku   chayk-ul   sa-ss-ni?

      who-NOM   that book-ACC buy-PST-Q

      'Who bought that book?'

   A: Youngswu-ka/*lul

      Youngswu-NOM/ACC

      'Youngswu bought that book.'

A': Youngswu-ka/*-lul₁   chayk-ul   t₁ sa-ss-ta

   Youngswu-NOM/-ACC   book-ACC   buy-PST-DEC

   'Youngswu bought that book.'   Park (2005)

The example in (167), which includes antecedent with accusative case, further confirms the connective effect in fragment answers. The construction is well-formed only when the case marker of the fragment answer is accusative, which matches the case of the corresponding noun in its sentential counterpart in (167A').

(167) Q: Mary-ka   nwukwu-lul manna-ss-ni?

      Mary-NOM   who-ACC   meet-PST-Q

      'Who did Mary meet?'

   A: Yongsu-*ka/lul

      Youngswu-NOM/ACC

      'Mary met Yongsu.'

   A': Youngswu-*ka/-lul₁   Mary-ka   t₁   manna-ss-ta

       Youngswu-*NOM/-ACC   Mary-NOM   meet-PST-DEC

      'Mary met Yongsu.'

Another kind of connectivity that holds between fragment answers and their sentential counterpart has to do with Binding Principles. The non-elliptical construction in (168A') is ruled out because a reciprocal in the subject position cannot be bound, thus violating Binding Condition A. A reciprocal in the fragment answer is equally

impossible as an answer to the question, as shown in (168A). Under the ellipsis analysis, this parallel behavior of the reciprocal between the fragment answer and its non-elided counterpart is entirely expected; the fragment answer obeys the binding principle that regulates the distribution of the reciprocal in its sentential counterpart.

(168) Q: Nwu-ka   [Bill-kwa-Max]-lul pinanhay-ss-ni?

   who-NOM   Bill-and-Max-ACC   blame-PST-Q

   'Who blamed Bill and Max?'

 A: ?*[selo-uy   pwumo]-ka.

   each other-GEN   parents-NOM

   '(lit) Each other's parents.'

 A': ?*[selo-uy   pwumo]$_i$-ka   [Bill-kwa-Max]$_i$-lul   pinanhay-ss-e

   each other-GEN   parents-NOM   Bill-and-Max-ACC   blame-PST-DEC

   '(lit) Each other$_i$'s parents blamed [Bill and Max]$_i$.'   Park (2005)

In similar fashion, a Principle A effect is also observed in (169). The fragment answer in (169A) is as acceptable, just as the non-elliptical sentence in (169A') is. The anaphor in both (169A) and (169A') can be bound by the subject, *Max*, thereby satisfying binding condition A.[41]

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[41] One might consider the possibility that the anaphor in the fragment answer can be bound inter-sententially. However, this is not true. If the anaphor in subject position in (iB) could be bound inter-sententially, we would expect the sentence to be good, contrary to fact.
(i) A: Mary-ka   John-I   kongchaek-ul   hwumcheo-ss-ta-ko malhay-ss-ta.
       Mary-Nom   John-Nom   notebook-Acc   steal-Pst-Dec-C   say-Pst-Dec
       'Mary said that John stole the notebook.'
    B: ?*cakicain-I John-I   kongchek-ul   hwumchinun-kes-ul   boa-ss-tae?
        self-Nom   John-Nom   notebook-Acc   steal-Noml-Acc   see-Pst-Dec
        'lit. did self see that John stole notebook?'

(169) Q: Max-ka   nwukwu-lul   pinanhay-ss-ni?

       Max-NOM   who-ACC   blame-PST-Q

       'Who did Max blame?'

    A: cakicasin-uy chinkwu-ul

      self-ACC

      '(lit) self's friends'

    A': [cakicasin-uy   chinkwu-ul]$_1$ Max-ka   t$_1$ pinanhay-ss-e

      self-GEN   friend-NOM   Max-ACC   blame-PST-DEC

      '(lit) Max$_1$ blamed self$_1$'s friends.'

Park (2005) argues that fragment answers involve focus movement prior to clausal ellipsis. Korean disallows postposition stranding. In such languages, fragment answers without postpositions are not permissible. For instance, when NPs alone move to the sentence initial position, leaving their postposition behind, the construction is bad as in (170A'). Likewise, the same postposition has to be pied-piped with fragment answers. Otherwise, unacceptability arises, as shown in (170A). This parallel follows directly from the ellipsis account under which fragment answers are assumed to undergo movement to the left-periphery prior to clausal ellipsis.

(170) Q: Bill-i   nwukwu-lul-wuihayse   nolay-lul   pul-ess-ni?

       Bill-NOM   who-ACC-for   song-ACC   sing-PST-Q

       'For whom did Bill sing a song?'

A: Mary-lul-*(wuihayse)

Mary-ACC-for

'For Mary'

A: *Mary-lul$_1$ Bill-i   t$_1$-wuihayse   nolay-lul   pul-ess-ta.

Mary-ACC   Bill-NOM   -for   song-ACC   sing-PST-DEC

'Bill sang a song for Mary'   Park (2005)

In summary, this subsection demonstrated that the full range of connectivity and movement-associated effects are best accounted for under the ellipsis analysis of fragment answers. Therefore, I conclude that fragment answers are derived from full sentential structures via clausal ellipsis.

Section 2 Collins & Postal (2014)

In chapter 2, I proposed that *amwu-* is base-generated with negation as a single constituent and then negation (a head) departs from its base position to the polarity projection. My base-generation analysis of *amwu-* is similar in spirit to Collins & Postal (2014). They, however, focus on English which is a very different language with respect to the properties of negation, among many other things. Here, I will briefly review Collins & Postal's analysis and argue that their analysis cannot extend to *amwu-* in Korean.

Collins & Postal try to explain various forms of English Negative Polarity Items such as *jackshit, no window, any window* and *anything* in (171) under a unified account. According to them, English NPIs are expressions underlyingly associated with a NEG,

which has "raised away" from the NPI. For instance, Collins & Postal claim that the sentential negation *not* immediately following the Aux in (174a) originates as part of the adverbial form. Thus, the original structure underlying (171a) is (172), which is identical to the original structure underlying (171b). The difference between (171a) and (171b) in their surface forms is dependent on whether NEG has raised out of the original constituent or not. Collins & Postal postulate the phonological spell-out rules of NPIs shown in (174).

(171) a. Chloe tasted no beer.

     b. Chloe did not taste any beer.

(172) Chloe did taste [[<NEG> SOME] beer].

(173) Chloe did taste NEG_1 [[<NEG_1> SOME] beer].   Adapted from C & P (2014)

(174) The SOME → *any* Mapping

    a. SOME → *any*, in the context [<NEG> __] (NEG unpronounced)

    b. SOME → *null*, in the context [NEG __]   (NEG pronounced)

    c. SOME → *some*, otherwise

    d. *any* → *null*, in the context [___ [NP JACK]]   Collins & Postal (2014)

Given the rules in (174), when NEG has not raised out of the nominal form, as shown in (173), it is pronounced as *no* in its base position and hence *SOME* is not pronounced. Thus, [[NEG SOME]] beer] is spelled out as *no beer* in (171a). However, when NEG raises to VP position, as shown in (173), the higher occurrence of NEG is realized as *n't* or *not* whereas the lower occurrence of NEG is not pronounced. As a result, [SOME

beer] is realized as *any beer,* thereby yielding the sentence, 'I didn't taste any beer' in (171b). [42]

Let us now turn to an instance of negative concord in (175). According to Collins & Postal (2014), a possible underlying structure of (175) is (176). However, they point out that (176) does not represent any correct interpretation of (175). The only possible interpretation of (175) is the polyadic quantification reading in which a sequence of NPIs can be interpreted as resumption not as an iteration of negative quantifiers (for related discussion, see De Swart & Sag 2002, May 1989). When this resumptive mechanism applies to NPIs, the two NPIs combine and are reinterpreted as only one complex NPI and, in turn, this results in the polyadic interpretation. Under the polyadic interpretation, the meaning should be 'it is not the case that there exists some pair (x,y) such that x loves y'. Therefore, C&P argue that the syntactic basis for polyadic quantification involves determiner sharing.[43] Thus, the [NEG SOME] determiner is contained in the lexical representation for *no woman* as well as *no man*. According to them, in determiner sharing, the same determiner is merged in two distinct places in the syntactic structure. Thus, NEG (NEG_e) and SOME ($SOME_f$) are shared for *no man* and *any woman*, yielding the structure in (177).

---

[42] Collins & Postal note briefly that the movement of NEG_1 violates Ross's (1986) Left Branch Condition. However, given the definition provided by Ross, as shown in (i), the movement under discussion does not violate Ross's LBC condition; it does not involve moving an "NP".
(i) No NP which is the leftmost constituent of a larger NP can be reordered out of this NP by a transformational rule   Ross (1986:127)
[43] For detailed semantic rules to interpret the shared-D structure, see 6.2 in Collins & Postal (2014). They assume that the interpretation operates on a structure that contains a whole sequence of DPs that share a determiner

(175) No man loves any woman.

'¬∃<x,y>: x a man, y a woman. x loves y.'

(176) [[NEG$_1$ SOME]man] loves [[NEG$_2$ SOME] woman]

'¬∃x: x a man, ¬∃y: y a woman. x loves y.'

(177) [<[[NEG$_e$ SOME$_f$] man]$_1$> <[[NEG$_e$ SOME$_f$] woman]$_2$> [DP$_1$ loves DP$_2$]]]

In order to derive the surface form of (175), Collins & Postal propose an additional rule, as shown in (178). The principle in (178) states that in sentences containing shared [NEG SOME] determiners, delete each copy of the sequence of negative constituents except the highest (c-commanding) negative constituent which represents the head of a NEG deletion chain. Thus, the lower DP with unpronounced NEG is spelled out as '*any woman.* ' However, the principle seems only to be adopted to account for this fact and therefore lacks independent motivation.

(178) "The Standard English Negative Concord Reduction Principle

<div align="right">Collins and Postal (2014) (p57)</div>

Let DP$_1$, DP$_2$, …, DP$_n$ be a maximum sequence of n > 1 DP occurrences in scope position (in a single clause) sharing a D = [NEG SOME], where DP$_1$ c-commands each of DP$_2$,…, DP$_n$. And for all i, 1 < i < n, let D$_i$ be the copy of D in DP$_i$ and let NEG$_i$ be the NEG of D$_i$. For each occurrence of DP$_i$, NEG$_i$ is deleted except the NEG$_i$ outside DP$_i$ (i.e. the raised NEG).

Note that apart from being ad hoc, the rule according to which the deletion of the lower NEG is necessary, as C&P admitted in their paper, cannot derive the following grammatical sentence.

(179) No man likes no woman (in no bar in no town).

Having sketched the basic gist of C&P's account, let us return to Korean. The examples in (180) and (181) involve long-distance scrambling *amwu-* to the matrix negation. Their analysis cannot explain the acceptability difference between (181) and (182). Under C&P's view, it is incorrectly predicted that the examples in (180) and (181) are equally good. This is because, both (180) and (181) obey the principle in (178) and this, in turn, should give rise to acceptability. However, (180) is unacceptable whereas (181) is acceptable.

(180) *Amwukesto$_1$ Mary-ka   [John-i t_1 ilk-ess-ta-ko]   amwu-ekeyto

Amwu-INAN   Mary-NOM [John-NOM   read-PST-DEC-C]   amwu-to

malhaci-**anh**-ass-ta.

say-**NEG**-PST-C

'Mary said to no one that John read nothing.'   [Long-distance scrambling]

(181) ??Amwukesto₁   Mary-ka   [PRO/cakicasin-i   t₁   ilk-ess-ta-ko]

    Amwu-INAN   Mary-NOM   [self-NOM   read-PST-DEC-C]

    amwu-ekeyto   amwu-to   malhaci-**anh**-ass-ta.

    amwu-to   amwu-AN   say-**NEG**-PST-C

    '(lit) Mary₁ said to no one that self₁ read nothing,'   [Long-distance scrambling]

In short, it turns out that C& P's analysis suffers from the empirical problem that the current analysis does not suffer from. Therefore, we have arrived at the conclusion that C& P's analysis cannot apply to *amwu*-s in Korean.

    Section 3 Scope

In this subsection, I investigate the semantic status of the negation-dependent item *amwu*- in Korean. Note that the point of this subsection is not to provide a decisive answer for the question of whether *amwu*- is an existential quantifier scoping below negation, or a universal quantifier scoping over negation.

In the previous literature, *amwu*- has often been identified with an existential quantifier which inherently requires narrow scope below negation (Sohn 1994, Choi 1999). In other work, however, it has been taken to be a universal quantifier which inherently requires wide scope above negation (Sells & Kim 2006, Yoon 2008, Giannakidou & Yoon 2016).

(182) Mary-ka   amwukesto   **an**   mek-ess-ta

Mary-NOM   amwu-INAN   **NEG**   eat- PST-DEC

'(lit) Mary did not eat anything'   (= 37)

a. Everything is such that Mary did not eat it.

b. It is not the case that there is something that Mary ate.

Suppose that *amwu-* is an existential quantifier. In order to derive the right interpretation of (183), where the existential quantifier scopes under negation, *amwu-* in the subject position would have to be hierarchically lower than negation.[44]

(183) a. Amwuto   ppang-ul   **an**   mek-ess-ta

amwu-INAN   bread-ACC   **NEG**   eat-PST-DEC

'No one did not eat bread'   (neg > ∃ or ∀ > neg)

b. Amwuto   ppang-ul   mekci-**anh**-as-ta.

amwu-INAN   bread-ACC   eat- **NEG**-PST-DEC   (neg > ∃ or ∀ > neg)

'No one did not eat bread'

At this point, let us consider how negation scopally interacts with quantifiers in the subject position in a clause. A universal quantifier or existential quantifier in the subject position always takes scope over negation, as shown in (184) and (185), respectively,

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[44] Here, I assume that sentential negation in Korean cannot scope anywhere but its base position (between VP and TP) unless it is in the complement of a neg-raising verb. That is because (184) and (185) bear the unambiguous interpretation in which negation takes narrow scope. If negation could shift from its original position to a higher position (relative to the subject), the interpretation of (184) and (185) would be the inverse (or, alternatively, the two would be ambiguous), contrary to fact.

regardless of whether the negation in question is long-form or short-form. Recall that Korean is a scope-rigid language. Thus, in a simple clause, the scope of the quantifiers is determined solely by the surface hierachical structure, without recourse to QR or reconstruction. With this in mind, the scopal interpretations of (184) and (185) show us that a universal and existential quantifier in the subject position must be hierarchically higher than negation. This hierarchical relation between (the surface position of) the subject and negation is the opposite of the hierarchical relation between *amwu-* in the subject position and negation that we have drawn from (183). Therefore, if the *amwu*-phrase is indeed an existential quantifier, it seems to somehow be subject to obligatory reconstruction under negation.

(184) a. Motun   haksayng-i   pati-ey   **anh**-wa-ss-ta.

        All   student-NOM   party-LOC   **NEG-**come-PST-DEC   ($\forall$ > neg only)

        'Every student did not come to the party.'   Sells & Kim (2006)

     b. Motun   haksayng-i   pati-ey   oci-**anh**-ass-ta.

        All   student-NOM   party-LOC   come-**NEG-**PST-DEC

        'Every student did not come to the party.'

(185) a. Nwukwunka-ka   ppang-ul   **an**   mek-ess-ta

        Someone- NOM   bread-ACC   **NEG**   eat-PST-DEC

        'Someone did not eat bread.'   ($\exists$ > neg only)

     b. Nwukwunka-ka   ppang-ul   mekci-**anh**-as-ta.

        Someone- NOM   bread-ACC   eat- **NEG**-PST-DEC

        'Someone did not eat bread.'

One may consider the alternative possibility, namely that *amwu-* in (183) is a universal quantifier scoping over negation. Then, considering the fact in (184) and (185) that quantifiers in the subject position always take scope over negation, (183) can get the right interpretation where a universal quantifier takes wider scope than negation. This seems to be plausible given that ∀¬ and ¬∃ are truth-conditionally equivalent. In fact, Yoon (2008) and Tieu & Kang (2014) have argued that *amwu-* is a universal quantifier scoping over negation based upon some key characteristics of universal quantifiers shared by *amwu*. First of all, *amwu-* can be modified by *keuy* 'almost' as in (186), just like universal quantifiers (see Giannakidou 2006, Zanuttini 1991 among many others). In Korean, 'keuy' can modify a universal but not an existential, as demonstrated in (187) and (188).

(186) Keuy   amwuto   phathi-ey   oci-anh-ass-ta.

     almost   amwu-AN   party-to   come-NEG-PST-DEC

     'Almost nobody came to the party.'   Yoon (2008)

(187) Keuy   motwu-ka phathi-ey   oci-anh-ass-ta.

     almost   all-NOM   party-to   come-NEG-PST-DEC

     'Almost everyone came to the party.'

(188) *Keuy   nwukwunka-ka   phathi-ey   oci-anh-ass-ta.

     almost   someone-NOM   party-to   come-NEG-PST-DEC

     'Almost someone came to the party.'

Second, as already alluded to in chapter 1, the apparent locality constraint between

negation and *amwu-* in its clause of origin could follow from the fact that the scope of

universal quantifiers in Korean is clause-bounded (Farkas & Giannakidou 1996,

Reinhart 1997 for English). As in (189), an indefinite can scope freely across a clause-

boundary whereas a universal quantifier cannot. [45]

(189) a. Motun   sensayngnim-i   etten   haksayng-i   hakkyo-lul

Every   teacher-NOM   some   student-NOM   school-ACC

kumantwu-ess-ta-ko   sayngkakhay-ss-ta.

leave-PST-DEC-C   think-PST-DEC $(\forall > \exists)$ & $(\exists > \forall)$

'Every teacher thought that some student dropped out of school.'

b. Etten   haksayng-i   motun sensayngnim-i   hakkyo-lul   kumantwu-ess-ta-ko

Some   student-NOM   every   teacher-NOM   school-ACC   leave-PST-DEC-C

sayngkakhay-ss-ta.

think-PST-DEC

'Some student thought that every teacher left school.' $(\exists > \forall$ only$)$

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[45] Though Korean and Japanese exhibit scope rigidity which supports the absence of QR, it has been
observed that as in (i), an indefinite can take wide scope (even across a clause boundary as in (ii)). This
scope fact can be captured under the choice function analysis (Reinhart 1997), which crucially does not
involve movement.

(i) Motun   haksayng-i   nwukwunka/etten sensayngnim-ul   coahay-ss-ta.
   every   student-NOM   someone/a teacher-ACC   like-PST-DEC
   'Every student likes a teacher.'   (both $\forall > \exists$ and $\exists > \forall$ possible)

(ii) Motun   haksayng-i   nwukwunka-ka/etten sensayngnim-i   yebbu-si-ta-ko   malhay-ss-ta.
   every   student-NOM   someone/a teacher-NOM   pretty-HON-DEC-C   say-PST-DEC
   'Every student says that someone/a teacher is pretty.'   (both $\forall > \exists$ and $\exists > \forall$ possible)

If *amwu-* is indeed a universal quantifier whose scope is clause-bounded, the licensing of *amwu-* would only be possible only in a local configuration. Thus, Yoon concludes that the parallelism between *amwu-* and universal quantifiers in terms of "clause-boundness" is a straightforward consequence of the fact that *amwu-* is a universal quantifier scoping over negation rather than an existential quantifier scoping below negation. Scope-rigidity usually means that scope adheres to S-Structure (or its equivalent), not that there is no scope-expansion in the language (i.e., that scope adheres to D-Structure (or its equivalent)). Therefore, under a Yoon-type analysis, one would predict that if *amwu-* is moved 'overtly', it should be possible to expand its scope, and so the clause-boundedness should disappear. This works in one direction (viz. long-distance scrambled *amwu-* can be "licensed" by negation in its clause of origin), but not in the other direction (viz. *amwu-* cannot be brought via long-distance scrambling into a position where its scope is above an instance of the matrix negation (in a clause higher than its clause of origin), i.e, no "licensing" of *amwu-* in derived positions).

Yoon (2008) admits that there have been doubts modifiability by *almost* as a diagnostic for universal quantification (Déprez 1997, Horn & Lee 1995, Penka 2011). Yoon suggests an alternative diagnostic tool for universal quantificational force, namely modification by *absolutely* (Giannakidou 2000). However, *amwu-* cannot be modified by *absolutely*, as shown in (192), on part with the existential quantifier in (191). [46] In contrast, a universal quantifier can be modified by *absolutely*, as shown in

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[46] Yoon (2008) considers '*celtaelo*' as the Korean equivalent to 'absolutely'. However, this is not completely accurate, in that '*celtaelo*' can appear only in negative environments. In other words, if there is no sentential negation, '*celtaelo*' cannot appear.

(190). Thus, modifiability by *almost* taken together with unmodifiability by *absolutely,*
do not conclusively tip the scale in either direction. Therefore, modifiability by adverbs
does not stand as decisive evidence in favor of the universal quantifier approach under
discussion.

(190) cencekeulo   motwu-ka   phathi-ey   oci-anh-ass-ta

      absolutely   everyone-NOM   party-LOC   come-NEG-PST-DEC

      'Absolutely/almost every student came to the party.'

(191) *cencekeulo   nwukwunka-ka   phathi-ey   oci-anh-ass-ta.

      absolutely   someone-NOM   party-LOC   come-NEG-PST-DEC

      '(lit) Absolutely someone came to the party.'

(192) *cencekeulo   amwuto   phathi-ey oci-anh-ass-ta.

      absolutely   amwu-AN   party-to   come-NEG-PST-DEC

      'Almost nobody came to the party.'

Another challenge for the universal quantifier approach comes from constructions in
which there are two sentential negations and an *amwu*-phrase. In Korean, as introduced
in chapter 2, it is possible to use two different forms of negations (long-form and short
form) at the same time within a clause. In this case, we can only get an affirmative
interpretation (i.e. a double negation reading) as in (193).

(193) Mary-ka   ppang-ul   **an-**mekci-**anh**-ass-ta.

   Mary-NOM   bread-ACC   **NEG-**eat-NEG-PST-DEC.

   'It is not the case that Mary did not eat bread.' = 'Mary ate bread.'

Here, it is worth remembering that when there is only one instance of negation in the clause as in (194), *amwu*, if it is a universal quantifier in (195), must scope above that instance of negation regardless of whether the negation in question is long-form or short-form, just as in (194).

(194) a. Amwuto   ppang-ul   **an**   mek-ess-ta

        amwu-INAN   bread-ACC **NEG** eat-PST-DEC

        'No one did not eat bread'

    b. Amwuto   ppang-ul   mekci-**anh**-as-ta.

        amwu-INAN   bread-ACC eat- **NEG**-PST-DEC   = (189)

        'No one did not eat bread'

(195) a. Motun   haksayng-i   pati-ey   **anh**-wa-ss-ta.

        All   student-NOM   party-LOC   **NEG-**come-PST-DEC

        'Every student did not come to the party.'

    b. Motun   haksayng-i   pati-ey   oci-**anh**-ass-ta.

        All   student-NOM   party-LOC   come-**NEG**-PST-DEC   = (187)

    'Every student did not come to the party.'

Let us now turn to cases of *amwu-* with two instances of negation (long-form and short-form). If *amwu-* is a universal quantifier that takes scope over negation by covertly raising to the sentential initial position, we expect that *amwu-* would scope over both instances of negation. Thus, the interpretation of (196) should be 'for every x, it is not the case that it is not the case that x ate bread', in turn equivalent to 'Everyone ate bread'. Though this interpretation is possible in (196), the most salient interpretation is 'it is not the case that it is not the case that there exists x such that x ate bread', in turn equivalent to 'someone ate bread'. Under the universal- over-negation approach, the saliency and even availability of the existential interpretation seems to be problematic.

(196) Amwuto   ppang-ul   **an**-mekci-**anh**-ass-ta.

  Amwu-AN   bread-ACC   **NEG**-eat-**NEG**-PST-DEC

  'No one did not eat bread' = 1) 'Someone ate bread.' 2) 'Everyone ate bread.'

The same problem holds in the following examples, which involve either one or two *amwu*-s; one *amwu-* in the object position in (197), and one *amwu-* in the subject position and the other *amwu-* in the object position in (198).[47] In (197), the existential interpretation, 'Mary ate something.' is more salient than the universal interpretation, 'Mary ate everything.' In (198), (198-1) is the most salient interpretation among the 4 possible interpretations. The notable fact here is that the interpretation of *amwu-* is

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[47] Concerning the acceptability of (198), judgment varies. 3 out 6 speakers report that (198) is simply unacceptable.

ambiguous between existential and universal quantification in double-negation

contexts, independently of the *amwu*-phrase(s).

(197) Mary-ka amwukesto **an**-mekci-**anh**-ass-ta.

  Mary-NOM amwu-INAN NEG-eat-**NEG**-PST-DEC

  'Mary did not eat nothing.' = 1) 'Mary ate everything.'

               2) 'Mary ate something.'

(198) [?]Amwuto   amwukesto **an** mekci-**anh**-ass-ta

  Amwu-AN   amwu-INAN NEG eat-**NEG**-PST-DEC

  'No one did not eat nothing' = 1) 'Someone ate something.'

              2) 'Everyone ate something

              3) 'Everyone ate everything.

              4) 'Someone ate everything.'

Let us consider the ambiguity of *amwu*- in the double-negation context. If there was a

possibility that *amwu*-phrases were exclusively universal quantifiers above negation,

as previously argued by Ginnakidou (2006), the facts in (197)-(198) would be

unexplainable. Thus, it needs to be the case that *amwu*- is (at the very least) capable of

an existential-under-negation interpretation.

Returning to the scopal facts in (194) and (195), what is at issue here is that depending

on the status of *amwu*-, the scopal relation between *amwu*- and negation would be

different. If *amwu*- is a universal quantifier over negation, there seems to be no problem

in that *amwu*- and a true universal quantifier exhibit the same scope; they take scope

over negation. On the other hand, if *amwu-* is an existential quantifier, it seems puzzling that *amwu-* and a universal quantifier in subject position seem to take different scope in relation to negation. This would be an instance of unexpectedly 'narrow' scope for the existential (compared to universals in the same position), which could not be handled in terms of choice-functions/unselective binding. If *amwu-* is an existential quantifier under negation, obligatory reconstruction of *amwu-* is called for in order to capture the fact that a universal quantifier in the subject position takes wide scope vis-à-vis negation, while *amwu-* in the subject position takes narrow scope. Nevertheless, this additional assumption concerning the obligatory reconstruction of *amwu-* does not preclude the possibility that *amwu-* is an existential quantifier below negation. At the very least, it is not the case that *amwu-* is exclusively a universal quantifier over negation (because of the multiple-negation facts surveyed above), and thus, its licensing conditions cannot be explained purely in terms of scope.

Section 4 Double Negation Reading

Here, I will confirm the current proposal that in *amwu-*constructions, the negative meaning indeed comes from the polarity projection in which the interpretable NEG feature ultimately resides, and not from *amwu-* on its own. Furthermore, I will show that the current proposal is superior to Zeijlstra (2004)'s analysis in capturing the negativity of the polarity projection (i.e. sentential negation)

Recall that in chapter 1, it was shown that *amwu-* does not contribute to the negative meaning of a sentence. Based upon this, I will provide evidence in favor of the current claim that the locus of semantic negation is the polarity projection where sentential

negation is phonologically realized. Consider the following examples; one is with short-form negation, as shown in (199), and the other is with long-form negation, as shown in (200).

(199) Mary-ka   ppang-ul   **an**-mek-ess-ta.

     Mary-NOM   bread-ACC   **NEG**-eat-PST-DEC

     'Mary did not eat bread.'   [short-from negation]

(200) Mary-ka   ppang-ul   mekci-**anh**-ass-ta.

     Mary-NOM   bread-ACC   eat-**NEG**-PST-DEC

     'Mary did not eat bread.'   [long-form negation]

Recall that these two forms of negation can appear together within a sentence as in (201). In this case, the Double Negation (DN) reading arises and hence (201) is construed as an affirmative sentence. Given the availability of the DN reading, we can conclude that sentential negation is negatively potent, unlike *amwu-*.

(201) Mary-ka   ppang-ul   **an**-mekci-**anh**-ass-ta.

     Mary-NOM bread-ACC **NEG**-eat-NEG-PST-DEC.

     'It is not the case that Mary did not eat bread.' = 'Mary ate bread.'

Let us remind ourselves that we have shown, in (118) repeated here in (202), that the multiple occurrences of *amwu-* do not yield a double-negation (DN) reading, but rather a single-negation reading. In contrast, when there are two occurrences of sentential

negation, only the DN reading is available, as in (202) which does not involve *amwu*. This asymmetry in the availability of DN readings supports the claim that *amwu-* is not negatively potent, whereas sentential negation is.

(202) Amwuto   amwukesto   **an**   mek-ess-ta

   amwu-AN   amwu-INAN   **NEG** eat-PST-DEC   (= 118)

   '(lit) Anyone did not eat anything' = 'it is not the case that someone ate something.'

Zeijlstra (2004) argues that in strict Negative Concord languages, a phonologically null operator in the clausal periphery is the locus of semantic negation. Thus, negative concord sentences involve only one interpretable negative feature on the null operator, which values the (possibly multiple) uninterpretable negation features on the NC item(s). In other words, the negatively dependent phrases are licensed via Multiple Agree (Chomsky 2008, Hiraiwa 2001, 2005, Ura 1995) with a negatively potent null operator. On that account, we would expect that multiple occurrences of sentential negation in a single clause would not yield the DN reading at all. This is because sentential negation in question is not negatively potent (given that if Korean were analyzed as a NC language, it would have to be analyzed as strict-NC). However, this expectation is not borne out in Korean, as shown in (201). Hence, in Korean, a phonologically null operator in the clausal periphery cannot be the locus of semantically potent negation.

In addition, on Zeijlstra's theory, negation should always take widest scope, given his assumption that the covert negative operator is located in the clausal spine, higher than

TP. However, as reported in the previous subsection, in Korean, when sentential negation appears with a universal quantifier in the subject position, the universal quantifier takes obligatory wide scope over negation. As mentioned earlier, Korean, as a scope rigid language, does not allow a universal quantifier to scope over the high null negative operator via QR. This is evidenced by the inflexibility of scope in (203b), repeated here in (203), where an existential quantifier in the matrix clause always scopes over a universal quantifier in the embedded clause, and (204), where an existential subject always scopes over a universally-quantified object. Thus, under the covert negative operator analysis under discussion, it would be impossible to explain why the universally quantified subject takes scope over negation.[48]

(203) Etten haksayng-i   motun sensayngnim-i hakkyo-lul   kumantwu-ess-ta-ko

      Some student-NOM   every teacher-NOM   school-ACC   leave-PST-DEC-C

      sayngkakhay-ss-ta.

      think-PST-DEC

      'Some student thought that every teacher left school.'   (∃>∀ only)

(204) Etten   haksayng-i   motun   seonsayngnim-ul manna-ss-ta.

      some   student-NOM   every   teacher-ACC   meet-PST-DEC

      'Some student met every teacher.'   (∃>∀ only)

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[48] We could entertain a variant of Zeijlstra's analysis, where the locus of negation is the sentential negation marker, '*an*' (in fact, he pursues this approach in Zeijlstra (2008) for non-strict NC languages). In this case, negation can take narrow scope compared to any quantifiers in the subject position, which aligns with the data above. However, as mentioned above in connection with (202), this still cannot explain the unacceptability of sentences in which *amwu-* in a derived position should be expected to satisfy the locality condition and hence successfully Agree with the instance of sentential negation in the higher clause.

Thus far, I have shown that sentential negation is indeed semantically negative, whereas *amwu-* is not. I have also shown that Zeijlstra's analysis cannot handle the full-range of scopal facts in Korean.

Chapter 4: Intervention effects

In this section, I will provide addition evidence to demonstrate that radical reconstruction of long-distance scrambled phrases can be relaxed under certain circumstances. Specifically, under those circumstances where we can obtain convergence only with the phrase outside of its base-position. In other words, reconstruction can be implemented in a more liberal manner; either it can be implemented only to the intermediate position, or not implemented at all (yielding surface-position interpretation). The data are extended from Beck & Kim's (1997) observations on the interaction of *wh*-phrases and *amwu-*. It will be shown that reconstruction is also subject to the intervention effect in Korean.

Section 1 Intervention effects (Beck & Kim 1997)

Beck & Kim (1997) make an interesting observation about the interaction between *amwu-* and *wh*-phrases in Korean. Note that Korean is a *wh-in-situ* language and hence there is no obligatory overt *wh*-movement. Here, I will follow Beck & Kim's assumption that in order to be licensed, Korean *wh*-phrases undergo *wh*-movement at LF (for related discussion, see Huang (1982)) to CP whose head hosts its licensor, an interrogative Q-marker. Representative examples are given in (205) and (206). As shown in the simple clause in (205), when an *amwu*-phrase c-commands a *wh*-phrase in the surface structure, unacceptability arises. Likewise, in the complex clause in (209), the *wh*-phrase in the embedded object position is c-commanded by *amwu-* in the surface position. As shown below, (206) is as bad as (205). According to Beck & Kim,

what is responsible for the unacceptability of (205) and (206) is the structural relationship between the *wh*-phrase and *amwu-*. In particular, they offer a generalization that *amwu*-s are prohibited from c-commanding *wh*-phrases, referred to as an intervention effect.

(205) *Amwuto   mwues-ul ilkci-an-ass-ni?

      amwu-AN   what-ACC   read-NEG-PST-Q

      '(lit) what didn't anyone read?'   Beck & Kim (1997)

(206) *Amwuto   [Mary-ka   mwues-lul   mek-ess-ta-ko] sayngkakhaci-an-ass-ni?

      Amwu-AN Mary-NOM what-ACC   eat-PST-DEC-C   think-NEG-PST-Q

      '(lit) what didn't anyone think that Mary ate?'

As illustrated in (207a) and (207b), the *amwu*-phrase is located on the path of covert *wh*-movement to the interrogative Q-marker. Therefore, the *wh*-phrase cannot be successfully licensed by the Q-marker which is located in C (for (209), the matrix C), thereby yielding unacceptability of (205) and (206). The sentence in (205) is based upon Beck & Kim's assumption that subjects in Korean stay in their base position, spec vP, pursing the view (Hycook and Lee 1989, Lee 1990) that the subject is assigned the nominative case by the predicate V.

(207) a.   b.

*[[*amwu-* *wh*] **Q**]   *[matrixCP *amwu-* [embeddedCP *wh*] **Q**]

Another important observation made by Beck & Kim is that the *amwu-* intervention effect does not arise for a *wh*-phrase that has been scrambled across the potential *amwu-*intervener. When a *wh*-phrase is fronted to the sentence-initial position via scrambling, the intervention effect disappears, as shown in (208). In other words, *wh*-phrases are allowed to overtly cross over *amwu*-s, whereas the same cannot be done via covert movement (cf. (205-206)).

(208) Mwues-ul$_1$ amwuto t_1 mekci-an-ass-ni?

      What-ACC   amwu-AN   eat-NEG-PST-Q

      '(lit) what didn't anyone eat?'

To capture the acceptability asymmetry between (205), involving covert *wh*-movement and (206), involving scrambling, Beck & Kim propose that there is a constraint that specifically targets LF movement, as follows: (209) is the definition of a negation-induced barrier, and (210) is a condition on the binding of LF traces.

(209) Negation-Induced Barrier (NIB)   Beck & Kim (1997)

      The first node that dominates a negative quantifier, its restriction, and its nuclear scope is a Negation-Induced Barrier (NIB).

(210) Minimal Negative Structure Constraint (MNSC)

      If an LF trace β is dominated by a NIB α, then the binder of β must also be dominated by α.   Modified from Beck & Kim (1997)

*[X …….[NIB (**α**) …*amwu*…. t$_X^{LF}$ (**β**) neg]]

^{OK} [X ……t$_X^{LF}$(**β**) [NIB (**α**) …*amwu*…. t$_X$ neg]]

According to this proposal, the intervention effect is an island condition on the binding of LF traces formed by covert *wh*-movement. Their proposal is based upon two crucial assumptions; 1) sentential negation is VP adjoined and further incorporated into C, 2) scrambling can be adjunction to VP. To be specific, if a negation-induced barrier, as defined in (209), dominate the trace that is created "at LF", it must dominate its binder, as well. Under Beck & Kim's analysis, the violation of the MNSC gives rise to the unacceptability of (208); the LF trace of the *wh*-phrase (i.e. t^{LF}) is located inside the NIB (the VP dominating NEG) while *wh*-phrase is not, as illustrated in (211a). The NIB thus blocks the interpretation of *wh*-in-situ by the interrogative complementizer, leading to semantic ill-formedness. In addition, Beck & Kim adopt the view (rejected in this thesis) that *amwu*-phrases as NPIs must be in the scope of negation to be licensed (Sohn 1994 among many others), they argue that any possible LFs of (208) where negation occurs in a position below the *wh*-trace would not meet the licensing condition of *amwu*. Thus, the unacceptability of (208) results from the fact that there are no grammatical LFs that satisfy both the MNSC and the licensing condition of *amwu*-. Beck & Kim assume that the NIB is not a barrier in overt syntax. Thus, t$_i$, the trace formed by scrambling in (208), is not taken into account in in calculating violations of the MNSC, as illustrated in (211b). Given that t$_1^{LF}$ in the outermost VP is not dominated by the NIB, the MNSC is trivially satisfied in (211b). Also, *amwu*- is in the scope of negation, satisfying the licensing condition of *amwu*-. Thus, (208) has a grammatical

LF which satisfies MNSC as well as the licensing condition of *amwu-*. This, in turn, results in acceptability of (211).

CP
  wh-ACC_i   C′
      VP   C^0
    VP   NEG   *ni* (Q-marker)
  amwuto   V′
        t_i^{LF}   V^0   NIB

CP
  wh-ACC_i   C′
      VP   C^0
    t_i^{LF}   VP   *ni* (Q-marker)
          VP   NEG
        amwuto   V′
              t_i   V^0   NIB
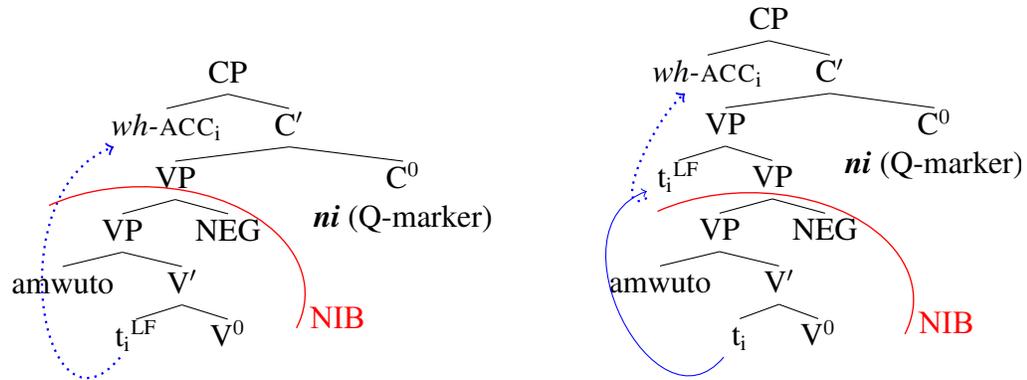
(211) a. Covert *wh*-movement across *amwu*- b. scrambling of *wh*-phrase across *amwu*-

→ MNSC violation (= 205)   → no MNSC violation (= 208)

To sum up, *wh*-phrases are not allowed to covertly move across *amwu*-s to their licensor (i.e. the interrogative Q-marker). Whenever a *wh*-phrase appears higher than an *amwu*- at the surface structure, both *amwu*- and *wh*-phrase can be successfully licensed by their relevant licensors. Otherwise, there is no LF that would satisfy the locality requirement of *amwu*- without inducing an MNSC violation, thereby yielding unacceptability.

In what follows, I will provide evidence that Beck & Kim's intervention effect holds for the reconstruction process of the long-distance scrambled *wh*-phrase. In particular, we will take a look at Korean long-distance scrambling constructions containing *amwu*- and a *wh*-phrase. It will be shown that the scrambled *wh*-phrase cannot undergo reconstruction across *amwu*-. Based upon this, I will argue that basically, every covert operation including upward movement and reconstruction is subject to Beck & Kim's intervention effect. However, departing from Beck & Kim's argument, I will argue that the potential for intervention is not determined by semantic negativity but by

quantificational nature. The evidence comes from the fact that *amwu*-s and other scope-rigid quantificational elements behave alike as interveners in Korean, building upon Kotek & Erlewine (2017)'s observation about Japanese quantifiers. This thus adds credence to the claim that *amwu*-s are not semantically negative.

Section 2 Intervention effects in reconstruction

In this section, I will lay out the core data showing that Beck & Kim's intervention effect can be observed in reconstruction operations just as it can in covert upward movement. Subsequently, I will present additional data showing that radical reconstruction of a long-distance scrambled phrase can be relaxed.

The following construction involves *amwu*- and a non-clausemate *wh*-phrase. Here, the *wh*-phrase undergoes long-distance scrambling to the beginning of the sentence, as shown in (213). Given that overt movement is not subject to Beck & Kim's intervention effect, as demonstrated in the previous subsection, the unacceptability of (212) seems puzzling.[49] This is further supported by a nearly identical example provided by Sohn (1994) in (214).

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[49] For the acceptability of the example in (214), Beck & Kim (1997) reported the opposite judgment. They stated that (ii) is acceptable. However, I asked 6 Korean native speakers and all of them answered that (i) is totally unacceptable.

(212) *[Etten kulim-ul]₁   amwuto   [John-i   t₁   kurye-ss-nun**ci**]

Which picture-ACC   amwu-AN   John-NOM   draw-PST-**Q**

kwungkumhayhaci-anh-ass-ta.

wonder-NEG-PST-DEC

'(lit) Anyone didn't wonder which picture John drew.'

(213) [**wh₁**   *amwu-* [t₁ **Q**] neg]

(214) *Nwukwu-lul₁ amwuto   [Mira-ka   t₁ po-ass-nunci] mwutci-anh-ass-ta.

who-ACC   amwu-AN Mira-NOM   see-PST-Q   ask-NEG-PST-DEC

'(lit) Anyone did not ask Mira saw who.'   Sohn (1994)

Now, recall Saito (1989, 1992)'s argument that a long-distance scrambled phrase always undergoes radical reconstruction. Thus, the long-distance scrambled *wh*-phrase is subject to obligatorily radical reconstruction. As a result of the reconstruction, the *wh*-phrase can undergo LF movement from the reconstructed position to the interrogative Q-marker in the embedded clause, without being intervened with by *amwu-*. Then, we would falsely expect (212) and (214) to be well-formed. However, we would expect (218) to be ill-formed if the reconstruction in question (which – to repeat – is required, on Saito's view) is also subject to the intervention effect, and hence violates the constraints on intervention.

At this point, two questions arise. First, should we conclude that the generalization made by Beck & Kim is incorrect? Second of all, regardless of the property and directionality of movement, is every movement sensitive to Beck & Kim's intervention

effect? To answer these questions, let us consider the following sentence in (215) involving the long-distance scrambling of a *wh*-phrase across *amwu-*, as illustrated in (216).

(215) **[Etten kulim-ul]₁** amwuto [John-i t₁ kurye-ss-ta-ko] malhaci-an-ass-**ni**?

Which picture-ACC amwu-AN John-NOM draw-PST-DEC-C say-NEG-PST-**Q**

'(lit) Which picture didn't anyone think that John drew?'

(216) [**wh₁** *amwu-* [t₁] neg **Q]**

If all types of movements were subject to Beck&Kim's intervention effect, we would predict that (215) with long-distance scrambling of the *wh*-phrase should be ruled out, like (212). However, (215) is in fact acceptable.

I argue that the unacceptability of (212) is actually caused by an intervention effect in reconstruction operations. Before proceeding, it would be worthwhile to look at the structure of (215) to figure out what causes the acceptability asymmetry between (212) and (215). Suppose that the scrambled *wh*-phrase undergoes radical reconstruction to its original position. Subsequently, the radically reconstructed *wh*-phrase has to covertly raise up again to the location where it can be licensed by the interrogative Q-marker in the matrix C. However, as shown in (217), this process is intervened with by the *amwu*-phrase in the matrix clause in (215) and hence (215) is falsely predicted to be bad. Thus, postulating radical reconstruction of the *wh*-phrase leads us to incorrectly rule out (215).

(217) [**wh₁**   *amwu-*   [t₁   ] neg **Q**]

Alternatively, it seems reasonable to claim that the scrambled *wh*-phrase in (217) does not undergo radical reconstruction. Rather, it stays in its surface position. From its surface position, it can undergo covert movement straight to the matrix spec CP position, thereby establishing the required spec-head configuration for *wh*-feature licensing with the interrogative Q-marker in the matrix clause. On this view, the acceptability of (218) can be accounted for given that there is no intervening *amwu-* that blocks the *wh*-licensing operation. Furthermore, this indicates that the radical reconstruction requirement on a long-distance scrambled phrase can be bypassed when convergence is at stake. Thus, in (218), the long-distance scrambled *wh*-phrase can stay in its surface position from which it can undergo further covert movement to CP spec position without being intervened with by *amwu-*. As a consequence, the *wh*-phrase can be properly licensed by the matrix Q-marker, yielding acceptability.

Furthermore, the acceptability differences between (215), (218) and (219) confirms that there is no reconstruction of the *wh*-phrase in (215). The constructions in (218) and (219) would be identical to the possible LF structures of (215) under the assumption that the long-distance scrambled phrase had to undergo any kind of reconstruction. (218) is the structure in which reconstruction to the intermediate position occurs, whereas (219) is the one where radical reconstruction occurs. If reconstruction is indeed implemented in (215), (215) should exhibit the same unacceptability as (218) and (219). This is not the case. This suggests that the long-distance scrambled phrase does not undergo any form of reconstruction and as a result, (215) exhibits different

acceptability from (218) and (219). These observations support the argument that radical reconstruction can be relaxed under the circumstances where we can get convergence only outside the base position.

(218) *amwuto **[etten kulim-ul]₁** [John-i   t₁ kurye-ss-ta-ko] malhaci an-ass-**ni**?

amwu-AN which picture-ACC John-NOM   draw-PST-DEC-C say-NEG-PST-**Q**

'(lit) Which picture didn't anyone think that John drew?'

(219) *amwuto   [John-i   **etten kulim-ul**   kurye-ss-ta-ko] malhaci an-ass-**ni**?

amwu-AN   John-NOM which picture-ACC draw-PST-DEC-C say-NEG-PST-**Q**

'(lit) Which picture didn't anyone think that John drew?'

Turning back to (212), repeated here in (220), the unacceptability of (220) indicates that the scrambled *wh*-phrase cannot be reconstructed to its base position where it can be successfully licensed by the Q-marker due to the intervening *amwu-*. This is shown in (221). Therefore, in the surface position, the *wh*-phrase cannot be licensed by the non-local Q-marker in the embedded clause, resulting in a *wh*-licensing violation. If there were no intervention effect of *amwu-*, it would be possible for the *wh*-phrase to radically reconstruct to the base position and hence to be licensed by Q-marker in the same clause. This suggests that not only covert raising but also lowering is constrained by *amwu-* intervention.

(220) *[**Etten kulim-ul**]₁ amwuto [John-i t₁ kurye-oss-nun**ci**]

　　Which picture-ACC amwu-AN John-NOM draw-PST-**Q**

　　kwungkumhayhaci-anh-ass-ta.

　　wonder-NEG-PST-DEC

　　'(lit) Anyone didn't wonder which picture John drew.' (= 212)

(221) *[**wh₁** *amwu*- [t₁ **Q**] neg]

As a consequence of what we have seen is that reconstruction is actually a lowering operation rather than deletion of a higher copy in the LF representation. This returns to the old view on reconstruction given that under the view of Copy Theory, it seems to be challenging to reconcile the intervention effect on reconstruction under discussion. Thus, the data we have observed so far constitute evidence in favor of the view that reconstruction is indeed a lowering operation.

So far, I have discussed cases where reconstruction is completely avoided for the sake of convergence. However, it is also possible for reconstruction to be relaxed to a partial extent, such that reconstruction still takes place, but it is to an intermediate position, rather than the base position of the reconstructed element (as would have been predicted by approaches that subscribe to indiscriminate radical reconstruction). I have argued that not only covert raising but also reconstruction operation is subject to Beck & Kim's intervention effect. If the long-scrambled *wh*-phrase in (222) radically reconstructed to its base position, it would move across *amwu*- in the embedded subject position. We thus predict that this would lead to an intervention effect. However, this is not the case, as shown in (222).

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(222) **[Etten   kulim-ul]₁**   John-i   [amwuto   t₁   saci-an-ass-nun**ci**]

Which   picture-ACC   John-NOM   amwu-AN   buy-NEG-PST-**Q**

kwungkumhay-hayss-ta.

wonder-PST-DEC

'(lit) John wondered which picture anyone didn't buy.'

On the other hand, if we pursue the argument that the radical reconstruction requirement is relaxed for convergence, the acceptability of (222) naturally follows. Suppose that the long-distance scrambled *wh*-phrase reconstructs to the intermediate position, as illustrated in (222). The intermediate position is high enough for the *wh*-phrase to avoid the *amwu-* intervention effect, but low enough for it to be licensed by the embedded Q-marker. As a consequence, *wh*-licensing can be successfully achieved without being intervened with by the *amwu*-phrase ⸺ thus yielding the acceptability of (222). To the extent that (222) is acceptable, it provides an empirical argument in favor of the claim that the partial relaxation of radical reconstruction of long-distance scrambling is also permissible, when convergence is at stake.
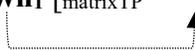
(223) [**wh₁** [matrixTP   [embedded TP   *amwu-*   t₁   neg **Q**]]]

Consider next the acceptability of (224), whose structure is identical to one of the possible LF structures of (222). As one can see in (224), the *wh*-phrase is located in the intermediate position above the *amwu*-phrase, and it can be licensed by the embedded Q-marker without being intervened with.

(224) John-i   **[etten   kulim-ul]₁**   [amwuto   t₁   saci-an-ass-nun**ci**]

    John-NOM   which   picture-ACC   amwu-AN   buy-NEG-PST-**Q**

    kwungkumhay-hayss-ta.

    wonder-PST-DEC

    '(lit) John wondered which picture anyone didn't buy.'

There is another possible LF structure for (224), given in (225), but this one results in ill-formedness. In (225), the *wh*-phrase is located in a position lower than *amwu-* and hence it has to move across *amwu-* to be licensed by the Q-marker in the embedded C. This causes an intervention effect, rendering (225) illicit. If the scrambled *wh*-phrase in (222) were to undergo radical reconstruction, we would have expected (222) to be ruled out just like (225), contrary to fact. Thus, it is the structure in (224) represents that the LF of (222), where reconstruction is to the intermediate position. This further supports the argument that radical reconstruction can be relaxed for convergence.

(225) *John-i   [amwuto   **etten**   **kulim-ul**   saci-an-ass-nun**ci**]

    John-NOM   amwu-AN   which   picture-ACC   buy-NEG-PST-**Q**

    kwungkumhay-hayss-ta.

    wonder-PST-DEC

    '(lit) John wondered which picture anyone didn't buy.'

The example (226) also supports the current argument about the relaxation of the radical reconstruction requirement for long-distance scrambled elements. As illustrated

in (227), if radically reconstructed, the long-distance scrambled *wh*-phrase would be subject to the intervention effect induced by the *amwu*-phrase in the embedded clause. However, the acceptability of (226) tells us that the requirement is relaxed and hence the *wh*-phrase can be successfully associated with the matrix Q-marker; it can either stay in its surface position or reconstruct to the intermediate position, both of which allow the *wh*-phrase to be located above the potential intervener, *amwu*-.

(226) **[Etten kulim-ul]₁**   John-i   [amwuto   t₁   saci-ahn-ass-ta-ko]

Which picture-ACC   John-NOM   amwu-AN   buy-NEG-PST-DEC-C

malhay-ass-**ni**?

say-PST-**Q**

'(lit) Which picture didn't anyone say that John bought?'

(227) [**wh₁**   [*amwu*-   t₁   neg]   **Q**]

The example (228), in which the *wh*-phrase is located in the intermediate position, is acceptable. Thus, (228) can be one of the possible LF structures of (226).

(228) John-i   **[etten kulim-ul]₁** [amwuto   t₁ saci-ahn-ass-ta-ko]   malhay-ss-ni?

John-nom which picture-acc amwu-AN   buy-NEG-PST-DEC-C say-PST-Q

'(lit) Which picture didn't anyone say that John bought?'

So far what we have shown is that radical reconstruction can be relaxed for convergence, and that the reconstruction operation is also subject to Beck & Kim's intervention effect.

Given the data presented so far, one might worry that the proposal that *amwu*-s are semantically non-negative is incorrect, and instead, the fact that *amwu*-phrases induce an intervention indicates that they are negative operators. In what follows, I will show that non-negative quantifiers also serve as interveners in *wh*-questions, suggesting that *amwu*-s do not have to be negative operators and their quantificational status is sufficient to trigger the intervention effect.

Section 3 Scope-rigid Quantifier intervention effects

First observed by Beck (2006), the intervention effect in *wh*-questions is not only triggered by *amwu*-s but also other quantificational elements in Korean. Building on the observations of Beck (2006) (see also Shibata (2015) on Japanese), Kotek & Erlewine (2017) offer a new generalization concerning the capacity of an element to intervene, based upon Japanese data. As shown in (229), the proposal is that a quantifier is a potential intervener if and only if it is scope-rigid.

(229) Generalization: Intervention correlates with scope taking.

Scope-rigid quantifiers above an in-situ *wh* cause intervention. Quantifiers that allow scope ambiguities i.e., those that allow reconstruction below *wh,* do not.

Kotek & Erlewine note the scope differences between two different universal quantifiers (*wh-mo* universal quantifiers, and *subete)* with respect to sentential negation

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in Japanese. Here, they assume that all arguments in Japanese obligatory move out of their base position above vP so that they end up in the position higher than negation, following Shibata (2015). As shown in (230), a *wh-mo* universal quantifier only takes scope over negation. On the other hand, another universal quantifier, *subete*, exhibits scope ambiguity with respect to negation, as shown in (231).

(230) Da're-o-mo   tsukamae-nak-atta.

     who-ACC-FOC   catch-NEG-PST

     `*pro* did not catch anyone.'   every > not, *not > every

(231) [Subete-no   mondai]-o   toka-nak-atta.

     all-GEN   problem-ACC   solve-NEG-PST   (Mogi 2000:59)

     '*pro* did not solve every problem.'   every > not, not > every

Given the difference between the two quantifiers, and following Shibata (2015), Kotek & Erlewine argue that the quantifiers vary in terms of their ability to reconstruct. Thus, if quantifiers such as the *wh-mo* universal quantifier in (230) cannot reconstruct, they have obligatory wide scope with respect to negation. In contrast, the universal quantifier *subete* in (231) can reconstruct to its original position, leading to scope ambiguity. The paradigm exemplified by the Japanese examples in (230) and (231) is illustrated schematically in (232).

(232) Scope-rigidity in Japanese (Shibata 2015a,b):

     a.   All arguments move out of vP:

[CP ... DP ... [vP ... t ... V]]

b. LF interpretation in surface position leads to wide scope over negation:

LF: [CP ... DP λx ... [NegP [vP ... x ... V] Neg]] DP > Neg

c. Some (not all) quantifiers reconstruct into vP, allowing narrow scope:

LF: [CP ... [NegP [vP ... DP ... V] Neg]] Neg > DP

Kotek & Erlewine further correlate the scope rigidity/flexibility of the two universal quantifiers in relation to negation with their status as interveners. When the quantifiers c-command the in-situ *wh*-phrase, each of the quantifiers exhibits different behaviors; a *wh-mo* universal quantifier triggers an intervention effect, as shown in (233a), whereas *subete* does not, as shown in (233b). Thus, the data in (233) conforms to Kotek & Erlewine's generalization on the intervention effect, given in (229).

(233) a. ?*Da're-mo-ga   nani-o   kai-mashi-ta-ka?

    who-FOC-NOM   what-ACC   buy-polite-pst-q

    Intended: `What did everyone buy?'   (Hoji 1985:270)

 b. [Subete-no gakusei]-ga   dono-mondai-o   toi-ta-no?

    all-GEN   student-NOM   which-problem-ACC   solve-PST-Q

    `Which problem(s) did every student solve?'

In short, 'scope rigidity' reflects the inability of a quantifier to reconstruct at LF. Thus, in *wh*-interrogative constructions like (233), if a quantifier is not scope-rigid (e.g. *subete* 'all'), it can reconstruct to its base-position below the *wh*-phrase. However, if a

quantifier is scope-rigid, it remains in the position where it c-commands the *wh*-phrase, resulting in an intervention effect. Kotek & Erlewine provide additional supporting evidence regarding focused phrases marked with with *dake* in *wh*-questions in Japanese. As shown in (234) and (235), the focused phrase with *dake* is scope-rigid and acts as an intervener:

(234) Taro-wa   Hanako-to-dake   hanasa-nak-atta.

Taro-TOP   Hanako-with-only   talk-NEG-PST

`Taro didn't talk only with Hanako.'   only > not, *not > only

(235) ???Taro-wa   Hanako-to-dake   nani-o   tabe-ta-no?

Taro-TOP   Hanako-with-only   what-ACC   eat-PST-Q

`What did Taro eat (only) with (only) Hanako?'   Erlewine & Kotek (2018)

On the other hand, modified numerals are not scope-rigid and hence they do not behave as interveners, as shown in (236) and (237).

(236) [Go-nin-ijyoo-no   gakusei]-ga   ko-nak-atta

5-CL-or.more-GEN   student-NOM   come-NEG-PST   Shibata (2015b:66)

'Five or more students didn't come.'   ($\geq$5) > not, not > ($\geq$5)

(237) [Go-nin-ijyoo-no   gakusei]-ga   dono-hon-o   yon-da-no?

5-CL-or.more-GEN   student-NOM   which-book-ACC   read-PST-Q

'Which book(s) did five or more students read?'

I will now show that the generalization provided by Kotek & Erlewine holds in Korean as well. The universal quantifiers in (238) and in (239) convey identical meanings but they differ in their scope rigidity vis-à-vis negation. First, as shown in (238), *nwukwna*, which is located higher than negation, only takes wide scope with respect to negation. As a scope-rigid quantifier, it acts as an intervener, as supported by the unacceptability of (239).

(238) Nuwkwuna   capci-anh-ass-ta.

      everyone   catch-NEG-PST-DEC

      `*pro* did not catch anyone.'   every > not, *not > every

(239) *Nwukwuna-ka   enu   kyosu-lul   conkyengha-ni?

      everyone-NOM   which professor-ACC   respect-Q

      For which x, x a professor: everyone respects x.   Kim (2005)

On the other hand, a different universal quantifier *motun* takes ambiguous scope, as shown in (240). As predicted by Kotek & Erlewine's generalization, this non-scope-rigid quantifier does not induce an intervention effect, resulting in the acceptability of (241).

(240) Motu-n   mwuncey-lul   phwulci-anh-ass-ta.

      all-MOD   problem-ACC   solve-NEG-PST-DEC

      '*pro* did not solve every problem.'   every > not, not > every

(241) motu-n   haksayng-i   enu   mwuncey-lul   phwul-ess-ni?

all-MOD   student-NOM   which   problem-ACC   solve-PST-Q

'Which problem(s) did every student solve?'

Likewise, the following quantifiers obey the generalization, as well. The existential quantifier *nwukwnka* takes ambiguous scope and it does not serve as an intervener, as shown in (242) and (243).

(242) nwukwuka-lul   mannaci-ahn-ass-ta.

someone-ACC   meet-NEG-PST-DEC

'*pro* did not meet someone.'   someone > not, not > someone

(243) nwukwunka-ka   mwues-ul   massy-ess-ni?

someone-NOM   what-ACC   drink-PST-Q

'what did someone drink?'

Similarly, focused phrases with the focus particle *man* show the same pattern as the scope-rigid universal quantifier *nwkwuna*; they obligatorily take wide scope with respect to negation, and act as an interveners, as shown in (244) and (245).

(244) ppang-man   mekci-anh-ass-ta.

bread-only   eat-NEG-PST-DEC

'*pro* did not eat only bread.'   object > neg, *neg>obj

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(245) *Mira-man   nwukwu-lul   chotahae-ss-ni?

    Mira-only   who-ACC   invite-PST-Q

    'Who did only Mira invite?'   Kim (2005)

In contrast, numerals exhibit scope ambiguity with respect to negation, and they do not behave as interveners, as shown in (246) and (247), respectively.

(246) Sey-myeng-uy   haksayng-i   oci-anh-ass-ta.

    Three-CL-of   student-NOM   come-NEG-PST-DEC

    'Three students did not come.'   3 > neg, neg> 3

(247) Sey-myeng-uy   haksayng-i   nwukwu-lul   chotahae-ss-ni?

    Three-CL-of   student-NOM   who-ACC   invite-PST-Q

    'Who did only three students invite?'   Kim (2005)

Thus, these examples involving quantifiers in Korean confirm Kotek & Erlewine's argument that quantifiers are interveners or not depending on whether or not they are scope-rigid quantifiers. Moreover, this shows us that the set of intervention inducing elements is not limited to negation, and also includes (non-negative) quantificational elements.

Recall the example in (205), repeated in (248), showing that an *amwu*-phrase triggers an intervention effect. If Kotek & Erlewine's generalization is on the right track, the *amwu*-phrase acts as interveners not because of its semantic negativity because of its quantificational nature.

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(248) *Amwuto   mwues-ul   ilkci-an-ass-ni?

       amwu-AN   what-ACC   read-NEG-PST-Q   (= 208)

       '(lit) what didn't anyone read?'   Beck & Kim (1997)

Given what we have seen, the data discussed so far are consistent with the current claim that *amwu-* is not negatively potent.

Now, I will show that the pattern shown in chapter 4.2 regarding effects of intervention on reconstruction is equally observed in examples involving other quantificational elements. In (249), a wh-phrase undergoes long-distance scrambling across a scope-rigid universal quantifier, *nwukwuna*, instead of *amwu-*. To be licensed by the interrogative Q-marker in the embedded clause, the *wh*-phrase must be reconstructed. However, a scope-rigid quantifier is located on the reconstruction path of this *wh*-phrase, yielding an intervention effect.

(249) *Etten kulim-ul$_1$ nwukwuna   John-i   t$_1$ kurye-ss-nunci

     which picture-ACC   everyone   John-NOM   draw-PST-Q

     kwungkumhayhay-ss-ta.

     wonder-PST-DEC

     'Everyone wonders which picture John drew.'

If we replace *nwukwuna* with a *man* marked focus phrase, as in (250), the same unacceptability is observed, as shown in (250).

(250) *Etten kulim-ul$_1$ Mary-man   John-i   t$_1$ kurye-ss-nunci

which picture-ACC   Mary-only   John-NOM   draw-PST-Q

kwungkumhayhay-ss-ta.

wonder-PST-DEC

'Only Mary wondered which picture John drew.'

However, non-scope rigid quantifiers such as the *motu* universal quantifier and numeral quantifier do not cause an intervention effect, as shown in (251) and (252).

(251) Etten kulim-ul$_1$ motu-n   haksayng-i   John-i   t$_1$

which picture-ACC   all-MOD   student-NOM   John-NOM

kurye-ss-nunci   kwungkumhayhay-ss-ta.

draw-PST-Q   wonder-PST-DEC

'All students wondered which picture John drew.'

(252) Etten kulim-ul$_1$ sey-myeng-uy haksayng-i   John-i   t$_1$ kurye-ss-nunci

which picture-ACC three-CL-of   student-NOM   John-NOM   draw-PST-Q

kwungkumhayhay-ss-ta.

wonder-PST-DEC

'Three students wondered which picture John drew.'

This confirms that what is responsible for the intervention effect under discussion is not semantic negativity, but rather the property of being a scope-rigid quantifier. It also confirms that reconstruction is also subject to the intervention effect. Thus, in order to

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account for the Korean data discussed in chapter 4, the generalization provided by Kotek & Erlewine in (229) should be revised as follows:

(253) Scope rigid quantifiers that are on the way of covert *wh*-movement (both upward and downward) cause intervention.

In section 2 in this chapter, I showed that the intervention effect can be circumvented by relaxing the radical reconstruction of long-distance scrambled phrases. This is further confirmed by the following examples with other scope-rigid quantifiers. As shown below, the examples from (254) to (256) are acceptable, even though radical reconstruction of the long-distance scrambled element across the universal quantifier *nwukwuna* is expected to give rise to the intervention effect. This indicates that the universal quantifier is no longer on the path between the *wh*-phrase and the Q-marker with which it seeks to associate. The long-distance scrambled *wh*-phrase either does not reconstruct at all (in (254)) or reconstruct only to the intermediate position (in (255)). (256) can be handled in either of these two fashions.

(254) Etten kulim-ul   nwukwuna   John-i t_1 kurye-ss-ta-ko

     which picture-ACC   everyone   John-NOM   draw-PST-DEC-C

     malhay-ss-ni?

     say-PST-Q

     'Everyone wonders which picture John drew.'

(255) Etten kulim-ul   John-i   nwukwuna   t₁   kurye-ss-nunci

which picture-ACC   John-NOM   everyone   draw-PST-DEC-C

kwungkumhayhay-ss-ta.

wonder-PST-DEC

'John wonders which picture everyone drew

(256) Etten   kulim-ul   John-i   nwukwuna   t₁   kurye-ss-ta-ko

which   picture-ACC   John-NOM   everyone   draw-PST-DEC-C

malhay-ss-ni?

say-PST-Q

'Which picture did John say that everyone drew.'

Consider the acceptable examples from (257) to (259). The long-distance scrambled
wh-phrase exhibits the same behavior with respect to focused phrases marked with *man*
as they did with respect to the universal quantifier *nwukwuna*. That is, without being
intervened with by the focused phrase, the *wh*-phrase is licensed by the interrogative
Q-marker — thereby yielding acceptability. This is only possible if the radical
reconstruction of long-distance scrambling is loosened.

(257) Etten   kulim-ul   Mary-man   John-i   t₁   kurye-ss-ta-ko

which picture-ACC   Mary-only   John-NOM   draw-PST-DEC-C

malhay-ss-ni?

say-PST-Q

'Which picture did only Mary said that John drew.'

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(258) Etten kulim-ul   John-i   Mary-man   t₁   kurye-ss-nunci

which picture-ACC   John-NOM   Mary-only   draw-PST-DEC-C

kwungkumhayhay-ss-ta.

wonder-PST-DEC

'John wondered which picture everyone drew'

(259) Etten kulim-ul   John-i   Mary-man   t₁   kurye-ss-ta-ko

which picture-ACC   John-NOM   Mary-only   draw-PST-DEC-C

malhay-ss-ni?

say-PST-Q

'Which picture did John say that everyone drew.'

Section 4 Caveat concerning amwu-

So far, by demonstrating that Beck & Kim's intervention effect also holds for reconstruction, I establish the empirical basis for a theory of grammar that treats upward covert movement and reconstruction in the same manner. Nevertheless, there are some data that cannot be explained under the current analysis. Let us see why the current account fails on these examples. In (260), the long-distance scrambled *amwu-* is located in the matrix whereas the *wh*-phrase and its licensor, the Q-marker, is located in the embedded clause. As noted earlier, radical reconstruction of the long-distance scrambled element can be relaxed insofar as we can get only convergence outside its base position. Thus, it is predicted that relaxing the radical reconstruction of *amwu-* in (260) would lead to convergence; if *amwu-* is not reconstructed at all, the *wh*-phrase should be able to be licensed by the embedded Q-marker without being intervened with.

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However, this prediction is incorrect, as shown in (260). Recall that I have shown that the locality condition on *amwu-* follows from the constituency between *amwu-* and negation upon merge. Thus, to the extent that my analysis is correct, there should be no licensing requirement that forces *amwu-* to be reconstructed to the clause where negation is located. Thus, unacceptability of (260) seems puzzling.

(260) ***amwukesto₁**　John-i　　[nwu-ka　t₁　mekci-**anh**-ass-nunci]

amwu-INAN　　John-NO M　who-NOM　　eat-**NEG**-PST-Q

kwungkumhay-hayss-ta.

wonder-PST-Q

'(lit) John wonders who did not eat anything.'

The examples in (261) and (262) are the opposite cases to (260) in that the radical reconstruction of the long-distance scrambled element can salvage the construction which is otherwise ruled out due to the intervention effect. Let me elaborate on this. As shown in (261) and (262), in the surface position, the long-distance scrambled *amwu-* is on the path of *wh*-movement to the matrix Q-marker, thereby resulting in the intervention effect. However, if the *amwu-* underwent radical reconstruction, the intervention effect would disappear. As shown below, the unacceptability of (261) and (262) suggests that such reconstruction does not take place. This is surprising in light of the fact that the long-distance scrambled element by default is subject to radical reconstruction.

(261) *amwukesto₁ nwu-ka [John-i t₁ mekci-**anh**-ass-ta-ko] malhay-ss-ni?

amwu-INAN who-NOM John-NOM eat-**NEG**-PST-DEC-C say-PST-Q

'who said that John did not eat anything?'

(262) *amwukesto₁ John-i [nwu-ka t₁ mekci-**anh**-ass-ta-ko] malhay-ss-ni?

amwu-INAN John-NOM who-NOM eat-**NEG**-PST-DEC-C say-PST-Q

'who did John say _ not eat anything?'

In parallel fashion, the examples from (263) to (265) are unacceptable even though radical reconstruction would void the intervention effect by removing the long-distance scrambled universal quantifier from the path of *wh*-movement.

(263) *Mwuesina₁ nwu-ka John-i t₁ cal mek-ess-ta-ko malhay-ss-ni?

Everything who-NOM John-NOM well eat-PST-DEC-C say-PST-Q

'Who said that John ate everything well.'

(264) *Mwuesina₁ John-i nwu-ka t₁ cal mek-ess-nunci

Everything John-NOM who-NOM well eat-PST-Q

kwungkwumhayhay-ss-ta.

wonder-PST-DEC

'John wondered who ate everything well.'

(265) *Mwuesina₁ John-i nwu-ka t₁ cal mek-ess-ta-ko malhay-ss-ni?

Everything John-NOM who-NOM well eat-PST-DEC-C say-PST-Q

'Who did John say _ ate everything well.'

Similarly, long-distance scrambling of focused phrases across *wh*-phrases makes examples from (266) to (268) unacceptable in the same way as the examples above. If the long-distance scrambled focused phrase had been radically reconstructed to its base position, the construction would be good, contrary to fact.

(266) *ppang-man$_1$ nwu-ka   John-i   t$_1$ mek-ess-ta-ko   malhay-ss-ni?

bread-only   who-NOM   John-NOM   eat-PST-DEC-C   say-PST-Q

'Who said that John ate only well.'

(267) *ppang-man$_1$ John-i   nwu-ka   t$_1$ mek-ess-nunci

bread-only   John-NOM   who-NOM   eat-PST-Q

kwungkwumhayhay-ss-ta.

wonder-PST-DEC

'John wondered who ate only bread.'

(268) *ppang-man$_1$ John-i   nwu-ka   t$_1$ mek-ess-ta-ko   malhay-ss-ni?

bread-only   John-NOM   who-NOM   eat-PST-DEC-C   say-PST-Q

'Who did John say _ ate only bread.'

The data discussed so far show us that quantificational elements over *wh*-phrases exhibit conflicting behaviors. On the one hand, the scrambled quantificational phrases that are long-distance scrambled cannot be interpreted in their base-positions (i.e., reconstruct) in the circumstances where relaxing reconstruction would result in convergence. On the other hand, they cannot undergo any kind of reconstruction in the circumstances where reconstruction would result in convergence. We have reached an

impasse. At this point, let me consider the possibility that "overt movement" of quantificational elements crossing over *wh*-phrases contributes to the unacceptability of the aforementioned examples. Let us consider the example in (269). Here the scrambled element involves an R-expression, *John*. Radical reconstruction of the long-distance scrambled noun phrase would yield a binding condition C violation; the R-expression *John* is bound by the embedded subject, *he.* However, as shown in the grammatical example in (270), which is identical to (269) other than the absence of the *wh*-phrase, radical reconstruction can be relaxed to avoid such violation. Therefore, independently of the *wh*-phrase, (269) is an environment where the radical reconstruction can be relaxed anyway. However, (269) is still ill-formed, suggesting that the problem does not come from the reconstruction but from the overt scrambling. Therefore, the unacceptability of (269) constitutes direct evidence that overt long-distance scrambling of the universal quantifier across the *wh*-phrase causes the problem.

(269) *[John$_2$-i   mant-un   mwuesina]$_1$ nwu-ka   ku$_2$-ka t$_1$ pala-ss-ta-ko

John-NOM   make-MOD   everything   who-NOM   he-NOM   sell-PST-DEC-C

malhay-ss-ni?

say-PST-Q

'Who said that he$_1$ sold everything that John$_1$ made?'

(270) [John$_2$-i   mant-un   mwuesina]$_1$ Mary-ka   ku$_2$-ka   t$_1$ pala-ss-ta-ko

John-NOM make-MOD   everything Mary-NOM   he-NOM   sell-PST-DEC-C

malhay-ss-ni?

say-PST-Q

'Did Mary say that he$_1$ sold everything that John$_1$ made?'

We can observe the same paradigm with a *man* marked focus phrase. When focused phrases move across *wh*-phrases, the construction is unacceptable, as shown in (271). Again, this unacceptability does not result from reconstruction incurring binding condition C violation. This is because example (272), similar to (271) except for the absence of the *wh*-phrase, is acceptable, analyzed as the relaxation of radical reconstruction.

(271) *[Mary-uy kulim-man]$_1$ nwu-ka   kunye-ka   t$_1$ pala-ss-ta-ko malhay-ss-ni?

Mary-of picture-only who-NOM she-NOM   sell-PST-DEC-C say-PST-Q

'Who said that she$_1$ sold only pictures of Mary$_1$?'

(272) [Mary-uy kulim-man]$_1$ John-i   kunye-ka t$_1$ pala-ss-ta-ko   malhay-ss-ni?

Mary-of picture-only John-NOM she-NOM   sell-PST-DEC-C say-PST-Q

'Did John say that she$_1$ sold only pictures of Mary$_1$?

For now, I do not have a satisfactory explanation for this phenomenon. I leave the question of why the unacceptability arises only when long-distance scrambling of quantificational phrase across *wh*-phrase for future research. In relation to this, there

is another substantial point that deserves our attention. It seems that there is an inherent difference between overt movement (scrambling) and reconstruction in terms of intervention effects. As described in the table below, scrambling and reconstruction do not behave equally. Scrambling is not always sensitive to Beck & Kim's intervention effect so that it can be implemented as far as it can while it is sensitive to island. On the other hand, reconstruction is sensitive to Beck & Kim's intervention effect. It would be worthwhile to study whether this inherent difference is a mere coincidence, or any theoretical connections exist behind this. I leave a full investigation of this question to future research.

	scrambling	reconstruction
Intervention effect	Only quantificational phrases scrambling over *wh*-phrases	√
Clause-bound	x	x
Island	√	-

(273)

Chapter 5: The structure of the extended nominal projections in Korean and Cyclic Linearization

In the previous chapters, I have made the claim that NegP is part of the extended nominal projection. In this chapter, I closely examine properties of the extended nominal projection in Korean. The data is drawn from Numeral Classifier Constructions and complex *amwu*-constructions. Then, I demonstrate that elements in nominal domains in Korean are also regulated by Cyclic Linearization (cf. Fox & Pesetsky 2003, 2005; Ko 2005, 2007; Simpson & Park 2019). In particular, based upon data showing that scrambling out of Numeral Classifier constructions and complex *amwu*-constructions is constrained, I argue that sub-extraction is only possible when the linear ordering in the clausal domain after the extraction is consistent with the ordering previously established in DP. Thus, my research provides evidence that the application domain of Cyclic Linearization is not only clausal domains (CP) but also nominal ones (DP).

Let us first begin with investigating Numeral Classifier construction in Korean. It has been observed that the numeral and classifier combination can appear on either side of the head noun. It can precede its associated nominal as in (274a). When the numeral and classifier combination follow its associated nominal, it can appear adjacent or non-adjacent, as exemplified in (274b) and (274c), respectively. Following Shin (2017), (274a) is dubbed henceforth as the prenominal quantifier construction, (274b) as postnominal quantifier construction and (274c) as the floating quantifier construction.

(274) a. Cheli-ka   twu kay-uy   sakwa-lul   mek-ess-ta.

     Cheli-NOM two CL-GEN apple-ACC   eat-PST-DEC

     'Cheli ate two apples.'   prenominal quantifier

  b. Cheli-ka   sakwa twu kay-lul   mek-ess-ta.

     Cheli-NOM apple two CL-ACC   eat-PST-DEC   postnominal quantifier

  c. Cheli-ka   sakwa-lul   twu kay   mek-ess-ta.

     Cheli-NOM apple-ACC two CL   eat-PST-DEC   floating quantifier

In the previous literature, there was an attempt to argue that the constructions in (274) are derivationally related (Park & Sohn 1993; Choi 2001; See Watanabe 2006 for Japanese). In other words, the constructions in (274) share the same underlying structure. Although I agree that (274b) and (274c) are transformationally related, I will argue that (274a) is structurally distinct from the other two constructions. I provide evidence for this claim from data originally observed by Shin (2017). Examples are given in (275). The constructions in (275) behave differently in terms of what counts as the head of the nominal structure. In the prenominal quantifier structures in (275a), the associated nominal, *wine*, serves as the head of the nominal phrase, while in postnominal and floating quantifier structures in (275b) and (275c), respectively, the numeral quantifier serves as the head. To illustrate, the prenominal construction in (275a) is unacceptable because the verb 'break' cannot take the mass noun 'wine' as its argument. This shows us that numeral quantifier is interpreted as a modifier of the mass nominal not a head of the structure. On the other hand, the postnominal construction in (275b) and floating quantifier construction in (275c) are acceptable in that the

selectional restriction imposed by the verb 'break' is met by the classifier, which can be used as a common countable noun, meaning 'bottle'. Thus, (275a) must be categorized as an independent construction from the constructions in (275b) and (275c).

(275) a. *Cheli-ka   [twu pyeng-uy   wain]-ul   kkayttuly-ess-ta.

      Cheli-NOM [two CL-GEN   wine]-ACC   break-PST-DEC

      'Cheli broke two bottles of wine.'   Prenominal

   b. Cheli-ka   **[wain twu pyeng]**-ul kkayttuly-ess-ta.   Postnominal

      Cheli-NOM   [wine two CL]-ACC   break-PST-DEC

      'Cheli broke two bottles of wine.'

   c. Cheli-ka   **[wain]-ul**   **[twu pyeng]** kkayttuly-ess-ta.

      Cheli-NOM   [wine]-ACC   [two CL]   break-PST-DEC

      'Cheli broke two bottles of wine.'   Floating Quantifier

This chapter only focuses on the structure of (275b) and (275c). Similar to an argument made by Watanabe (2006) for Japanese, I claim that (275b) and (275c) are derived from the same underlying structure. I argue that these two different orderings result from massive phrasal movements that take place within DP. Then, I show that the elements within the Numeral Classifier Construction can be sub-extracted from DP and undergo scrambling further to the sentence initial position. However, I argue that this movement is allowed only in a manner that preserves the relative orderings among DP-internal elements established within the DP.

I argue that the base-generated structure of the DPs in (275b-c) is as below:

```
                      DP
                     /  \
                 ....     D
                  |      [K]
                  KP
                 /  \
            CLP       K
           /  \     case-affix
       NumP    CL'
       two    /   \
            NP      CL
(276)     wine    bottle
```
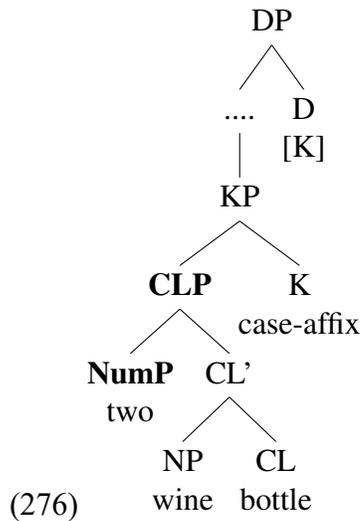
First, following Watanabe (2006), I posit that in Korean, a classifier is a functional head of its own projection, located within the extended projection of the noun. Given that the classifier sensitive to its host noun (i.e. it changes its form depending on the host noun), the two must stand in a sisterhood relationship. Note that the numeral needs a classifier in order to quantify over a noun in classifier languages like Korean. Thus, I posit that the numeral quantifier occupies spec CLP as in (277) (see Lyskawa 2019 on Polish). For ease of exposition, I continue to call NP (_wine_ in (277)) in the Numeral Classifier Constructions as the host noun. As demonstrated in (277), the phrasal status of modified numerals suggests that numerals in Korean have to occupy a specifier position rather than a head position.

(277) a. Cheli-ka   [wain-ul   ceokeoto/manhaya sey   pyeng] kkayttuly-ess-ta.

Cheli-NOM wine-ACC   at least/at most   three CL   break-PST-DEC

'Cheli broke at least/at most three bottles of wine.'

b. Cheli-ka   [wain ceokeoto/manhaya sey   pyeng-ul] kkayttuly-ess-ta

Cheli-NOM wine   at least/at most   three CL-ACC   break-PST-DEC

'Cheli broke at least/at most three bottles of wine.'

Furthermore, the status of the host noun is also phrasal, given that the noun itself can have other nouns as well as clauses as its complement. As illustrated in (278), *'Chelswu likes Yenghi*' is a noun complement clause, which confirms the phrasal status of the host noun. On the other hand, the classifier is a head, which can be captured in the structure I postulated in (276), above.

(278) a. Na-nun   [Chelswu-ka Yenghi-lul   coahantanu-n ceungkeo-lul twu-kay]

I-TOP   Chelswu-NOM Yenghi-ACC like-MOD   evidence-ACC two-CL

chaj-ass-ta.

find-PST-DEC   Modified from An (2014)

'I found two pieces of evidence that Chelswu likes Yenghi.'

b. Na-nun [Chelswu-ka   Yenghi-lul   coahantanu-n ceungkeo twu-kay-lul]

I-TOP   Chelswu-NOM Yenghi-ACC like-MOD   evidence two-CL-ACC

chaj-ass-ta.

find-PST-DEC

'I found two pieces of evidence that Chelswu likes Yenghi.'

I also assume that the outermost layer of Korean nominals is DP, whose case value is determined from the outside (as in standard case theory (Chomsky 1993)). However, case affixes are deeply embedded, in the head of KP, a projection that moves to spec DP and checks its features against the (phonetically null) D^0 under spec-head agreement. NP movement to spec KP must be obligatory. Otherwise, the ill-formed sentence in (279) would be derivable. Given that we cannot have the string in (279), it seems that NP in Korean obligatorily vacates its base position. I do not commit to why this must happen, but spec of KP has to be filled. This is reminiscent of the EPP (see Watanabe 2004 for Japanese).

(279) *Cheli-ka   [twu wain pyeng]-ul   kkayttulye-ss-ta.

Cheli-NOM   [two wine CL]-ACC   break-PST-DEC

'Cheli broke two bottles of wine.'

As alluded to before, I argue that the difference between (275b) and (275c) is created by multiple applications of phrasal movements within DP. Let us see the derivational process of each construction. Here, I argue that two different kinds of movement

operations exist within DP. First, there are obligatory movements; movement of NP to spec KP and movement of KP to spec DP, as shown in (280a) and (280b). Second, there is optional movement, CLP movement to spec QP, as shown in (280c). As briefly mentioned above, I assume that each movement is motivated by an EPP feature of the head of the functional projection where the movement lands. Given that case is a property of nominal projections (i.e., extended projections of nouns), NP, KP and DP within a nominal projection must communicate to each other in order to propagate case throughout the nominal phrase. Thus, the movements under discussion are not completely arbitrary. On the other hand, different from the head of KP and DP, the head of CLP has an optional EPP feature and hence its movement is optional.

(280) a.   b.   c.
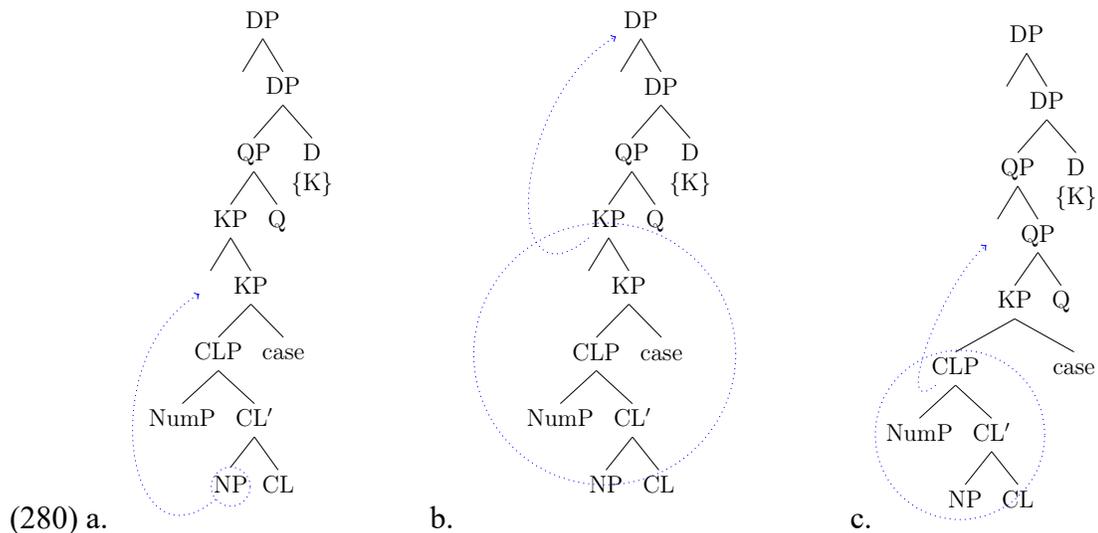
Under the current DP-internal movement hypothesis, in principle, every projection (DP, QP, CLP, KP, NP) can be a possible candidate for movement within a noun phrase. However, I argue that movement which is overly local is not allowed. For instance, as shown in (284), movement of QP to Spec, DP is an illicit movement which

takes place from a complement position of DP to a specifier of the same projection. Thus, it violates the Anti-Locality condition, a ban on movement that is too short (Abels 2003). For the same reason, movement of CLP to spec KP is also banned. The noun phrases in (281a) and (281b) thus both derive from the same base structure in (276).

(281) a. Cheli-ka   **[wain twu pyeng]**-ul   kkayttulye-ss-ta.

        Cheli-NOM   [wine two CL]-ACC   break-PST-DEC

        'Cheli broke two bottles of wine.'   Postnominal

    b. Cheli-ka   **[wain]-ul**   **[twu pyeng]**   kkayttulye-ss-ta.

        Cheli-NOM   [wine]-ACC   [two CL]   break-PST-DEC

        'Cheli broke two bottles of wine.'   Floating Quantifier

Now let us walk through each step of a derivation. First of all, in order to derive the postnominal construction in (281a), NP raises to spec KP so that NP ends up adjacent to the case affix, as illustrated in (282a). Then, CLP undergoes movement to spec QP, triggered by the optional EPP feature on Q^0, as illustrated in (282b). As a final step of the derivation, the entire remnant KP undergoes movement to spec DP, as in (282c). We thus derive the word order 'NP Num CL-acc' in (281a).

(282) a.   b.   c.

If my analysis that NP ultimately ends up in spec DP is on the right track, we expect that the complement of a noun will move along with the noun. This prediction is indeed borne out, as shown in (277), repeated here in (282). The clausal complement of a noun is always in the vicinity of that noun, preceding the numeral and classifier.

(283) a. Na-nun [Chelswu-ka   Yenghi-lul   coahantanu-n ceungkeo-lul twu-kay]

   I-TOP   Chelswu-NOM   Yenghi-ACC like-MOD   evidence-ACC two-CL

   chaj-ass-ta.

   find-PST-DEC   Modified from An (2014)

   'I found two pieces of evidence that Chelswu likes Yenghi.'

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b. Na-nun [Chelswu-ka   Yenghi-lul   coahantanu-n ceungkeo twu-kay-lul]

I-TOP   Chelswu-NOM Yenghi-ACC like-MOD   evidence two-CL-ACC

chaj-ass-ta.

find-PST-DEC

'I found two pieces of evidence that Chelswu likes Yenghi.'

Now, let us consider the construction in (281b). Just as in (281a), NP undergoes movement to spec KP followed by movement of KP in its entirety to spec DP, as shown in (284). As a result, we can derive the 'NP-acc Num-CL' order.

(284) a.   b.
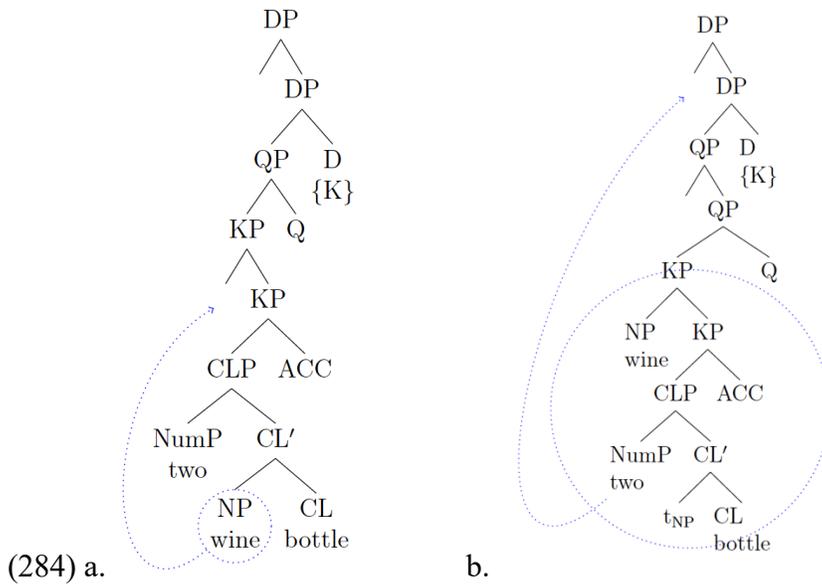
As the reader might notice, the last movement is string vacuous. One might suggest that the last movement is therefore unnecessary. However, I argue that the null hypothesis is that movement of KP to spec DP must happen, in the interest of

uniformity. Thus, (281a) and (281b) differ only in whether remnant-creating CLP movement has or has not occurred prior to KP movement to spec DP.

Note that the strings in (281) indeed form a constituent. This is supported by the fact that the whole string can undergo scrambling to the sentence-initial position, as shown in (285). Also, the whole string cannot be interrupted by the instrumental phrase *with a stick*. This shows that (285) cannot be an instance of multiple scrambling of two constituents.

(285) a. [wain-ul   (*maktaeki-lo) twu pyeng]₁ Cheli-ka   t₁   kkayttuly-ess-ta.

   wine-ACC (stick-INS)   two CL   Cheli-NOM   break-PST-DEC

   'Cheli broke two bottles of wine (with a stick).'

   b. [wain   (*maktaeki-lo) twu pyeng-ul]₁ Cheli-ka   t₁   kkayttuly-ess-ta.

   wine   (stick-INS)   two CL-ACC   Cheli-NOM   break-PST-DEC

   'Cheli broke two bottles of wine (with a stick).'

Based upon the structure we have explored so far, let us consider the following examples. As in (286a) and (287a), the entire noun phrase can undergo scrambling to the sentence initial position. However, when any element from the noun phrase which is smaller than DP undergoes scrambling, unacceptability arises, as shown in (286b), (286c) and (287b). However, (287c) seems exceptionally acceptable even though only the head noun with its case marker undergoes scrambling.

(286) a. **[wain twu pyeng]**-ul   Cheli-ka   t   sa-ss-ta.

         wine   two CL-ACC   Cheli-NOM   buy-PST-DEC

         'Cheli bought two bottles of wine.'

    b. ***wain**   Cheli-ka   t **[twu pyeng]**-ul   sa-ss-ta.

         wine   Cheli-NOM   two   CL-ACC   buy-PST-DEC

         'Cheli bought two bottles of wine.'

    c. ***twu pyeng**-ul   Cheli-ka   **wain**   t   sa-ss-ta.

         two   CL-ACC   Cheli-NOM   wine   buy-PST-DEC

         'Cheli bought two bottles of wine.

    d. ***[twu pyeng]**   Cheli-ka   **wain-ul**   t   sa-ss-ta.

         two   CL   Cheli-NOM   wine-ACC   buy-PST-DEC

         'Cheli bought two bottles of wine.

(287) a. [?]**[wain-ul**   **twu pyeng]**   Cheli-ka   t   sa-ss-ta.

         wine-ACC   two   CL   Cheli-NOM   buy-PST-DEC

         'Cheli bought two bottles of wine.'

    b. ***[twu pyeng]**   Cheli-ka   **wain-ul**   t   sa-ss-ta.

           two   CL   Cheli-NOM   wine-ACC   buy-PST-DEC

    c. **wain-ul**   Cheli-ka   [t   **twu pyeng]**   sa-ss-ta.

         wine-ACC   Cheli-NOM   two   CL   buy-PST-DEC

         'Cheli bought two bottles of wine.'

The goal of the rest of this chapter is to investigate these restrictions on which material within the Numeral Classifier noun phrase can undergo scrambling. I present a novel

argument that this restriction on scrambling follows from a theory of Cyclic Linearization (CL, henceforth) (Fox & Pesetsky 2005 and Ko 2007), according to which linearization (ordering among syntactic units) acts as a filter on derivations. Furthermore, I argue that DPs are phases and hence the linear order established within DP must be preserved in the higher phasal domain (i.e. CP). In this way, these differences in the well-formedness of NC scrambling constructions in Korean provide further evidence for the theory of CL.

Section 2 Cyclic Linearization

Chomsky (2000, 2001 inter alia) argues that phrasal movement must successive-cyclically pass through the edge of phases. A phase determines an "impenetrable domain" from which movement is excluded. On this view, the edge of a phase is an escape hatch, which is the only way that movement out of the phase is allowed. Chomsky proposes this general condition on syntactic operations, the Phase Impenetrability Condition (PIC), as stated in (288). Thus, on the PIC approach, successive cyclic movement involves movement through phase edges.

(288) Phase Impenetrability Condition (Chomsky 2001: 13)

For strong phase HP with head H, the domain of H is not accessible to operations outside HP. Only H and its edge are accessible to such operations. (The edge includes the elements outside H, the specifiers (Specs) of H and elements adjoined to HP.)

Let me illustrate how the PIC works, based upon (289). Given the configuration in (291) where ZP and HP are strong phases, once the strong phase HP is spelled-out, the complement YP is inaccessible to operations in the higher domain ZP; only the head H and its edge zone (spec of HP) are accessible to operations at ZP.

(289) [$_{ZP}$ Z ...   [$_{HP}$ α   [H   YP]]]

Strong phase: HP

Edge of HP   Spell-out domain of HP
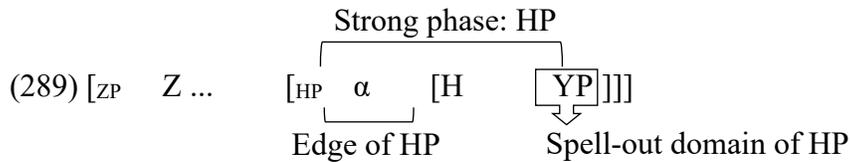
Contra Chomsky's PIC approach, Fox and Pesetsky (2003, 2005) argue that Spell-out domains and phase domains are the same, as shown in (290). They argue that the notion of escape hatches is unnecessary to derive successive cyclic movement. Instead, Fox & Pesetsky propose a particular syntax and phonology mapping procedure, called Cyclic Linearization (CL). According to them, Cyclic Linearization establishes the relative ordering (linearization) among all the syntactic elements contained in the Spell-out domain, even including the head H and its Spec α. Thus, under the F& P system, edges lose their special status as an escape hatch; rather, they are just derivative notions. On this view, locality and successive cyclicity of movement are the consequences of the architecture of the mapping between syntax and phonology.

(290) [$_{ZP}$ Z ...   [$_{HP}$ α   [H   YP]]]

Spell-out domain of HP

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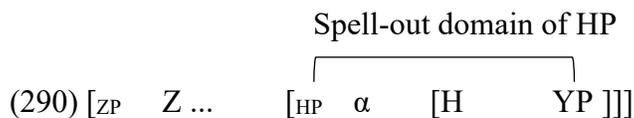
Furthermore, F & P propose the following interface condition in (291). Informally, an ordering statement established in a domain must be preserved for the rest of the derivation.

(291) Linearization Preservation (Fox and Pesetsky 2003, 2005a):

The linear ordering of syntactic units is affected by Merge and Move within a Spell-out Domain, but is fixed once and for all at the end of each Spell-out Domain.

According to F&P, Linearization Preservation (294) is a natural consequence of cyclic Spell-Out rather than an additional constraint in syntax. Though Spell-out may add new ordering information, it cannot reestablish the ordering information that is already established by previous applications of Spell-out. Therefore, ordering information established in an earlier domain must be consistent with ordering information added in a later domain. Otherwise, an ordering contradiction arises, resulting in crash at PF. The list of Spell-out domains in the F & P system includes CP, VP and DP. Now, let me elaborate on how Spell-out operations establish the ordering statements in (292) under F& P's system.

(292) a. $[_{\alpha P}$ X Y]   Ordering: X< Y

    b. $[_{\beta P}$ X_1 Z $[_{\alpha P}$ t_1 Y]]:   X<Z<αP $\rightarrow$ X<Z<Y   Ko (2005)

Suppose that αP and βP are Spell-out domains. An ordering statement of the form α < β is understood by PF as meaning that the last element of α precedes the first element

of β. Once αP is spelled out, the linear ordering X<Y is established at PF. This ordering information, once established, cannot be erased or changed in the course of a derivation, as stated in (291). As described in (292b), when a new element Z is merged in the higher domain βP, the element X merged in αP is remerged in βP (i.e., movement of X in βP). After βP is spelled out, the new orderings X<Z<αP are added at PF. PF obtains new linearization information, X<Z<Y, given that the first element of αP is Y. The newly established ordering in βP (X<Z<Y) is consistent with the one in αP (X<Y) in (292a), thereby successfully deriving (292b) without posing a problem for PF.

As F & P stress, all the elements in the phase, including the elements at the edge (i.e. non-complement positions), are spelled-out all at once and get linearized. The crucial point here is that spelled-out elements still remain accessible for the entire syntactic derivation. In other words, elements in non-edge positions can freely move out of the spelled-out domain as long as the previously established linearization is not disrupted.

Subsection 1 Analysis: Numeral Classifier constructions and Cyclic Linearization

Now, let us turn to Korean Numeral Classifier constructions. First of all, building upon Fox & Pesetsky's Cyclic Linearization proposal, I propose that DPs are phases in Korean, and ordering statements generated within DP must be preserved by later operations. Thus, once the ordering among a numeral, classifier, a case affix and a host noun within DP is established, this ordering must be preserved in subsequent phases. Recall that (294) illustrates the final DP structures of Numeral Classifier (NC)

constructions in (281), repeated here in (293); (294a) underlies (293a) and (294b) underlies (293b).

(293) a. Cheli-ka   **[wain twu pyeng]**-ul   kkayttulye-ss-ta.

    Cheli-NOM   [wine   two   CL]-ACC   break-PST-DEC

    'Cheli broke two bottles of wine.'   Postnominal

  b. Cheli-ka   **[wain]-ul**   **[twu pyeng]**   kkayttulye-ss-ta.

    Cheli-NOM   [wine]-ACC   [two CL]   break-PST-DEC

    'Cheli broke two bottles of wine.'   Floating Quantifier

(294) a.   b.

[Tree diagrams for (294a) and (294b) showing DP structures with KP, NP wine, CLP, NumP, CL', t_NP, CL, case ACC, QP, D {K}, t_KP, Q, two, bottle, etc.]

I also claim that the restrictions on scrambling out of Numeral Classifier constructions result from interactions between Cyclic Linearization and constraints on sub-extraction. Following Fox & Pesetsky, I argue that elements in non-edge position can move out of the already spelled-out domain. Thus, movement through the edge is not necessary. However, I argue here that if elements move to the edge position, they must tuck-in below the existing spec of DP as in (295a), rather than tuck-out above it, as in

(295b).[50] Hence this movement does not create any new ordering information, as I will illustrate in more detail later in this chapter.

(295) a.

```
        DP
       /  \
      KP   DP
          /  \
         D'
        /  \
       XP   D
      /  \
     ZP   YP
```

b.

```
        DP
       /  \
      DP
     /  \
    KP   D'
        /  \
       XP   D
      /  \
     ZP   YP
```
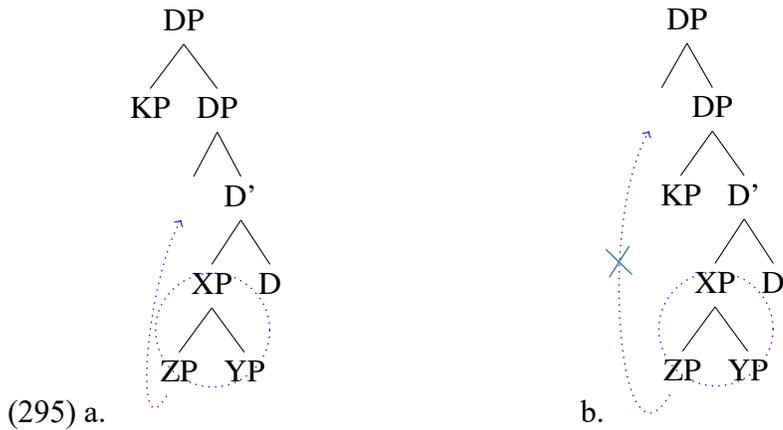
The construction in (296a) can be derived simply by scrambling the entire DP in (294a) to the sentence initial position. While it may be tempting to rule out (296b-d) by ruling out subextraction from DP altogether. As we will see, however, a complete ban on subextraction will not work in Korean.

(296) a. **[wain twu pyeng]**-ul   Cheli-ka   t   sa-ss-ta.

       wine   two CL-ACC   Cheli-NOM   buy-PST-DEC

       'Cheli bought two bottles of wine.'

---

[50] I assume that tucking-in is restricted to optional movements to the edge. This is different from obligatory feature-driven movement such as the DP internal movement which is either triggered by the EPP feature of the functional projection of a noun, or occurs for case reasons and scrambling, which I assume here is triggered by a scrambling feature (Ko 2007).

b. *__wain__   Cheli-ka   t [__twu pyeng__]-ul   sa-ss-ta.

   wine   Cheli-NOM   two CL-ACC   buy-PST-DEC

   'Cheli bought two bottles of wine.'

c. *__twu pyeng__-ul   Cheli-ka   __wain__ t sa-ss-ta.

   two CL-ACC   Cheli-NOM wine   buy-PST-DEC

   'Cheli bought two bottles of wine.

d. *[__twu pyeng__]   Cheli-ka   __wain-ul__ t   sa-ss-ta.

    two CL   Cheli-NOM   wine-ACC   buy-PST-DEC

   'Cheli bought two bottles of wine.   (= 288)

Now, let us consider two possible derivations of (296b). Consider the derivation in (297) first. If the NP in (297) can be extracted from DP to the beginning of a sentence, this derivation should yield a grammatical result. This, however, is borne out. To block this illicit movement operation, I argue that extraction from a derived specifier is impossible (see Huang's (1982) Condition on Extraction Domain (CED), Ormazabal et al's (1994) Specifier Condition). Recall that the derivational process of numeral classifier constructions (DP) involves a series of remnant movements within DP, prior to the application of scrambling of KP out of DP. Given that the KP has moved to spec of DP, the NP cannot undergo further movement from the specifier of KP (which is itself now a derived specifier) to the sentential initial position. Instead, we can consider the derivation in (297) in which the lower KP undergoes movement to spec vP, followed by remnant DP movement. However, this derivation is illicit since it involves

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movement of the intermediate KP projection, which is neither a minimal nor a maximal
projection, as illustrated in (298a).

(297)

(298) a.

b.
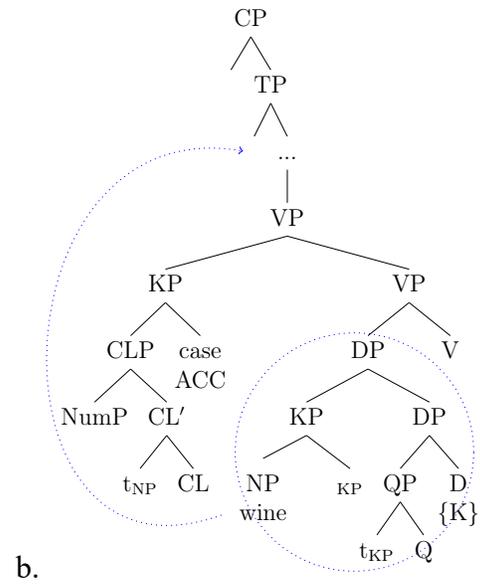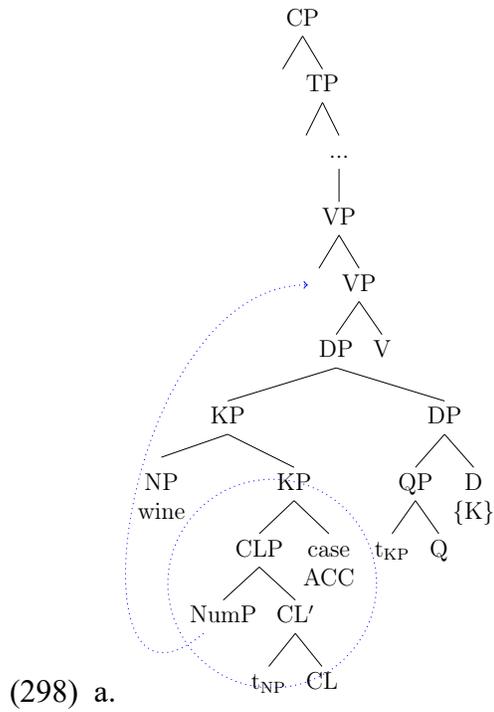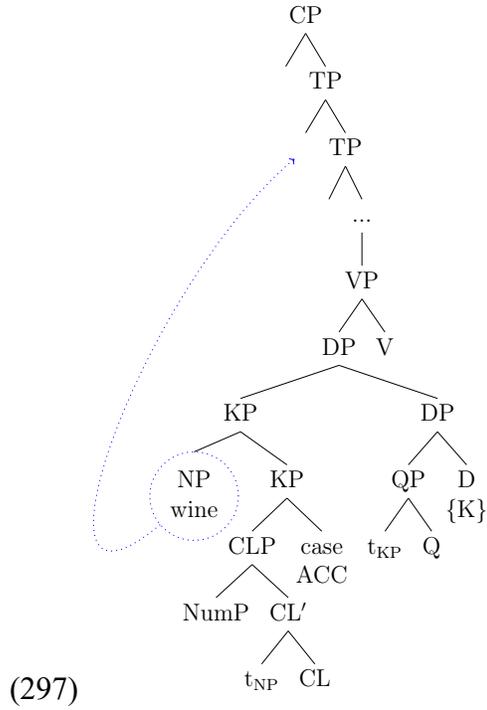
The derivation in (300) also involves movement of a non-maximal and non-minimal projection — thus ruling out the example in (296c), repeated here in (299). Another possible derivation of (299) is given in (301), where NP alone moves and adjoins to vP, followed by movement of the remnant DP to the sentence initial position. However, as I argued above, NP movement out of KP, which is now a derived specifier, is banned by the CED. Thus, the derivation in (301) is ruled out. As a result, we can capture the unacceptability of (299) given that there are no convergent derivations.

(299) *twu pyeng-ul   Cheli-ka   wain   t   sa-ss-ta.

      two   CL-ACC   Cheli-NOM   wine   buy-PST-DEC

      'Cheli bought two bottles of wine.   (= 296c)

(300)

(301) a.

```
                    CP
                   /\
                  TP
                 /\
               VP   T
              /\
             VP
            /\
            ....
           /\
          DP   V
         /  \
       KP      DP
      /  \    /  \
    NP   KP  QP    D
   wine /\  /\    {K}
      CLP case t_KP  Q
          ACC
       /\
    NumP  CL'
          /\
        t_NP  CL
```

b.

```
                        CP
                       /\
                      TP
                     /\
                    TP
                   /\
                  ....
                 /\
               VP   T
              /  \
            NP    VP
           wine  /\
                DP   V
               /  \
             KP      DP
            /  \    /  \
         t_NP  KP  QP    D
              /\  /\    {K}
            CLP case t_KP  Q
                ACC
             /\
          NumP  CL'
                /\
              t_NP  CL
```
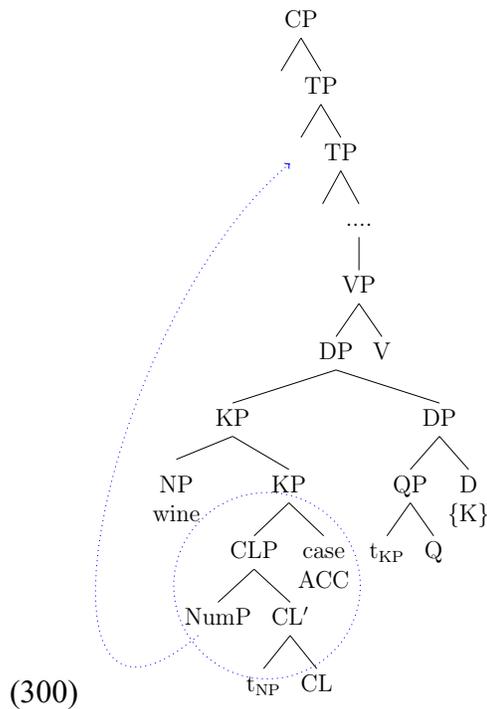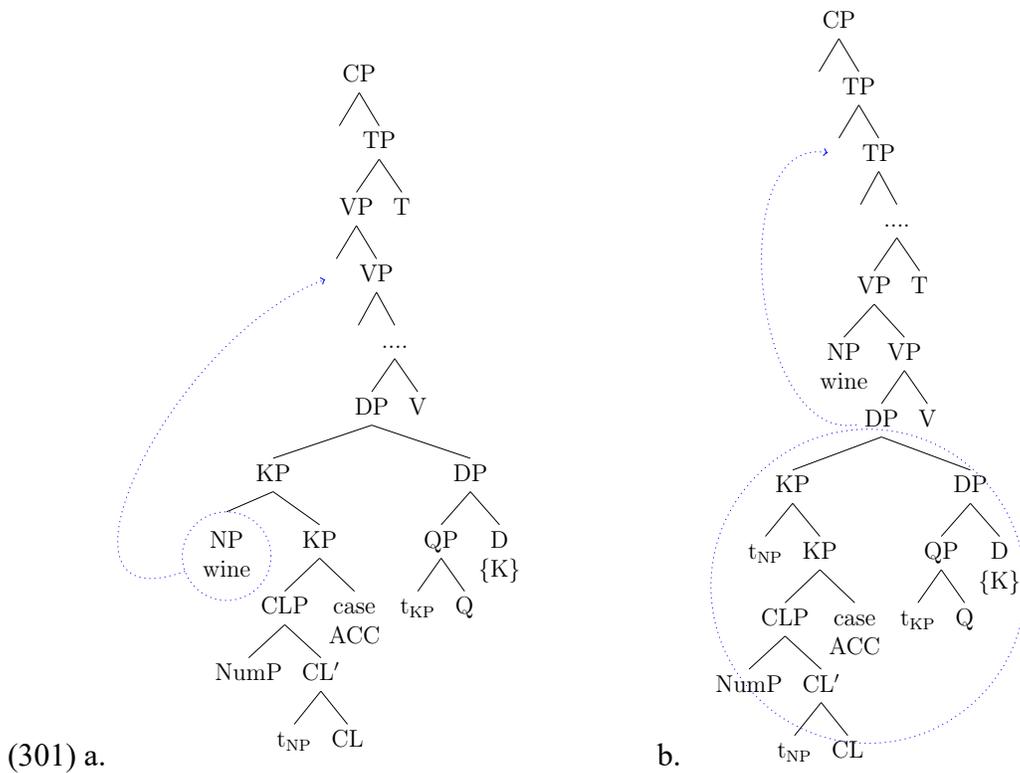
In the cases discussed thus far, nothing has been said about Cyclic Linearization. This is because there is no convergent derivation to be evaluated by Cyclic Linearization. We shall see the next cases that are not excluded for syntax-internal reasons (e.g. constraints on movement), but are filtered out by Cyclic Linearization. Moving on to the construction in (296d), repeated here in (302), a possible derivation is (303a) in which CLP undergoes scrambling to spec TP, leaving other parts of DP behind. There is another derivation to consider, as shown in (303b). However, this derivation in (303b) is ruled out since it involves movement of the remnant DP preceded by the illicit non-constituent string 'wine-ACC' moving out of DP.

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(302) ***[twu pyeng]**   Cheli-ka   **wain-ul**   t   sa-ss-ta.

       two   CL   Cheli-NOM   wine-ACC   buy-PST-DEC

   'Cheli bought two bottles of wine.   (= 296d)

(303) a.   b.
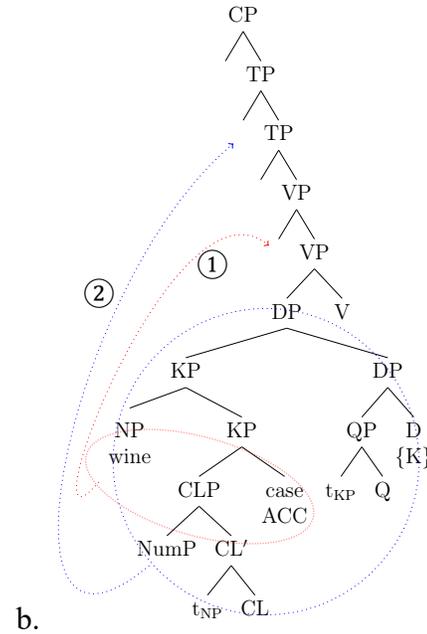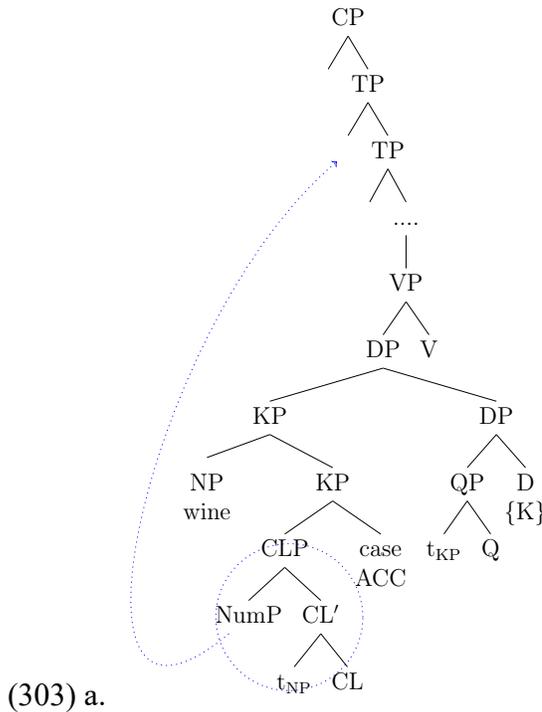
Based upon the derivation that converges in (303a), I will demonstrate how Cyclic

Linearization successfully rules out (305). Note that under Fox & Pesetsky's system,

an element in non-edge position (that is, not the leftmost) can move from the spelled-

out domain so long as elements to its left also move in a fashion that preserves their

original linear order. If this also holds in Korean, we can predict that movement of the

CLP out of DP in (303a), to the exclusion of the leftmost element *wine,* causes an order

contradiction. This prediction is indeed borne out. To illustrate, when the DP domain

is spelled out, the ordering statements are established as 'wine< NUM < CL < ACC', as

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shown in (304a). Then, scrambling of CLP to the spec of TP takes place, as shown in

(303a). When the higher domain, CP, is spelled-out, the ordering statements at CP are

established as 'NUM<CL<WINE<ACC', as shown in (304b). Theses ordering statements

at DP and CP are inconsistent. As a result, this structure cannot be pronounced at PF—

thus explaining the unacceptability of (302).[51]

(304) a.   [DP wine NUM CL ACC]   Ordering: **wine< NUM < CL< ACC**

   b. [CP [NUM CL]₁ [DP wine   t₁   ACC]]:

            $NUM < CL < DP \rightarrow$ **NUM < CL< wine**< ACC

Now, let us consider the construction in (306), in which the base structure of DP is

(305), which is different from the previous examples. (306a) is the case in which the

DP in (305) undergoes scrambling to the beginning of the sentence. When the entire

DP is moved to Spec, TP, the elements within DP are left unchanged in their linear

orders that had been previously established with respect to each other. Hence, the

acceptability of (306a) can be adequately handled under the current analysis.

---

[51] The Japanese counterpart of (302) in (ia) is acceptable, as reported by Ko (2005), and so is (ib), the
Korean counterpart of which is unacceptable. The acceptability of (ia) is correctly accounted for under
the current CL analysis. This is so because the relative word order between numeral-classifier and host
noun with a case-marker in (ib), 'numeral <CL< book<CASE' is allowed in Japanese. When CP is
spelled-out, scrambling of numeral and classifier preserves the word order previously established in DP,
thereby yielding no ordering contradiction.
(i) a. San-satu₁   John-wa   hon-o   kattta.
       3-CL   John-TOP   book-ACC   bought
     'John bought three books'
  b. John-wa   san-satu   hon-o   katta.
   John-TOP   3-CL   book-ACC   bought

```
                          DP
                 ┌─────────┴─────────┐
                KP                   DP
          ┌──────┴──────┐      ┌──────┴──────┐
         NP    KP            QP              D
        wine ┌──┴──┐    ┌─────┴─────┐       {K}
          t_CLP  case  CLP          QP
                 ACC ┌──┴──┐      ┌──┴──┐
                  NumP  CL'  t_KP      Q
                  two ┌──┴──┐
                    t_NP  CL
                         bottle
```
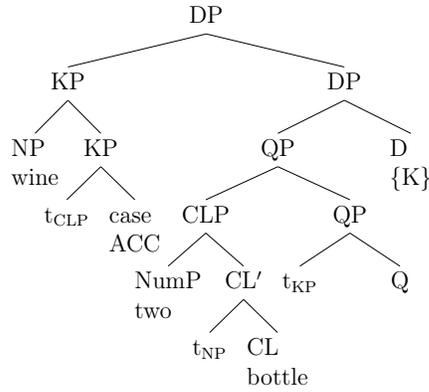
(305)   (= 293b)

(306) a. [?]**[wain-ul   twu pyeng]** Cheli-ka   t   sa-ss-ta.

     wine-ACC   two CL   Cheli-NOM   buy-PST-DEC

     'Cheli bought two bottles of wine.'

  b. ***[twu pyeng]**   Cheli-ka   **wain-ul** t   sa-ss-ta.

      two CL   Cheli-NOM   wine-ACC   buy-PST-DEC

  c. **wain-ul**   Cheli-ka   [t   **twu pyeng]**   sa-ss-ta.

     wine-ACC   Cheli-NOM   two CL   buy-PST-DEC

     'Cheli bought two bottles of wine.'

When it comes to the construction in (306b), it can be derived by extracting CLP out of Spec, DP to Spec, TP, as shown in (307):
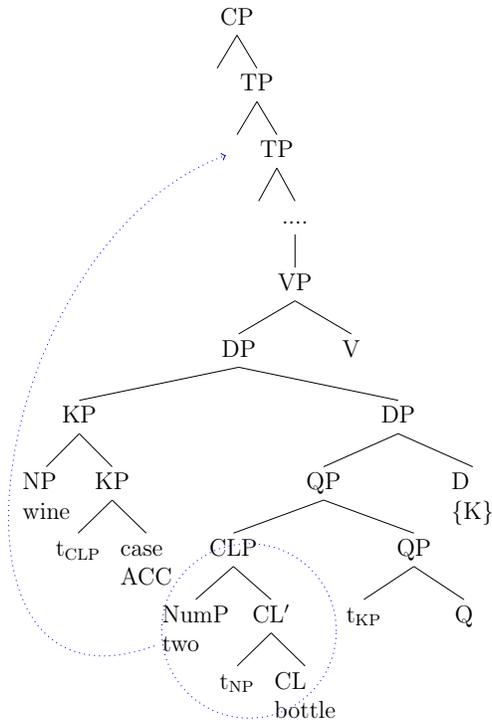
(307)

However, in this derivation, the ordering statement in CP contradicts what was established in DP. In particular, in DP, *wine* and case marker precede a numeral and classifier. However, later movement of CLP in (307) reverses the order between 'numeral-quantifier' and 'wine-case', as shown in (308). Hence, the linearization information in DP and the linearization information in CP impose conflicting requirements on the phonology, thereby ruling out the derivation in (307).

(308) a.   [DP wine ACC NUM CL]   Ordering: wine< acc < **NUM < CL**

     b. [CP [NUM CL]$_1$ [DP wine ACC t$_1$]]: NUM < CL < DP → **NUM < CL <** wine< ACC

Here, I will show what goes wrong with one of the possible derivations of (306b), sketched in (309), in which CLP transits through Spec, DP and subsequently moves to

Spec, TP. Furthermore, I will demonstrate that the illicit derivation in (309) constitutes evidence in favor of my assumption concerning the 'tuck-in requirement' for movement to the specifier of DP. As I suggested earlier, when an element in non-edge position is chosen to move through the edge position (e.g. Spec, DP), it must tuck-in below the outermost spec DP. Suppose that tucking-out of CLP were allowed, as shown in (310a). This movement would cause the numeral and classifier to precede *wine* and case-marker, which it would otherwise follow. Thus, when the DP is spelled-out, the ordering statements established are NUM<CL<wine<ACC, as sketched in (310a). As one can see in (310b), when CP is spelled-out, the relative ordering of numeral, classifier, *wine* and case, established at Spell-out of DP, is consistent with any statements added by the subsequent movement of CLP to spec TP. As a result, we incorrectly rule in (306b). Therefore, to the extent that a DP-internal element moves through the edge position, its movement must proceed via "tucking in".

(309)
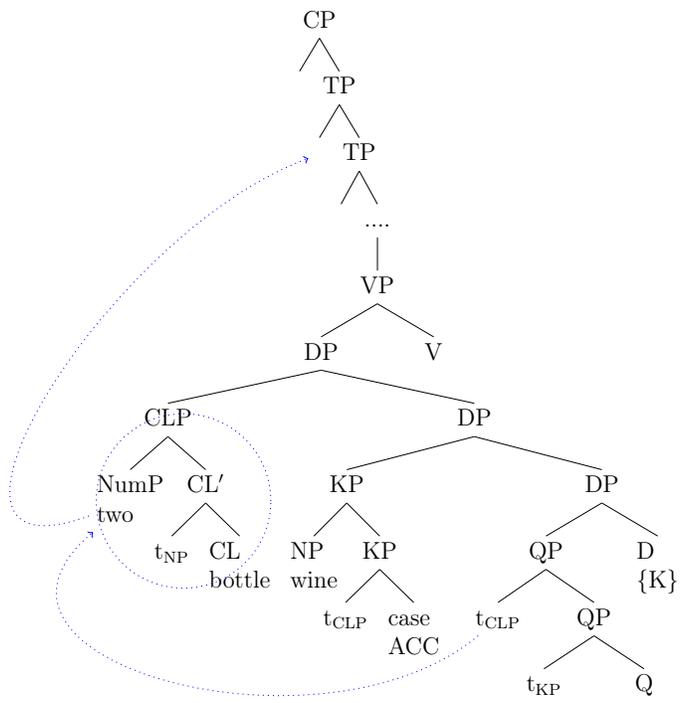
(310) a. $[_{DP}$ $[_{NUM}$ CL$]_1$ $[_{DP}$ wine ACC t_1 $]]$

Ordering: **NUM < CL** < wine< ACC

  b. $[_{CP}$ $[_{NUM}$ CL$]_1$ $[_{DP}$ t_1 $[_{DP}$ wine ACC t_1 $]]]$:

NUM < CL < DP→ **NUM < CL <** wine< ACC

Another possible derivation of (306b) is that KP undergoes movement spec DP to spec VP followed by the remnant DP fronting to spec TP, as shown in (311). Since the entire KP moves non-locally, this movement does not violate either the CED-type constraint or the anti-locality constraint. However, as shown in (312), the subsequent movement of the remnant DP in (312b) creates an ordering contradiction. Consequently, there is no derivation that does not crash at PF, so the construction in (306b) is correctly ruled out.
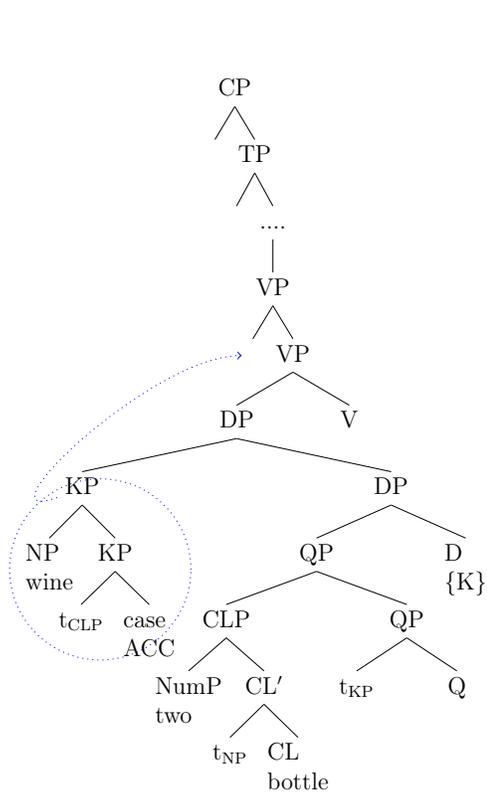
(311) a.
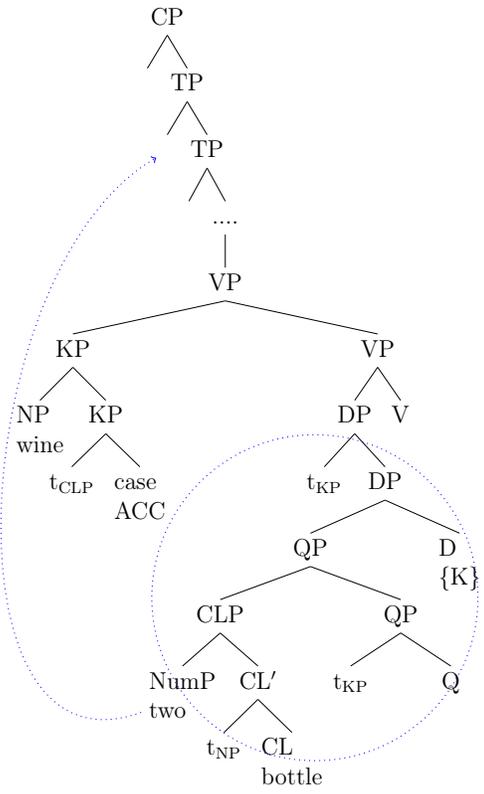
b.

(312) a.　　[DP wine ACC NUM CL]　Ordering:　　　　wine< ACC < **NUM < CL**

b. [CP [NUM CL]₁ [DP wine ACC t₁]]:

NUM < CL < DP→ **NUM < CL <** wine< ACC

Moving on to the acceptable example in (306c), repeated here in (313), there are two possible derivations we can consider. First of all, the entire KP is extracted from spec KP to spec TP, as shown in (314). The extraction in (314) is neither a case of sub-extraction out of a derived specifier nor a case of movement from the complement to the spec of the same projection (which would be too local).

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(313) **wain-ul**   Cheli-ka   [t   **twu pyeng]**   sa-ss-ta.

     wine-ACC   Cheli-NOM   two   CL   buy-PST-DEC

     'Cheli bought two bottles of wine.'   (= 306c)
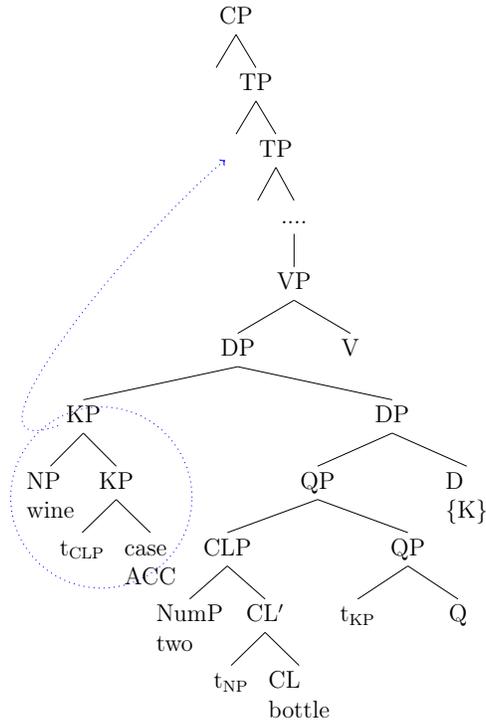
(314)

Consider now another derivation of (313), given in (315). As an initial step of movement, CLP is moved to spec vP and subsequently the remnant DP is fronted to spec TP. As mentioned earlier, it is optional for CLP to undergo movement to the edge (the lower Spec of DP) before moving further to spec VP, a movement step which is string-vacuous. Now, let us see how the "syntactically licit" derivations introduced above are also licit as far as Cyclic Linearization is concerned. As sketched in (316), the relative ordering of '*wine*-case' and 'numeral-classifier' established in DP remains the same before and after movement in CP— thus, correctly explaining the acceptability of (313) under the current proposal.
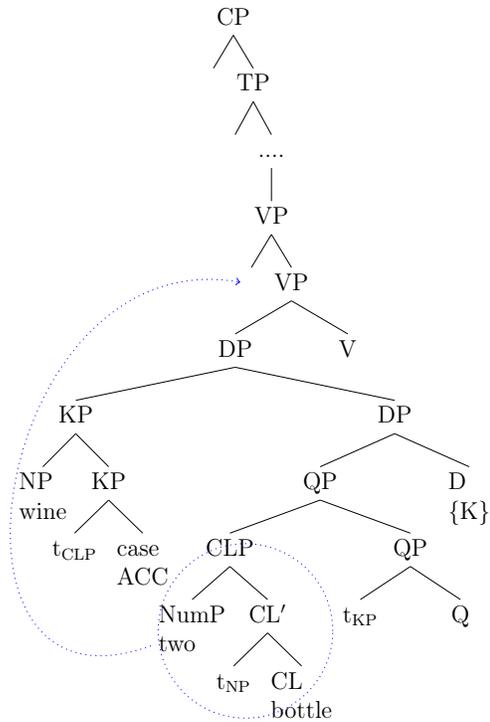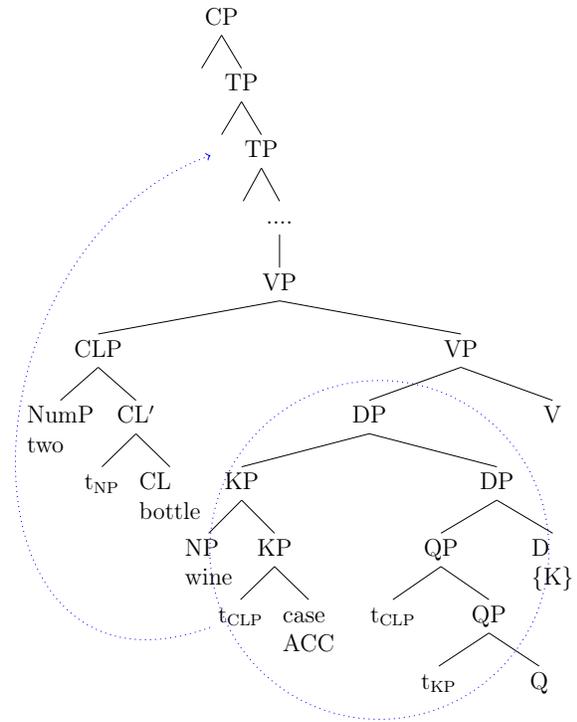
(315) a.　　　　　　　　　　　　　　b.

(316) a.　　　　$[_{DP}$ wine ACC NUM CL] Ordering:　　　　wine < ACC < **NUM < CL**

b. $[_{CP}$ [wine ACC]$_1$ $[_{DP}$ t$_1$ NUM CL]]:

NUM < CL < DP → wine < ACC < **NUM < CL**

The current analysis correctly predicts that movement of CLP to spec VP in (315a) without further remnant movement of DP in (315b) would be blocked by Cyclic Linearization. This is because such movement does not preserve the linearization statements generated within DP. This prediction is indeed corroborated by the unacceptability of (317).

(317) *Cheli-ka   **[twu byeng]**   [**wain-ul**   t]   kkayttuly-ess-ta.

　　　Cheli-NOM [two CL]   wine-ACC   break-PST-DEC

　　　'Cheli broke two bottles of wine.'

As noted by Fox & Pesetsky, an important prediction this analysis makes is that if the contradicting ordering information is deleted at PF, the aforementioned CLP movement would be allowed. As already demonstrated in subsection 3, fragment answers in Korean are derived via ellipsis. Consider the example in (318). If ellipsis is applied, as represented in (319), the linearization statement which may have otherwise caused an ordering contradiction is rendered vacuous because the relevant portion of it, 'wine<ACC', is pronounced at all. As a result, the ordering statements that make reference to 'wine<ACC' would have no impact on pronunciation and hence no ordering contradiction would arise. As predicted, the fragment answer in (318A) is acceptable whereas its non-elided counterpart in (318A') is unacceptable. This confirms the argument that ellipsis salvages the unacceptability induced by the CLP movement, which yields linearization statements that contradict the ones previously established.

(318) Q: Cheli-ka   wain-ul   myech   pyeng   kkayttuly-ess-ni?

　　　　　Cheli-NOM   wine-ACC   how many CL   break-PST-Q

　　　　　'How many bottles of wine did Cheli break?

　　A: twu   pyeng

　　　two   CL

　　　'two bottles.'

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A': *twu pyeng ~~Cheli-ka~~ ~~wain-ul~~ ~~kkayttuley-ess-ta.~~

two CL Cheli-NOM wine-ACC break-PST-Q

'Cheli broke two bottles of wine.'

(319) a. [$_{DP}$ wine ACC NUM CL] Ordering: ~~wine< ACC< NUM< CL~~

b. [$_{CP}$ [NUM CL]$_1$ [$_{DP}$ wine ACC t$_1$]]:

NUM < CL < DP→ **NUM < CL** < ~~wine< ACC~~

I have shown that non-leftmost element movement (e.g. CLP movement in (318a)) is allowed insofar as the leftmost element (e.g. the remnant DP movement in (318b)) also moves in a manner consistent with their relative order previously established. Thus, under the current analysis, if additional phrases such as a universal quantifier *motwu* follows a numeral and classifier within DP, we predict that remnant DP movement would not resolve the word-order contradiction created by the prior CLP movement. The unacceptability of (320b) supports this prediction. Let me elaborate on this. A non-left edge element, CLP, undergoes movement first to spec VP, as shown in (321a). Then, as shown in (321b), remnant DP movement including not only the left-edge element (i.e. *book*-ACC) but also the rightmost element (i.e. *all*) takes place to spec TP. Consequently, *all* is ordered to precede the numeral and the classifier, thereby yielding the linearization statement, 'book<ACC<**all<NUM<CL**'. However, this contradicts the linearization statement generated in DP, 'book<ACC<**NUM<CL<all**'— thus, explaining the unacceptability of (321b).

(320) a. ?Cheli-ka   **[chayk-ul   twu   kwen   motwu]**   sa-ss-ta.

Cheli-NOM   wine-ACC   two   CL   all   buy-NEG-PST-DEC

'(lit) Cheli did not break either of the two bottles of wine.'

b. *[chayk-ul   t₁   motwu]₂   Cheli-ka   **[twu kwen]₁** t₂ sa-ass-ta.

book-ACC   all   Cheli-NOM   two   CL   buy-PST-DEC

'(lit) Cheli did not break either of the two bottles of wine.'
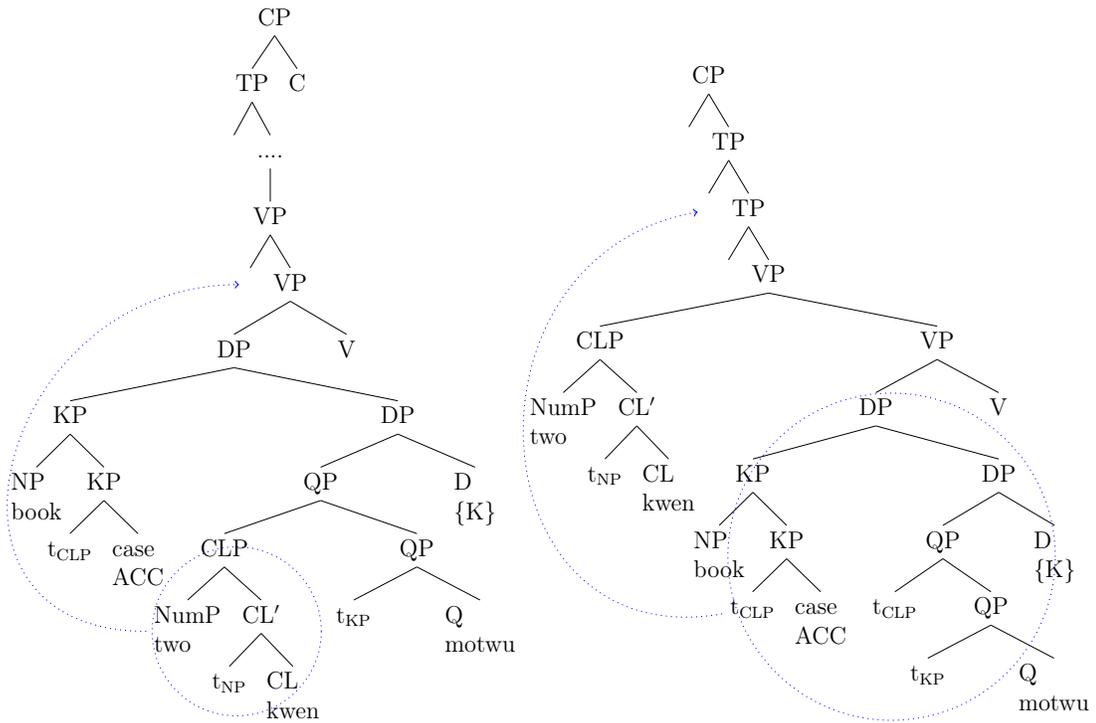
(321) a.   b.

To sum up, it has been shown that DPs and CPs are phases in Korean. The sub-extraction restriction on Numeral Classifier construction in Korean is best accounted for under Cyclic Linearization (and its interaction with syntax-internal constraints such as the CED type constraint and anti-locality constraint).

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Subsection 2 Complex *amwu*-constructions and Cyclic Linearization

This subsection looks into the detailed structure of nominal projections of complex *amwu*-constructions in Korean. Here, I intend to extend the consequences of the Cyclic Linearization approach pursed above to *amwu*-constructions. The basic facts are as indicated in (322) and (323); there are two different forms of complex *amwu*-constructions in Korean. *Amwu* can appear together with any common noun, either in the conjoined form as 'amwu-N-to' or in the form separated from the case-marked noun as 'N-CASE-amwu-to', as shown in (322) and (323), respectively. I propose that (325) and (323) are underlyingly the same, and (323) is derived from (322). I will then show that the noun phrases *ppang-ul* and *amwuketo* in (323) start out as a single constituent.[52]

(322) Mary-ka   **[amwu-ppang-(*ul)-to]**   saci-anh-ass-ta.

     Mary-NOM   amwu-bread-(ACC)-FOC   buy-NEG-PST-DEC

     'Mary did not buy any bread.'

(323) Mary-ka   **[ppang-*(ul) amwukesto]**   saci-anh-ass-ta.

     Mary-NOM   bread-ACC   amwu-INAN   buy-NEG-PST-DEC

     'Mary did buy eat any bread.'

---

[52] Ko (2007) argues that *amwu*- does not form a constituent with its host NP in the underlying structure. As shown in (i), the subject and *amwu*- can be separated by vP-internal elements such as an object. According to her, this would be impossible if there were a constituent. Here, I rejected a particular assumption of Ko is making about *amwu*- never being a part of its NP host. How to reconcile this with the rest of her framework is an interesting question but it is beyond of the scope of this thesis.

(i) Haksayng-tul-i   sakwa-lul   amwuto   mekci-anh-ass-ta

     student-PL-NOM   apple-ACC   amwu-AN   eat-NEG-PST-DEC

     'No students ate apples'

The question that arises is where the divergence occurs between the two constructions. Observe that the difference between (322) and (323) lies in the compatibility with the case-marker. In particular, when *amwu-* precedes a common noun, a case-affix is not allowed. On the other hand, when *amwu-* follows a common noun*,* the presence of a case-affix is obligatory. Here, I argue that it is a low-level morphological condition that prevents the 'case(*ul*)-*to'* string in (325). Thus, a case-marker is deleted under adjacency to the focus marker *to*.

Recall that throughout the thesis, I have argued that NegP is an extended nominal projection, as represented in (324). Given this argument, I further propose that (323) has the structure in (324a) while (323) has the structure in (324b). Given that *amwu-* always accompanies *-to*, I posit FocP whose head is 'to' to be immediately c-commanded by NegP, which captures the selectional relation between the two projections. (324b) differs from (324a) only in the application of KP movement to spec NegP. Here, I assume that an optional EPP feature on the Neg head triggers KP movement. If KP in (324a) undergoes movement to spec NegP, as shown in (324b), we can derive the structure of (323). Finally, once KP has moved to spec NegP, the inanimacy of the noun is morphologically realized as 'kes' according to the rule in (325).

(324) a.

```
              NegP
             /    \
        amwu-      Neg'
                  /    \
               FocP     Neg
              /    \
            DP      Foc
           /  \      to
         KP    D
        /  \   [K]
      NP    K
    ppang
```

b.

```
              NegP
             /    \
          KP       NegP
         /  \     /    \
       NP    K  amwu-   Neg'
     ppang          /      \
                 FocP       Neg
                /    \
              DP      Foc
             /  \      to
          t_KP   D
                [K]
```
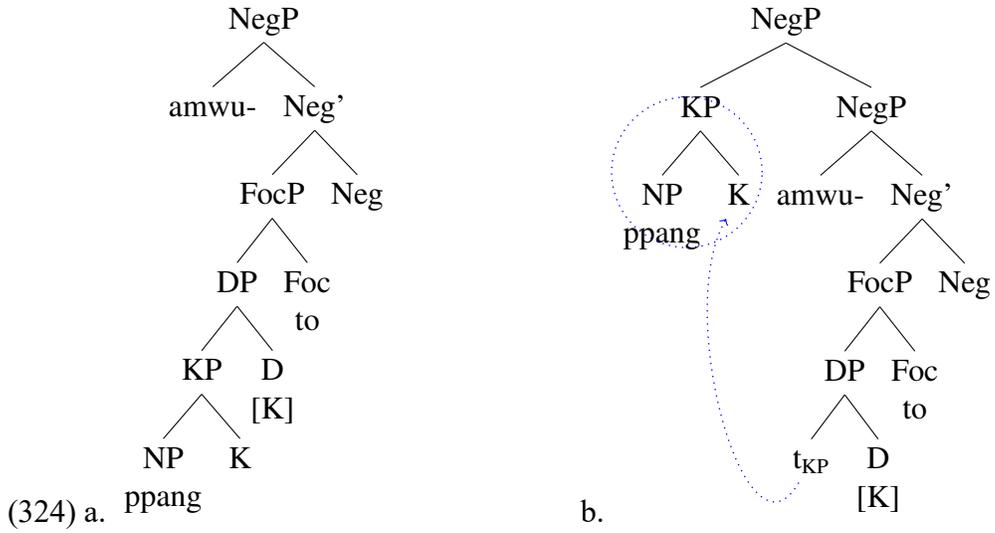
(325) Morphological rule:

      [-animate] $\rightarrow$ *-kes* / *amwu* __ [Foc]

                $\rightarrow$ ϕ / elsewhere

(326)

```
                VP
               /   \
            KP       VP
           /  \     /   \
         NP    K  NegP    V
       ppang  ACC  / \    buy
                t_KP NegP
                    /    \
                amwu-     Neg'
                         /    \
                      FocP     Neg
                     /    \
                   DP      Foc
                  /  \      to
               t_KP   D
                     [K]
```

Consider another derivation of (323), in which KP is sub-extracted from NegP to spec VP, as shown in (326). On this view, what we see in (323) is two different phrases that one of which has been sub-extracted from within the other. This derivation is licit but only if KP moves to NegP in (324b) before moving further to spec VP in (326), otherwise an ordering contradiction would arise. Suppose that KP in (326) undergoes movement from spec DP directly to spec VP. When DP is spelled-out, the linearization statement is established in DP, as described in (327a). Recall that the case-marker is deleted under adjacency to the focus marker *to* and hence it is not counted for linearization. An ordering contradiction now arises because the word order between *ppang*, amwu- and the focus marker *to*, established in DP, has been reversed after KP movement to spec VP, as shown in (327b). Note that the insertion of the inanimate marker *kes* on its own does not hamper the previously established word order but only adds new information.

(327) a. [DP amwu- ppang to]   Ordering: **amwu** < **ppang (< (ACC) < to**

   b. [CP [VP[ppang ACC]₁ [DP t₁ amwukesto]]]]:

           ppang< ACC < DP→ **ppang**< ACC **< amwu**< kesto

With the structure sketched above in mind, consider the examples in (328).

(328) a. Mary-ka   ppang-ul   amwukesto saci-anh-ass-ta.

    Mary-NOM bread-ACC amwu-INAN buy-NEG-PST-DEC

    'Mary did not buy any bread'   (= 323)

b. *Mary-ka   amwukesto   ppang-ul   saci-anh-ass-ta.

   Mary-NOM   amwu-INAN   bread-ACC   buy-NEG-PST-DEC

c. ppang-ul   Mary-ka   t   amwukesto   saci-anh-ass-ta.

   bread-ACC   Mary-NOM   amwu-INAN   buy-NEG-PST-DE

d.*amwukesto   Mary-ka   ppang-ul   t   saci-anh-ass-ta.

   amwu-INAN   Mary-NOM   bread-ACC   buy-NEG-PST-DEC

As one can see from (328a) and (328b), *amwu*kesto cannot precede the case-marked noun phrase *ppang-ul*. It seems that (328b) is derived by moving the remnant NegP to an additional, outer specifier VP from the structure in (326). However, such movement is illicit because this movement operation violates anti-locality; that is, the remnant NegP undergoes movement from the complement to the specifier within one and the same projection, VP, which is too local. Thus, the construction in (328b) cannot be derived.

As for (328c), KP is sub-extracted from spec NegP and fronted to spec TP, as shown in (329).

The acceptability of (328c) is consistent with Cyclic Linearization. As shown in (330), the movement of KP creates ordering statements which are consistent with the ordering statement already established in DP. As a result, the acceptability of (328c) can be successfully accounted for under the current analysis.

```
                          TP
                    ┌──────┴──────┐
                   KP             TP
                 ┌──┴──┐       ┌───┴───┐
                NP     K      NP       T'
              ppang  ACC    Mary      ┌──┴──┐
                                     ΣP    T
                                   ┌──┴──┐
                                  VP     Σ
                                ┌──┴──┐  an
                             NegP     V
                           ┌──┴──┐   buy
                         t_KP   NegP
                              ┌──┴──┐
                           amwu-   Neg'
                                 ┌──┴──┐
                              FocP    Neg
                            ┌──┴──┐
                           DP    Foc
                         ┌──┴──┐  to
                       t_KP    D
                              [K]
```

(329)
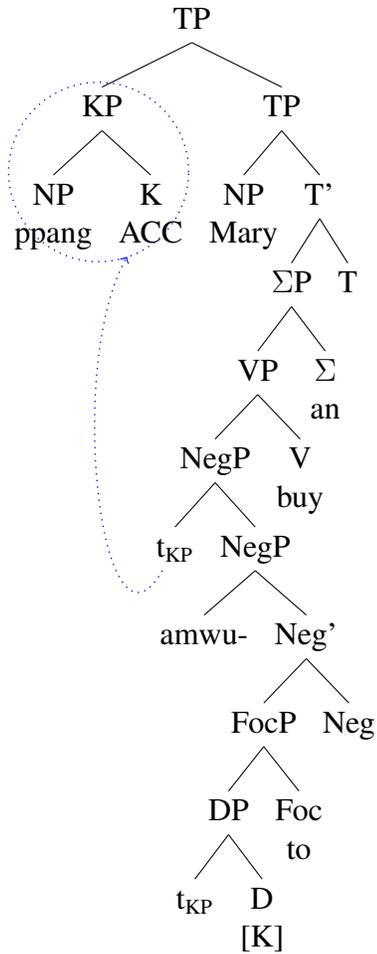
(330) a. [_DP ppang ACC amwukesto]   Ordering: ppang< ACC < amwu< kesto

b. [_CP[ppang ACC]₁ [_DP t₁ amwukesto]]:

ppang< ACC < DP→ ppang< ACC < amwu< kesto

Now, consider how the derivation of (328d) proceeds. As shown in (331a), first, the KP undergoes movement to spec VP. Then, the remnant NegP in its entirety undergoes subsequent movement to spec TP, as shown in (334b). This derivation is blocked by Cyclic Linearization. As sketched in (332a), prior to the application of any of the movement operations, when DP is spelled out, *amwu-* is ordered to precede *ppang* and *ppang* to be followed by a focus marker *to.* The KP movement followed by the remnant

NegP movement in (331), however, reverses the original word order between *ppang* and the focus marker *to*, as shown in (311b). This results in ordering contradictions and hence explains the unacceptability of (328d).
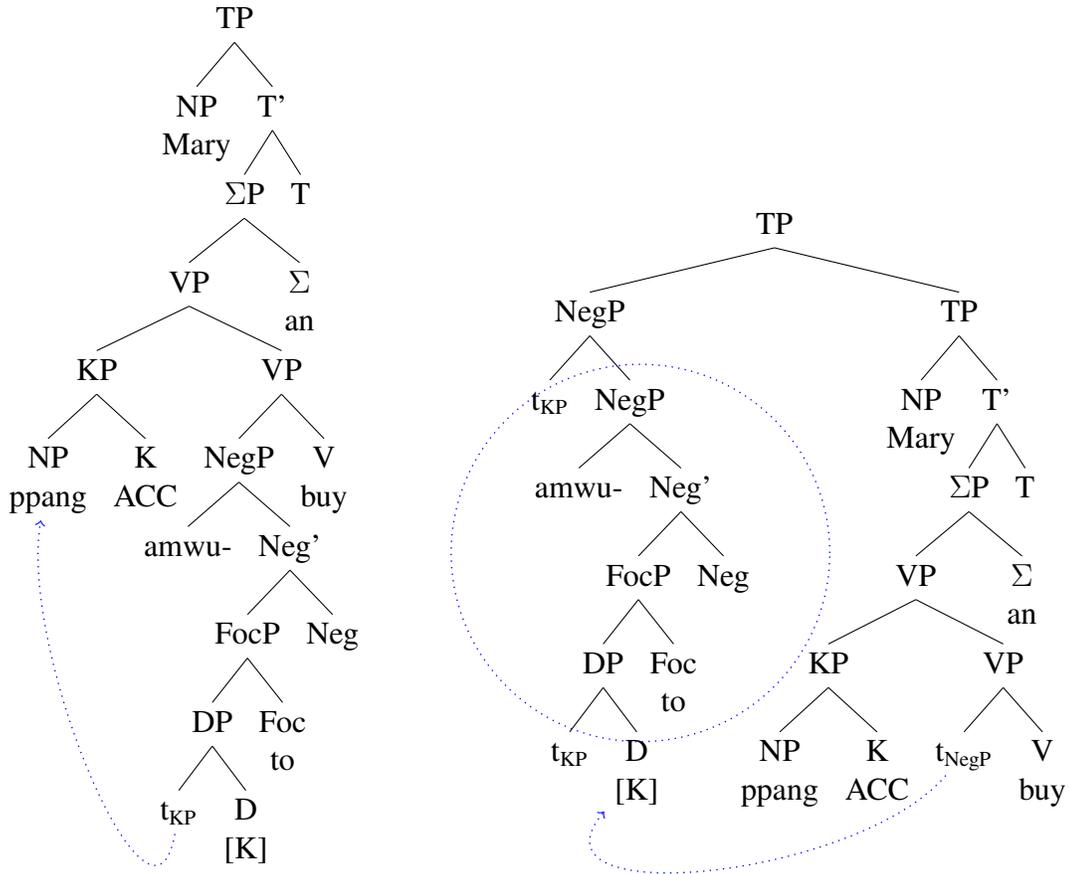
(331) a.   b.

(332) a. [_DP amwu- ppang to]   Ordering: amwu < **ppang (<~~(ACC)~~< to**

  b. [_CP[amwu(kes)to]₁[_DP t₁ ppang ACC]]:

              amwu< kesto< DP→ amwu< **(kes)to< ppang**< ACC

In this section, we have observed a variety of ordering restrictions in complex *amwu-* constructions. The data in this section support the claim that NegP is an extended

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nominal projection and the ordering of elements introduced at the NegP level relative

to DP-internal elements is subject to Cyclic Linearization.

Chapter 6: Conclusion

This thesis has been built on examination of the negation-dependent item *amwu-* in Korean, an issue which has been traditionally addressed by various sub-fields in linguistics. First, I have observed that the negation-dependent item *amwu-* in Korean behaves like neither NPIs nor an NCIs; 1) *amwu-* cannot be licensed in certain environments where NPIs can, such as some downward entailing environments, questions, and conditionals, whereas *amwu-* can appear in elliptical environments where NPIs cannot. Thus, this can be taken as a serious challenge to the purely semantic approaches to *amwu-*. 2) *amwu-* is different from NCIs because it cannot be licensed in a derived position where the locality relation (clausemateness) between *amwu-* and negation appears to be satisfied. I have shown that these behaviors of Korean *amwu-* cannot be explained under the existing analyses of negation-dependent elements.

In chapter 2, I presented arguments that *amwu-*s are a third type of negation-dependent expression, which calls for a new syntactic analysis, centered around the constituency of negation and this negation-dependent item upon base-generation. Thus, the locality constraint that appears to hold between *amwu-* and negation in its clause of origin is nothing more than the locality of constituency, a general principle of grammar. If the theoretical and empirical arguments made here are successful, the traditional two-way taxonomy of negation-dependent expressions (NPIs and NCIs) in a wide range of languages needs to be expanded to include this third category.

In chapter 3, I offered an account for the long-standing puzzle of how a negation-dependent expression like *amwu-* can appear as a fragment answer despite the apparent

polarity mismatch with its antecedent. I argued that the identity condition of ellipsis can be satisfied by selecting a polarity head with the same lexically-supplied features, whereas derivationally-obtained negative features are not subject to the identity condition. In doing so, we can explain the apparent absence of full identity in negative fragments under a version of Chomsky (1965)'s featural specification account of ellipsis.

In chapter 4, I showed that Beck & Kim's (2007) intervention effect pertains not only to upward LF movement but also to reconstruction. Many questions remain concerning the asymmetry in interactions between quantifiers and *wh*-phrases, but I have established that the capacity for intervention comes from the quantificational nature of *amwu*- rather than its purported semantic negativity (which I have argued against). I have also demonstrated that radical reconstruction of a long-distance scrambled phrase in Korean can be relaxed to obtain convergence, in cases where only interpreting the phrase outside of its base position will lead to a convergent derivation. This observation constitutes strong support for the line of approaches arguing that long-distance scrambling in Korean cannot be relegated to PF movement.

In chapter 5, I explored the structure of the extended nominal projection in Korean. In doing so, this chapter further contributes the proposal that NegP is part of the extended nominal projection. The data is drawn from various structural realizations of numerals within nominal projections in Korean. The claim that I have pursued is that sub-extraction from a noun phrase is only possible when the ordering within the clausal domain after the extraction is consistent with the ordering previously established within the noun phrase. I demonstrate that elements in nominal domains in Korean are also

regulated by Cyclic Linearization. Thus, my research provides evidence that the application domain of Cyclic Linearization is not only clausal domains (CP) but also nominal ones (DP).

Much work remains to be done. In future work, I hope to expand the scope of my investigation into the typology of negation-dependent expressions across languages. In particular, I will consider the possibility that there could be other negation-dependent expressions in other languages that have been misidentified as NCIs or NPIs, like *amwu-* had been.

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