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Los Angeles

The syntax of negation in Korean given an antisymmetric and cartographic framework

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by

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ABSTRACT OF THE DISSERTATION

The syntax of negation in Korean given an antisymmetric and cartographic framework

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The goal of this dissertation is to provide a unified analysis of negation in Korean, and the claim to be defended is that it is possible to do so when we rethink the syntax of Korean. This dissertation reassesses the syntax of preverbal and postverbal negation by taking into consideration a framework which is based on the antisymmetry theory (Kayne 1994) in conjunction with the cartographic program (Cinque 1999), building on the works by Koopman & Szabolcsi (2000), Cinque (2005), and Koopman (2005). The proposed framework assumes a theory of syntax in which the linear order of elements reflects their hierarchical order, with the only possible hierarchical order being Spec-Head-Complement order. It bans post-syntactic operations, covert movement, and head movement. The main idea is that the proposed framework will choose the analysis for preverbal negation, postverbal negation, and negative indefinites and intervention effects.

The dissertation of Taehoon Hendrik Kim is approved.

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To my wife, Bora

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CHAPTER 1

Introduction

1.1 About this dissertation

In a narrow sense, this dissertation is about negation in Korean, with the focus on issues including:

- The syntax of preverbal negation and postverbal negation;
- The morphosyntax, semantic characterization, and licensing of negative indefinites (which have been previously analyzed as negative polarity items); and
- The cause of intervention effects that arise when negative indefinites appear with focus elements.

In a broad sense, this dissertation is about testing a particular implementation of the antisymmetry theory (Kayne 1994) in conjunction with the cartographic program (Cinque 1999), building on the works by Koopman & Szabolcsi (2000), Cinque (2005), and Koopman (2005), with some of the important assumptions as follows:

- The linear order of elements reflects their hierarchical order, and Spec-Head-Complement order is the only possible order (e.g., OV and VO are not symmetric).
- Every movement (i.e., internal merge) is leftward, phrasal (i.e., no head movement), and overt (i.e., no QR or low spell-out of the tail of the chain), obeying the Extension Condition.
- There is no distinction between “narrow” syntax and “post-syntactic” syntax: There is only one syntax.

- Morphology is syntactic.
- The scope relations are determined in syntax (i.e., Agr heads and case play an important role with respect to interpretation).
- Head-finality (which has been previously analyzed as owing to the directionality parameter) of a head X arises due to the existence of a double of X° which triggers movement of the complement of X° , extending Kayne's (2005) proposal about postpositions to every head that has been known to take the left-hand complement.

The primary aim of this dissertation is to let our particular implementation of the adopted theories decide (for the most part, if not all) the analyses of negation and the related problems, and to see if they can appropriately account for the empirical data.

The claim of this dissertation is that the proposed analyses can not only correctly account for the (known) empirical data but also make correct predictions about previously unknown data.

1.2 Brief background on negation in Korean

The syntax of preverbal and postverbal negation in Korean has been discussed in the generative literature at least since Song (1967) and there are numerous works dedicated to this topic, but I believe that the jury is still out on ultimately what the right analysis is.

Although there may be other reasons for believing so, in my opinion, what have been challenging are:

- Defending a syntactic account that covers the facts related to the availability of NPI subjects and the scope of quantified subjects in Korean (e.g., Sells & Kim 2006);
- Deciding the cause of “NPI intervention effects” that arise with the appearance of NPIs with focus-related elements (e.g., S.-S. Kim 2002b,a, Beck 2006); and
- Accounting for the experimental results on the interspeaker variation in scope judgment (Han et al. 2007).

And as far as I know, there has not been a proposal which does not require a separate account for the data regarding intervention effects, not to mention that there has been no proposal that can cover all of the above-mentioned facts regarding negation in Korean.

It will be shown that the analyses developed under the framework in this dissertation can account for all of the above in the unified manner. This is primarily because the basic assumptions regarding the syntax of negation do not change from the analysis of one problem to that of the other.

1.3 Structure of this dissertation

The structure of this dissertation deviates from that of a typical syntax paper in that it begins by introducing a theoretical framework.

In a typical syntax paper, one often starts with the technical and theoretical assumptions of the standard minimalist theory, which is generally equipped with the simplified syntax along with PF (and whichever component of the grammar where one assumes that post-syntactic operations take place, if that is not identical to PF).

This dissertation adopts a different theoretical framework, with the antisymmetry theory (Kayne 1994) in combination with the cartography program (Cinque 1999) as its foundation, while the principle of the assumptions regarding the syntax of Korean in this dissertation is Koopman (2005), which adopts antisymmetry as well and builds on the analysis of Hungarian verbal complexes (Koopman & Szabolcsi 2000). As the linear order reflects the hierarchical order, how non-negative sentences are constructed must be shown. This involves making the derivations for verbal morphology, case marking, scrambling, and scope explicit.

Therefore, this dissertation begins with Chapter 2, which will lay out in detail the assumptions to be adopted in the analyses to follow in Chapters 3, 4, and 5.

Chapter 3 is about preverbal negation. I will propose that the preverbal negation marker *an* is Neg^o merged above the topmost VP-related projections. Then, we will explore the scope relation between preverbal negation and scope-bearing elements such as quantifiers and focus markers.

Chapter 4 presents the analysis of postverbal negation, in which I will propose that postverbal

negation involves restructuring. I will show that the proposed analysis can not only explain a wide range of facts that lacked a unified explanation but also make correct predictions about the data that have been previously unknown.

Chapter 5 turns to the issue of negative indefinites, which have been previously analyzed as negative polarity items. I will present novel data which show split scope readings that force the analysis of negative indefinites as non-negative indefinites (e.g., existential quantifiers). Then, I will propose that the particle *-to* which appears as part of negative indefinites (e.g., *amwu-to*) functions as the head of a negation phrase (which I will call Neg_{toP}) while making the regular negation marker *an* semantically vacuous. This proposal suggests that the relationship between *-to* and *an* in sentences with negative indefinites is analogous to negation markers in negative concord languages. Lastly, I will propose the analysis of intervention effects, which I will attribute the phenomena to the functional sequence which prohibits the functional head associated with an intervening element (e.g., the exhaustive focus marker *-man*) from merging between $\text{Neg}_{\text{to}}^{\circ}$ and Neg° .

Chapter 6 concludes.

CHAPTER 2

Antisymmetric and cartographic framework for Korean syntax

2.1 Introduction

Some objects take a microscope to see because they are invisible to naked eyes. A microscopic view of objects and physical phenomena allows for a deeper understanding of nature. In syntactic terms, the theory with fine-grained structures may serve as a microscopic view of syntactic phenomena, allowing for us to fill in the gaps in the understanding of the relevant syntactic phenomenon; the gaps that we could not fill in because they cannot be seen with coarse-grained structures. In other words, we need to have the right theory which allows for the right level of structural complexity in order to understand the unsolved problems and to see the unseen problems.

The goal of this dissertation is to provide a unified analysis of negation in Korean, and the claim that I will defend is that we can do so when we rethink the syntax of Korean. In this chapter, I will lay out the theoretical framework, which expands on Koopman's (2005) proposal for approaching Korean morphosyntax from antisymmetric (Kayne 1994), Koopman–Szabolcsi-style (Koopman & Szabolcsi 2000) syntactic point of view. The framework to be laid out is intended to provide us with an uncomplicated theory of syntax that does away with post-syntactic operations, covert movement, head movement, and directionality parameters. The core argument is that phrasal movement builds a sequence of functional morphemes (such as nominal “delimiters” and verbal “inflectional suffixes”; see Cho & Sells 1995) in Korean. The idea is that we will let the framework developed in this chapter choose the analysis for preverbal negation (Chapter 3), postverbal negation (Chapter 4), and negative indefinites and intervention effects (Chapter 5). The aspects of the framework that will be of particular importance to the analysis of negation are the assumptions regarding case markers, honorific agreement, and scrambling. In each of the following chapters, we will study relevant

problems, make generalizations, and try to see if they can be accounted for under our framework. We will see that our analysis can not only account for the well-known problems but also make correct predictions about the data that are previously unknown.

This chapter is organized as follows. In §2.2, I will lay out the assumptions including functional sequence, features, and locality constraints. In §2.3, I will give the assumptions that are specific to Korean (and the related languages). §2.4 presents the assumptions about the argument structure. §2.5 introduces the accusative-case-related projection (i.e., AccP). §2.7 is about the assumptions regarding subject honorific agreement and introduces the related projection (i.e., AgrP). §2.8 presents the assumptions that relate to the nominative-case-related projection (i.e., NomP). Then, TP is introduced in §2.9, and modal and mood-related projections in §2.10. Lastly, §2.11 lays out the assumptions about scrambling.

2.2 Assumptions

2.2.1 Core assumptions

Building on the works of Kayne (1998), Koopman & Szabolcsi (2000), Cinque (2005), and Koopman (2005), I assume a restrictive theory of syntax with the following core assumptions:

- (1) a. Every movement is leftward movement (Kayne 1994, 2011)
- b. Every movement is phrasal movement (i.e., no head movement) (Cinque 2005)
- c. Every movement is overt movement (i.e., no LF movement or Quantifier Raising) (Kayne 1998)
- d. Every movement obeys the Extension Condition, which requires that merge applies at the root (Chomsky 1993, 1995) (i.e., no noncyclic movement such as Nunes's (1995, 2001) sideward movement)¹

Throughout this dissertation, we will test our theory by looking at the wide range of phenomena and trying to see if they can be accounted for by the theory. In Chapters 3–5, it will be shown that our theory can not only provide a unified analysis of negation in Korean but also make correct

¹Generally, head movement and LF movement are taken to be exceptions to the Extension Condition because they violate it. Under our framework, head movement and LF movement are assumed to be nonexistent, which can be understood as a strict enforcement of the Extension Condition.

predictions about the novel data.

2.2.2 Functional sequence

I will adhere to the tenets of the cartographic program (e.g., Cinque 1999, Rizzi 1997, Cinque 2002, Rizzi 2004, Belletti 2004, Cinque 2006, Benincà & Munaro 2010, Cinque & Rizzi 2010, Brugè et al. 2012, Haegeman 2012, Svenonius 2014, Shlonsky 2015, Tsai 2015) in assuming that there is a universal hierarchy of functional projections, largely stable across languages. For example, Cinque (1999) posited the hierarchy of clausal functional categories:

- (2) Cinque (1999: 106)
- Mood_{speech act} (*frankly*) > Mood_{evaluative} (*fortunately*) > Mood_{evidential} (*allegedly*) >
Mod_{epistemic} (*probably*) > T(Past) (*once*) > T(Future) (*then*) > Mood_{irrealis} (*perhaps*) >
Mod_{necessity} (*necessarily*) > Mod_{possibility} (*possibly*) > Asp_{habitual} (*usually*) >
Asp_{repetitive(I)} (*again*) > Asp_{frequentative(I)} (*often*) > Mod_{volitional} (*intentionally*) >
Asp_{celerative(I)} (*quickly*) > T(Anterior) (*already*) > Asp_{terminative} (*no longer*) >
Asp_{continuative} (*still*) > Asp_{perfect(?)} (*always*) > Asp_{retrospective} (*just*) > Asp_{proximative} (*soon*) >
Asp_{durative} (*briefly*) > Asp_{generic/progressive} (*characteristically(?)*) > Asp_{prospective} (*almost*) >
Asp_{SgCompletive(I)} (*completely*) > Asp_{PlCompletive} (*tutto*) > Voice (*well*) >
Asp_{celerative(II)} (*fast/early*) > Asp_{repetitive(II)} (*again*) > Asp_{frequentative(II)} (*often*) >
Asp_{SgCompletive(II)} (*completely*)

I will call such hierarchy a *functional sequence* (e.g., Starke 2004, Adger & Svenonius 2011, Starke 2014, Shlonsky 2015). Since the main focus of this study relates to the clausal structure of Korean, I will frequently need to make reference to the functional sequence that forms the “main projection line” (formally defined in Schweikert 2005: 142–143) of a clause; I will refer to that sequence as the *clausal spine*.

I assume that the external merge of functional heads (i.e., building head-complement relations) is constrained by the functional sequence, such that only the structures built with respect to the functional sequence are the valid outcome of merge (Starke 2001, 2004). For example, Mood° cannot be merged before T° is merged, nor can T° be merged before Voice° is merged, given the functional sequence Mood > T > Voice. On the other hand, the external and internal merge of specifiers will be triggered by features, as will be introduced below.

2.2.3 Features

The heads in the functional sequence will bear formal syntactic features. I will adopt a modified version of the system of features, as well as the notational conventions, from Heck & Müller (2007).

There are two types of formal features of relevance to our framework:²

- (3) a. Specifier-building features, triggering external merge and internal merge of specifiers. These appear between bullets, i.e., [$\bullet X \bullet$].
- b. Agreement-related features, regulating agreement. These appear between asterisks, i.e., [$*X*$].

If α carries [$\bullet X \bullet$], α must merge with β carrying [X]. As a result of the merge, [$\bullet X \bullet$] and [X] are matched and [$\bullet X \bullet$] is discharged. At the end of the derivation, any remaining undischarged features will lead to crash. I assume a feature checking system as opposed to a feature valuation system (e.g., Pesetsky & Torrego 2007) for the sake of simplicity and for the reasons discussed in Müller (2011: 122, fn. 6) (e.g., a feature valuation system is at odds with the Inclusiveness Condition (e.g., Chomsky 1995: ch. 4)).

A crucial point of divergence from the system of Heck & Müller (2007) is that [$*X*$] is an agreement-related feature but not a “probe feature”, because I do not adopt Agree (Chomsky 2000, 2001) as a central operation that establishes an agreement relation. Instead, I adopt a version of Koopman’s (2006) Spec-head hypothesis and assume that “[a]greement is established in a strictly local left right configuration at some point in the derivation” (Koopman 2006: 161, (1a)), where the trigger is the one that carries [$*X*$]. Generally, a “strictly local left right configuration” between α and β will be where α is a specifier of, or a specifier of a specifier of, or ...of β .³ In §2.7, I will further discuss exactly what it means to be in a “strictly local left right configuration” in which the matching of [$*Y*$] and [Y] is allowed. For example, in order for [$*Y*$] and [Y] to match, α carrying [$*Y*$] has to be the specifier of β carrying [Y]. As soon as α and β are in such configuration, [$*Y*$] is discharged.

It should be noted that in our system, an agreement-related feature does not trigger movement.

²In §2.3, we will introduce an additional type of feature (i.e., [$\circ X \circ$]) which triggers movement of the complement of X° into the specifier of the head that carries this feature.

³Or, α is a specifier⁺ of β . See (8) in §2.2.4.

Therefore, for agreement, [$*F*$] could be carried by X° whose maximal projection has moved into the specifier⁺ of Y° while Y° carries [F] (e.g., as with [$*CASE*$], which will be discussed in §2.5), or X° could carry [$*F*$] and [$\bullet Y \bullet$] such that YP is moved into the specifier of X° while [F] is carried by Y° or the specifier⁺ of Y° (e.g., as with [$*HON*$], which we will discuss in §2.7).

2.2.4 Locality constraints

As a derivational constraint that enforces movement be shortest, I adopt Müller’s (2011: 53, (82)) Generalized Minimal Link Condition (GMLC) as given in (4), where α c-commands β and γ while β dominates or c-commands γ , and “closer” means “shorter” in “movement path” length as defined in (5) (Müller 2011: 21, (25)).

(4) *Generalized Minimal Link Condition (GMLC)*

In a structure $\alpha_{[F\bullet]} \dots [\dots \beta_{[F]} \dots \gamma_{[F]} \dots] \dots$, movement to [$\bullet F \bullet$] can only affect the category bearing the [F] feature that is closer to [$\bullet F \bullet$].

(5) Movement path:

- a. A movement path is the set of nodes that are crossed by a movement operation.
- b. A movement path α is shorter than a movement path β if α has fewer nodes than β .

Also, I adopt a modified version of Chomsky’s (2001: 13–14) formulation of the Phase Impenetrability Condition (PIC) (cf. Chomsky 2000: 108) from the phase theory (e.g., Chomsky 2000, 2001, 2004, 2005, 2008), as given in (6).⁴

(6) *Phase Impenetrability Condition (PIC)*

The complement of a phase head H remains accessible to operations until the next phase head Z is merged, and after that the complement of H° is not accessible to such operations, while all the other elements c-commanded by Z° are.

One of the reasons to posit derivation cycles like phases is to reduce computational load. In a system like ours, where roll-up phrasal movement is heavily used, however, the complement of H°

⁴The original definition of PIC as given in Chomsky (2001: 14, (11)) is “the domain of H is not accessible to operations at ZP ; only H and its edge are accessible to such operations”, where H and Z are phase heads. My modified version in (6) attempts to make it clear that non-phase heads can be merged above HP and below ZP , in which case they can trigger movement of the phrases contained within the complement of H° . Also, as I follow Kayne (1994, 2003) and Koopman (2006: 162) in assuming that only one specifier is allowed per head and adjuncts are specifiers, the *edge* of H° for us simply amounts to the *specifier* of H° , as opposed to specifiers and adjuncts of H° . Therefore, the term *edge* from the original formulation of PIC is unnecessary under our framework.

will likely have moved into a higher specifier position (and further pied-piped due to movement of a higher projection containing it) by the time the next phase head Z is merged. This brings us to the question of whether the PIC alone can actually reduce computational load, given the possibility that the material in the spell-out domain (= complement) of a phase head can move out of that domain and keep doing so. Therefore, there should be an “upper bound on the material” inside the specifier of a phase head, as discussed in Gärtner & Michaelis (2007: 177, fn. 9), for it to play any role in reducing computational load.

In Koopman & Szabolcsi (2000: 38; 42–44), this problem does not exist because no extraction from a specifier position is allowed. In other words, the material inside a specifier is inaccessible to syntactic operations. Stabler (1999) implements such restriction as what Gärtner & Michaelis (2005, 2007) and Kobele & Michaelis (2011) call the Specifier Island Condition, which bans extraction from specifiers. However, issues arise when one tries to account for, e.g., argument scrambling in head-final languages like Korean if the possibility of (sub)extraction from a specifier is banned.

As a working hypothesis, I will propose a weaker version of the Specifier Island Condition, which I will refer to as the Specifier Impenetrability Condition (SIC), as given in (7).⁵

(7) *Specifier Impenetrability Condition (SIC)*

If a head X asymmetrically c-commands YP at some point in the derivation and YP is a specifier of X° , only a specifier⁺ of X° , and no element c-commanded by the head of a specifier⁺ of X° , can undergo syntactic operations.

(8) Specifier⁺ (adopting Stabler 1999: 306)

β is a specifier⁺ of α if β is a specifier of, or a specifier of a specifier of, or ...of α .

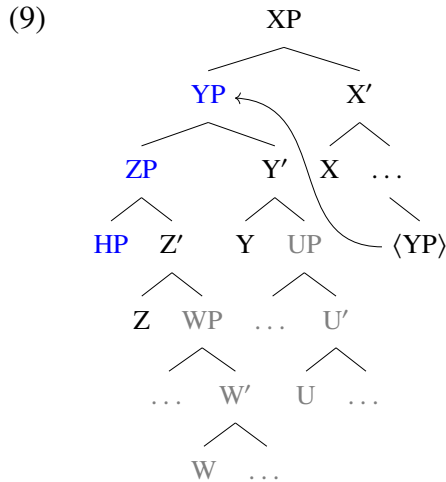
Given the formulation in (7), the SIC will allow extraction *of* the specifier, as well as extraction *from within* a specifier, if that specifier was created by movement (for discussion on freezing effects, see, e.g., Gallego & Uriagereka 2007, Müller 2010, 2011, Hartmann et al. 2018, and Bošković 2018, 2020). However, it does not dictate what happens if the specifier is externally merged (i.e., base-generated). That is, for example, it does not say whether extraction from a base-generated (gapless) topic (e.g., XP merged in SpecTop) is possible, or whether an external argument in its initial-merge

⁵Such a condition, which (restrictively) allows extraction from a specifier created by movement, would be independently required in any system that permits smuggling (e.g., Collins 2005a,b, 2020).

position (e.g., DP merged in Specv) is transparent for extraction. I will have to leave such issues aside for future research. It is worth mentioning that given our framework, many phenomena will have to be reconsidered because their analyses are not compatible with this framework and must be motivated in different ways.

In a sense, the SIC can be seen as an emulation of a weaker version of Baker’s (1988: 73) ban on excorporation from complex heads, adapted to our “no head movement, all phrasal movement” framework. It is related to excorporation in our framework because complex words are complex specifiers formed by iteration of phrasal movement. Also, it is a weaker version because it does not completely render the material inside a specifier opaque, but only the complement of the head of a specifier⁺.

For example, in a schematic structure (9) where YP is the specifier of X[°] created by movement, the SIC renders the complement of Y[°] and the complement of Z[°] (as ZP is the specifier of X[°]), as shown in gray, inaccessible to movement operations. That is, only YP, ZP, and HP can be moved.



2.3 Assumptions specific to Korean and “head-final” agglutinative languages

Korean has been characterized as a head-final SOV language (e.g., H.-M. Sohn 1999, Cho & Whitman 2020) along with languages like Japanese and Turkish. A traditional and popular take on this (à la X-bar theory) presumes that the (head-)directionality parameter (e.g., Chomsky 1981,

1986) is at work and, as a null hypothesis, every head takes its complement to its left in Korean (e.g., H.-S. Han 1987, H. Choe 1988, M.-Y. Kang 1988, H. Yoon 1989, H.-D. Ahn 1991, J.-S. Lee 1992), as opposed to its right as in English and French. Under this view, therefore, it is assumed that different languages can have a head-initial structure (i.e., a head-complement structure) or a head-final structure (i.e., a complement-head structure) as a base structure depending on word order differences. As a result, a VO language (with a head-initial structure) and an OV language (with a head-final structure) are assumed to be a mirror image of each other (i.e., symmetrical). However, Cinque (2005, 2009, 2023) and the related works show that this type of symmetry is unattested in natural languages and what we find instead is a fundamental left-right asymmetry. For example, Cinque (2005) argues that considering the word order of the four elements demonstratives (Dem), numerals (Num), adjectives (Adj), and nouns (N), only 14 out of 24 logically possible orders of these elements are attested. Basically, the word order is flexible when N is the initial element among the four, whereas the word order is fixed if N is the final element. Cinque (2005) shows that adopting Kayne’s (1994) antisymmetry theory with a universal specifier–head–complement order (i.e., assuming a single universal base structure for all languages from which different word orders are derived by movement), the attested orders can be ruled in and the unattested orders can be ruled out at the same time.⁶

In this dissertation, I will adopt Kayne’s antisymmetry theory and assume that the OV order and the agglutinative sequence of verbal suffixes are derived by movement (e.g., Kayne 2003, 2011, 2022, 2023). In particular, there are three assumptions of importance to us in this regard.

2.3.1 X^Δ (“X delta”), a silent double of the head X

First, I assume that every head traditionally analyzed as a head taking the left-hand complement is a pair of heads in which one is overt and/or meaningful and the other is silent. To put it simply, “head-finality” is due to doubling. That is, I build on Kayne’s (2003, 2005) analysis of postpositions as prepositions with a silent double of P° and extend such analysis to, e.g., the heads v , Agr_{HON} , T ,

⁶However, see Abels & Neeleman (2009) for the argument that the symmetrical view (where base-generating either a head-initial structure or a head-final structure is an available option) along with the axiom that movement is always to the left can explain the left-right asymmetry as presented in Cinque (2005).

Mood, and C, each of which spells out to together form an agglutinative sequence of verbal suffixes in Korean. Under this analysis, for example, the past tense marker *-ess* brings two related heads T and its double T^Δ (read as “T delta”) into the derivation: T° carries the phonology and semantics of the past tense, obeys the initial merge order as specified in the functional sequence (e.g., $T > \text{Agr}_{\text{HON}} > v$), and triggers movement of AgrP into its Spec, while $T^{\Delta\circ}$ is merged above T° with its sole function of triggering movement of the complement of T° into its Spec, regardless of the category of the complement. We may formalize the feature that triggers movement of the complement of X° and call it a complement-moving feature as given in (10).

- (10) A complement-moving feature [$\circ X \circ$] triggers movement of the complement of X° into the specifier of its bearer.

I will assume that only doubles carry complement-moving features.⁷ Using this feature, we can say that T^Δ carries [$\circ T \circ$] and therefore triggers movement of the complement of T° into $\text{Spec}T^\Delta$. Typically, as with the example of T° and T^Δ where T^Δ is merged immediately above TP, the maximal projection of X° will be the complement of its double X^Δ (i.e., X^Δ will be merged immediately above XP), although not always. Lastly, as a working hypothesis, I assume that every head X which has its double X^Δ is a phase head, with the exception of Neg° (which will be discussed in §5). I suggest that this may be the reason (or one of the reasons) that the complement of X° must move into the specifier of X^Δ .

2.3.2 NomP and AccP

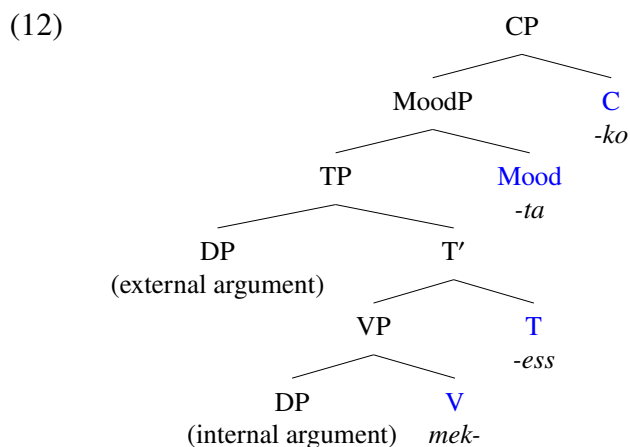
Second, I assume that the nominative and accusative case markers each head a functional projection in the clausal spine, i.e., NomP and AccP (e.g., Kayne 1994, Whitman 2001, Yoon & Lee 2005, Koopman 2005).

Morphemes such as tense markers (e.g., the past tense *-ess*), mood markers (e.g., the declarative *-ta*), and complementizers (e.g., *-ko*) can be easily accounted for by a head-final analysis with the directionality parameter, in which these morphemes are heads of functional projections with the

⁷It is certainly not the case that only complement-moving features can trigger movement of complements; specifier-building features can target complements that carry matching features.

left-hand complement and specifier (e.g., Ahn & Yoon 1989, J. Yoon 1994). For example, the structure of (11) would resemble (12), abstracting away from irrelevant bits.

- (11) ... mek-ess-ta-ko ...
 eat-PST-DEC-C
 ‘that (e.g., someone) ate (e.g., something)’



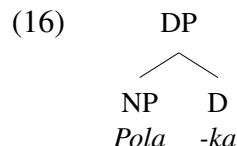
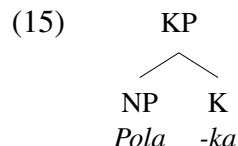
However, there have always been elements that consistently resisted being analyzed as a head with the left-hand complement in this language, because if we assume that they are heads, they behave like a head taking its complement to its right. The most conspicuous of such sort is case markers, as well as focus markers (which are members of a type of morphemes I.-S. Yang 1972 calls “delimiters”), such as:

- (13) a. Case markers: *-ka/-i* (nominative), *-(l)ul* (accusative)
 b. Focus markers: *-man* (exhaustive), *-(n)un* (contrastive), *-to* (additive)

For example, as shown in (14), the nominative case marker *-ka/-i* appears to the right of NP/DP.

- (14) Pola-**ka** mek-ess-ta.
 Bora-NOM eat-PST-DEC
 ‘Bora ate (e.g., something).’

If one would like to maintain that case markers are heads and every head in Korean uniformly takes the left-hand complement, one way to do so would be to assume that case markers are heads that project as part of NP/DP (e.g., Kuroda 1992: 38, fn. 14), i.e., as the head K (e.g., Fukuda 1993, Fukui & Takano 1998) or the head D (e.g., Tateishi 1989, Kakegawa 2003). Then, in either case, this head will take the nominal complement to its left, as shown in (15–16).



Assuming as such, one can further assume that the structural position of KP/DP relative to case-assigning heads determines which case it will be assigned. That is, when T° enters into a relation with KP/DP (and checks (and values) K°/D° 's case feature), e.g., via Agree (Chomsky 2000, 2001), it will be assigned nominative case, and when v° does, it will receive accusative case.

Fundamentally, such type of analyses treats case markers as nominal suffixes (e.g., Cho & Sells 1995, Sells 1995), i.e., affixes. However, case markers in Korean and Japanese do not behave like affixes (Vance 1993) (for discussion, see Whitman 2001), because, e.g., they are well-known for their apparent cross-categorical distribution. The nominative case marker as shown in (17) can follow the exhaustive focus marker *-man*, the adverbial *totaychey*, or the complementizer *-ci*.

- (17)
- a. *Pola-man-i* *sungliha-yss-ta*.
 Bora-only-NOM win-PST-DEC
 ‘The only person who won is Bora.’
 - b. *totaychey-ka* *ihay-ka* *an toy-n-ta*.
 at_all-NOM understanding-NOM NEG become-IPFV-DEC
 (Lit.) ‘(e.g., That) does not become understood at all (by me).’
 = ‘(I) don’t understand (e.g., that) at all.’
 - c. *kosok yelcha-ka ppalu-ci-ka anh-ta*.
 high.speed train-NOM fast-C-NOM NEG.do-DEC
 ‘The high-speed train just isn’t fast.’

Similarly, the accusative case marker *-(l)ul* can follow the exhaustive focus marker *-man*, the adverb *ppalli*, the postposition *-ey*, or the complementizer *-ci*, as shown in (18).

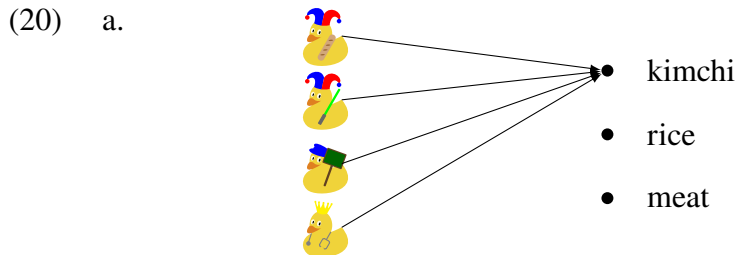
- (18)
- a. *na-nun Pola-man-ul* *salangha-n-ta*.
 I-TOP Bora-only-ACC love-IPFV-DEC
 ‘The only person I love is Bora.’
 - b. *aph cha-ka totaychey ppalli-lul* *an ka-n-ta*.
 front car-NOM at_all quickly-ACC NEG go-IPFV-DEC
 ‘The car in front (of me) just doesn’t move forward quickly at all.’
 - c. *cip-ey-lul ka-ci-lul mos-ha-n-ta*.
 home-to-ACC go-C-ACC cannot-do-IPFV-DEC

‘(e.g., I) just cannot go home.’

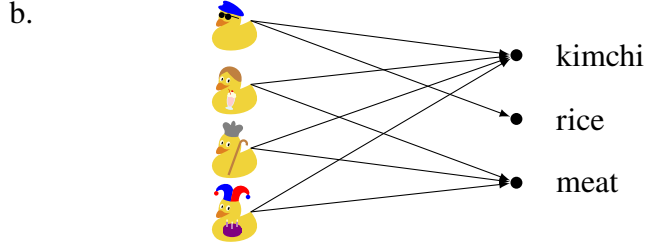
In this dissertation, I will show that treating the nominative and accusative case markers as the heads in the clausal spine along with antisymmetry can account for the apparent cross-categorical distribution of case markers as shown in (17) and (18). I will also show that under this assumption, it is possible to explain, for example, how the presence of the accusative case marker restricts the scope relation between the universal quantifier phrase headed by *motun* and the scrambled DP object marked with the exhaustive focus marker *-man* (Y. Lee 2005), as shown in (19), although the nominal-head analysis of case markers cannot offer anything as an explanation for this type of examples.

- (19) a. kimchi-man motun sonnim-i mek-ess-ta.
 kimchi-only every guest-NOM eat-PST-DEC
 i. ‘For every x , x a customer, kimchi is the only thing x ate.’ (✓ > only)
 ii. ‘Kimchi is the only thing that every customer ate.’ (only > ✓)
- b. kimchi-man-**ul** motun sonnim-i mek-ess-ta.
 kimchi-only-ACC every guest-NOM eat-PST-DEC
 i. ‘For every x , x a customer, kimchi is the only thing x ate.’ (✓ > only)
 ii. * ‘Kimchi is the only thing that every customer ate.’ (*only > ✓)

In a situation where there were four customers at a table in a restaurant and they were served three dishes, i.e., kimchi, rice, and meat, the diagrams in (20a) and (20b) each represent a possible outcome of the situation, where the customers are depicted as ducks and the right arrow means ‘ate’. Then, sentence (19a) is a felicitous description of either (20a) or (20b). On the other hand, we cannot say (19b) to describe (20b), while it still can be said to describe (20a).



The outcome compatible with the ✓ > only reading



The outcome compatible with the only > \forall reading

2.3.3 Basic functional sequence for the clausal spine in Korean

Third, the basic functional sequence for the Korean clausal spine is shown in (21), where heads with a double are boldfaced.

- (21) **C** > **Mood**_{SA} > **Mood**_{EVAL} > **Mood**_{EVID} > **Mod** >
T > (Acc) > Nom > **Agr**_{HON} > Acc > **Scr** >
Neg > Obj > Voice_{ACT} > **v** > V

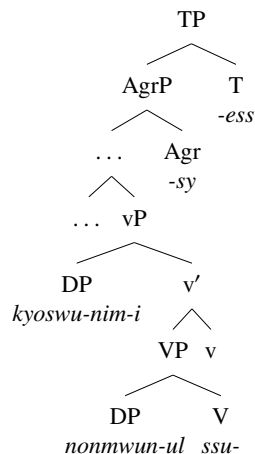
Throughout this dissertation, we will establish, extend, and refine the functional sequence above. In the process of doing so, we will discover partial functional sequences relating to the functional projections headed by focus morphemes, and find that some heads have multiple attachment sites in the clausal spine (e.g., Acc^o with two sites as shown above, and Only^o with multiple sites).

As a consequence, the structure for (22) under our framework would be as shown in (25), as opposed to the (simplified) structures, as in (23) or (24), which the head-parameter-based theories would assign to (22).⁸

- (22) kyoswu-nim-i nonmwun-ul ssu-sy-ess-ta.
professor-HON-NOM paper-ACC write-HON-PST-DEC
‘The professor wrote a paper.’

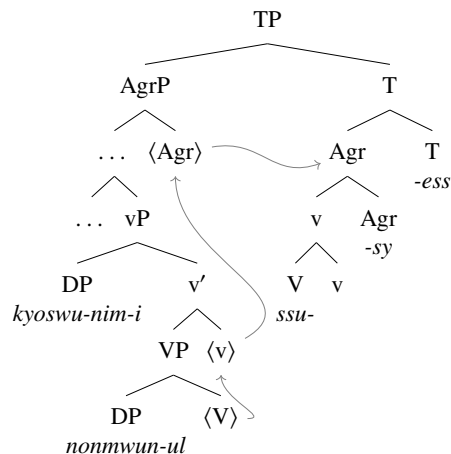
⁸The element which has undergone movement appears between angled brackets “⟨ ⟩”. In (25), the subscripted numbers 1–7 appear next to the moved elements. They indicate the movement order, where the element carrying the highest number is the last element moved. The easiest way to track this type of derivation is, starting from the moved element carrying the highest number, to put the moved element back in place of its origin, and repeat it with the next-highest-number-carrying element. Throughout the dissertation, however, I will try to present derivations in a step-by-step manner as much as possible, especially when I show a type of derivation that has not been presented before.

(23)

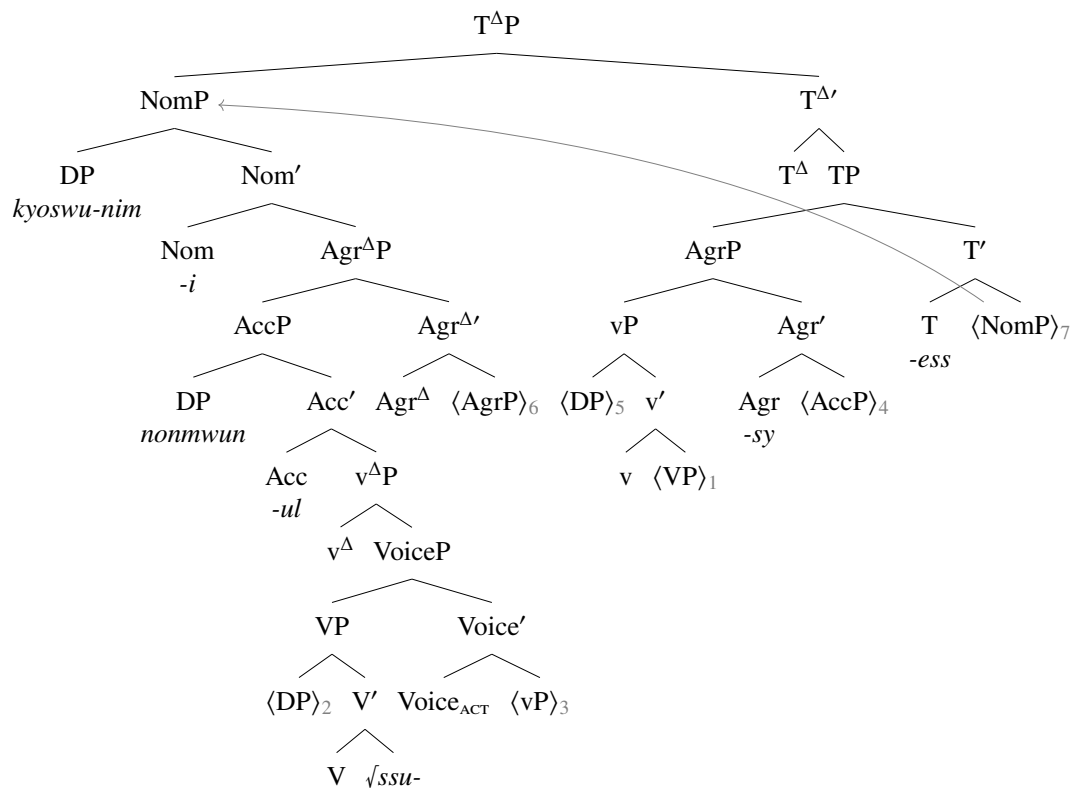


[(22)]: without head movement

(24)



[(22)]: with head movement

(25) *Antisymmetric structure for (22)*

There has always been a debate on whether the heads in (23) need to be incorporated and, if so, a question of by which mechanism do they undergo incorporation at what level of representation (e.g., syntactic head movement, head movement at PF, or post-syntactic operation).

The antisymmetric structure in (25), as far as the verbal suffixes are concerned, captures the properties of both (23) and (24). In (25), the heads are in situ within their projections, but the

projections containing the heads have undergone movement: The first conjunct relates to the property of (23) (i.e., heads do not move) and the second conjunct is connected to that of (24) (i.e., heads move), although in (25) the heads themselves do not move but are “moved” by virtue of being within the projections that move.

In the following sections, I will develop a preliminary analysis of Korean syntax under our framework, which will serve as a foundation for our analysis of negation, negative indefinites, and intervention effects.

2.4 VP-layer

The OV order will be derived by first moving the lowest VP containing the internal argument into the specifier of the highest VP (i.e., SpecVoice_{ACT}), across the initial-merge position of the external argument within the VP layer (i.e., Spec_v), and then moving the internal argument into the specifier of the accusative case projection (i.e., SpecAcc). To put it simply, smuggling (e.g., Collins 2005a,b, 2020) derives the OV order.

I will lay out the specifics of my analysis by going through the partial derivations of (26a), because (26a) is a simple transitive sentence that shows an overt morphology for the causative head (i.e., -y).⁹ In particular, (26a) is the causative counterpart of the inchoative in (26b) (for discussion and data on causative alternation in Korean, see Son 2006: ch. 2).¹⁰

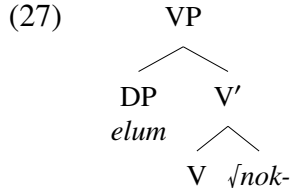
- (26) a. Pola-ka/(thayyang-i) elum-ul nok-y-ess-ta.
 Bora-NOM/sun-NOM ice-ACC melt-CAUS-PST-DEC
 ‘Bora(/The sun) melted the ice.’
 b. elum-i/*-ul (cecello) nok-ass-ta.
 ice-NOM/-ACC by_itself melt-PST-DEC

⁹The base form of the causative morpheme is *-i* here, and the glide *-y* ([j]) has been formed due to a phonological process conditioned by the initial vowel of the tense morpheme. In addition to the allomorph *-i*, the causative morpheme *-i* has other allomorphs such as *-hi*, *-li*, and *-ki*. The causative constructions or verb forms created by adding this morpheme are traditionally referred to as “lexical causatives”, as opposed to “periphrastic causatives” which are created by constructing verbal complexes (Shibatani 1973, H. Choe 1988: 342–372).

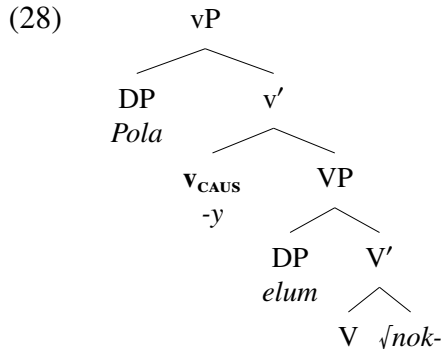
¹⁰The inchoative (26b) can be modified by dative-marked cause-phrases such as *thayyang-ey* ‘sun-DAT’, although a cause phrase cannot appear together with *cecello* ‘by itself’. Also, the modification by agent phrases such as *Pola-ey.uyhay* ‘by Bora’ is disallowed in Korean inchoatives. For discussion on Korean inchoatives, see K. Kim (2009) and K. Kim (2011: ch. 4).

‘The ice melted (by itself).’

The very first part of the derivation of (26a) is shown in (27). I assume that the head V verbalizes (in the sense of, e.g., Marantz 1997) its complement and introduces the internal argument.¹¹ In (27), the root *nok-* is the complement of V° , while the theme DP *elum* (i.e., the internal argument) is merged in the specifier of V° .¹²



The causative head v_{CAUS} merges above this VP and introduces the external argument that is the cause(r) of the event (for discussion, see Folli & Harley 2005), as shown in (28). As for the agent of a non-causative predicate (e.g., *eat*, *drink*, *push*), I will assume that it is introduced by a silent light verb *DO* (v_{DO}). From the next section (§2.5) onward, I will follow the general practice and write *v* to refer to the head that introduces external arguments including the agent.

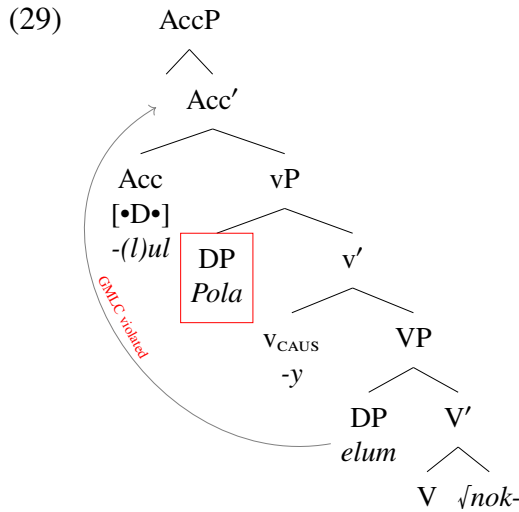


¹¹I am simplifying many other aspects of the syntax of the argument structure for expository purposes. I believe that the structure of the VP-layer is a lot more fine-grained, as argued in Ramchand (2008). So, V° here can be construed as an amalgam of more than one head: a head that introduces an event, a head that introduces the theme of the event, etc. It is, however, just as fine to look at V° as a notational variant of little *v* (or whichever title of the head) that verbalizes (introduces an event) and introduces the internal argument, but does not introduce the external argument, which is introduced by a different head merged higher in the structure (often assumes the label of Voice), as in Pylkkänen (2002, 2008), Cuervo (2003), Harley (2013) among others. As will be discussed below, I do not call the external-argument introducer Voice[°] and reserve the title Voice[°] for calling the head related to passive/active voice (e.g., Collins 2005b, Koopman 2012). Also, I assume neo-Davidsonian semantics (Parsons 1990, 1995) unless otherwise specified.

¹²I adopt the DP hypothesis (Abney 1987). However, see Bošković (2005, 2007, 2009) for argument that article-less languages, such as Korean, can receive systematic explanation on their unique properties (which are absent in languages with articles) including the possibility of left-branch extraction and scrambling, under the assumption that these language lack DPs.

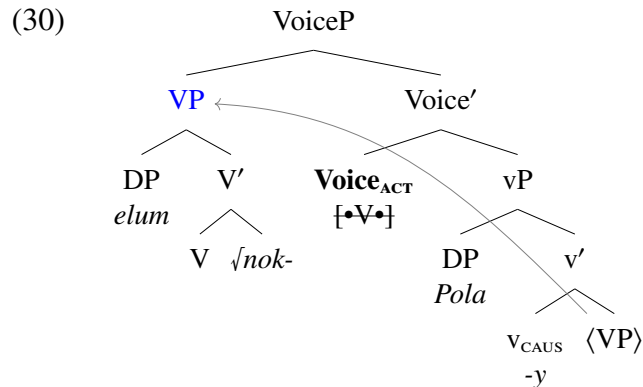
Semantically speaking, the argument structure is complete at this point. However, the correct linear order between the causative morpheme *-y* and the verb *nok-* has not been derived at this point of the derivation. Also, the internal and external DP arguments have not been assigned case yet (i.e., each of them will have to be in the specifier of a case-related projection such as AccP and NomP).

As shown in (29), if we proceed with merging the accusative head *Acc* which selects for a DP (as we will discuss in §2.5) as the next step, the movement of the internal argument into *SpecAcc* would be in violation of GMLC because of the subject that is closer to *Acc*[°].



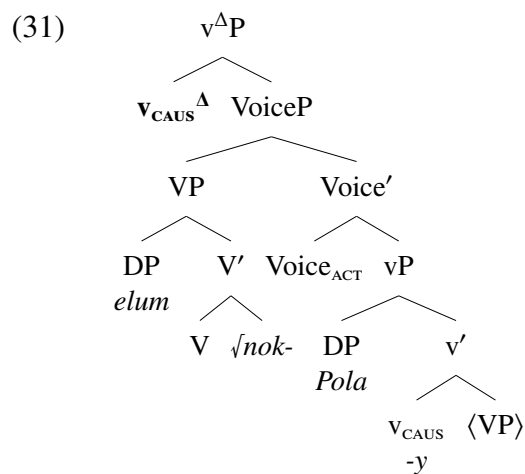
So, I will assume that on top of *vP*, there is a projection which triggers movement of *VP* into its specifier: *VoiceP* in the sense of Collins (2005b) (i.e., not in the sense of Kratzer 1996 among others, where *Voice* is the name of a head that introduces the external argument), as shown in (30).¹³ I will name the silent head of this projection as *Voice_{ACT}*, where the subscript *ACT* stands for active voice, to differentiate it from the passive voice head and from Kratzer-style *Voice* head. For brevity, I will generally shorten *Voice_{ACT}* to *Voice*, especially in derivations; *Voice* will always refer to *Voice_{ACT}*, unless otherwise specified.

¹³See fn. 11 for discussion on the notational choice here.



This movement, which moves VP containing the object across the subject, achieves two objectives: (i) establishing the correct word order between *nok-* and *-y* (the DP subject will move out of the way later in the derivation); and (ii) obviating the violation of GMLC due to the subject. In other words, VP smuggles the object past the subject, similar to what Collins's (2005b) PartP does for English passives and Koopman's (2012) InitP and ProcessP do for Samoan ergativity.

A remaining question concerns the whereabouts of v_{CAUS}° 's double, i.e., v_{CAUS}^{Δ} . I assume that $v^{\Delta}P$ is merged immediately above the highest projection within the VP layer.¹⁴ In this derivation, VoiceP is the highest projection within the VP layer and therefore v_{CAUS}^{Δ} is merged above VoiceP, as shown in (31).



Since the complement of v_{CAUS}° (i.e., VP) has already moved into SpecVoice_{ACT}, v_{CAUS}^{Δ} does not play any role in this derivation.¹⁵ However, it will be shown in §2.6 (which will be presented in

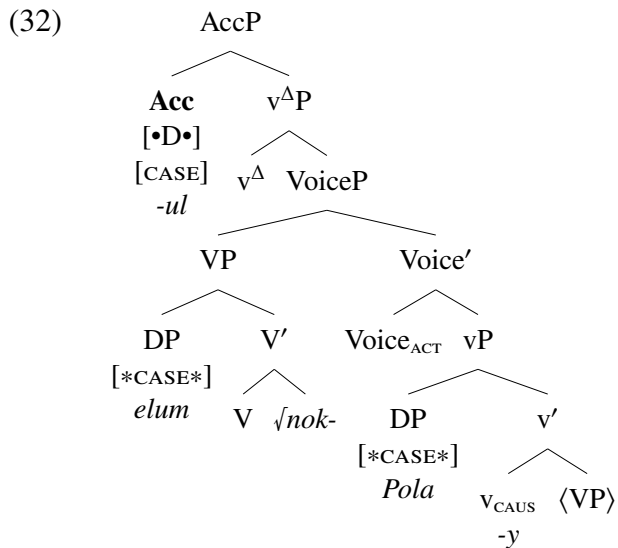
¹⁴I further assume that v_{CAUS} and v_{DO} are not different from each other in this regard.

¹⁵Then a question arises as to what happens to the complement-moving feature $[\circ v_{CAUS} \circ]$ on v_{CAUS}^{Δ} in this case (and

more detail in §3.1.1) that v^Δ plays an important role of deriving the correct surface word order when the elements such as low adverbs and preverbal negation enter the derivation. From now on, I will generally refrain from including in derivations the projections of doubles with the target complement which has already undergone movement, as in (31), for brevity.

2.5 Case-related projection: Accusative case

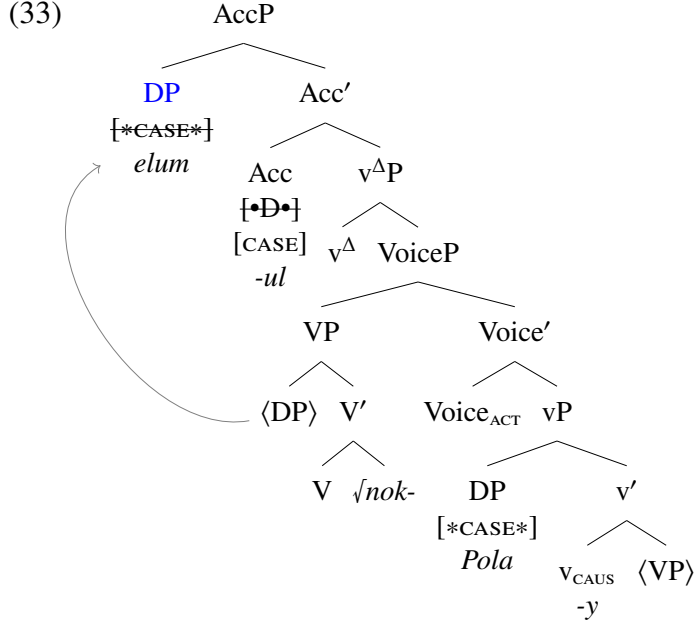
The head to be merged in the next step in the derivation is the accusative case head *Acc*, as shown in (32).



The accusative head *Acc* is merged in the clausal spine (Koopman 2005) and triggers movement of DP into its specifier. I assume that every DP carries $[\ast\text{CASE}\ast]$ which must be discharged by the end of the derivation. Acc° carries $[\text{CASE}]$ and therefore once DP is moved into SpecAcc , that DP's $[\ast\text{CASE}\ast]$ is matched with *Acc*'s $[\text{CASE}]$ and discharged. Since the internal argument in Spec^+ of

for complement-moving features in similar cases in general), because it would not be discharged if the complement of v_{CAUS}° is not moved into the specifier of v_{CAUS}^Δ . Assuming that v_{CAUS}^Δ is always merged, I can think of two ways in which this can be answered. One option is to assume that complement-moving features can be left undischarged if the target complement has undergone movement, unlike specifier-building features and agreement-related features which must be discharged by the end of the derivation. The other option is to assume that the lower copy of the complement of v_{CAUS}° (which is silent) can undergo (string-vacuous) movement into the specifier of v_{CAUS}^Δ and $[\circ v_{\text{CAUS}} \circ]$ would be discharged when that happens. I will assume the second option because we can maintain the null hypothesis that all features must be discharged by the end of the derivation by doing so. I will not, however, show this movement in derivations for brevity.

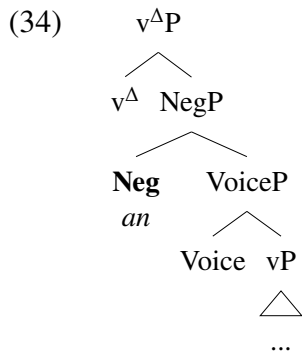
$\text{Voice}_{\text{ACT}}$ (i.e., DP in SpecV) is closer to Acc° than the external argument is, the former is moved into SpecAcc as shown in (33).



The next head to be merged is $\text{Agr}_{\text{HON}}^\circ$, a head related to subject honorific agreement. We will introduce $\text{Agr}_{\text{HON}}^\circ$ in §2.7, after having a brief discussion on preverbal negation and low adverbs in the next section.

2.6 Preverbal negation and low adverbs

I will assume that the preverbal negation marker *an* is the Neg head and it is merged above VoiceP and below $v^\Delta\text{P}$.



Chapter 3 is devoted to the discussion of preverbal negation. However, in this section, I will

present, ahead of time, relevant materials which show that the postulation of v^Δ in the position above VoiceP is crucial to deriving not only the word order between negation and a low adverb but also the scope of negation with respect to the adverb. The more detailed discussion is presented in §3.1.1.

According to Cinque (1999: 91–93; 93, fn. 44), the (lower) frequentative adverb merges very low in the structure. The frequentative adverb *cal* must precede preverbal negation when they appear together, as shown in (35).

- (35) a. Pola-ka umsik-ul **cal** **an** mek-nun-ta.
 Bora-NOM food-ACC often NEG eat-NPST-DEC
 i. ‘It is not the case that Bora eats food often.’ ($\neg > \text{freq}$)
 ii. * ‘It often happens to be the case that Bora does not eat food.’ (* $\text{freq} > \neg$)
 b. * Pola-ka umsik-ul **an** **cal** mek-nun-ta.
 Bora-NOM food-ACC NEG often eat-NPST-DEC

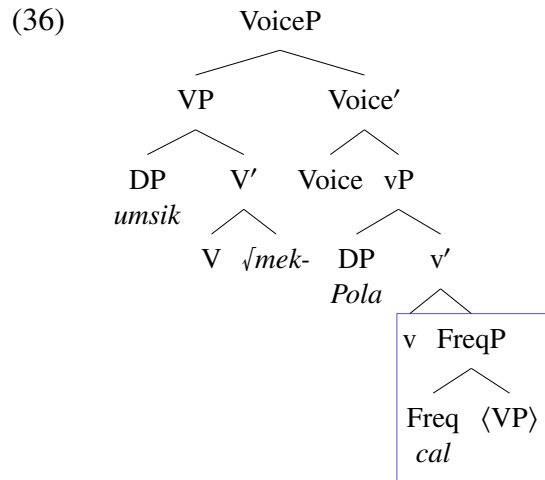
In terms of the scope relation between the frequentative *cal* and preverbal negation in this context, preverbal negation only has the wide scope interpretation with respect to *cal*, as discussed in Whitman (2005: 897–898).

Sentence (35a) would be a felicitous description of the situation in which Bora does not like to eat snacks and often skips breakfast (i.e., $\neg > \text{freq}$). However, it is infelicitous to say the same sentence to describe the situation in which Bora often fasts (i.e., $\text{freq} > \neg$).

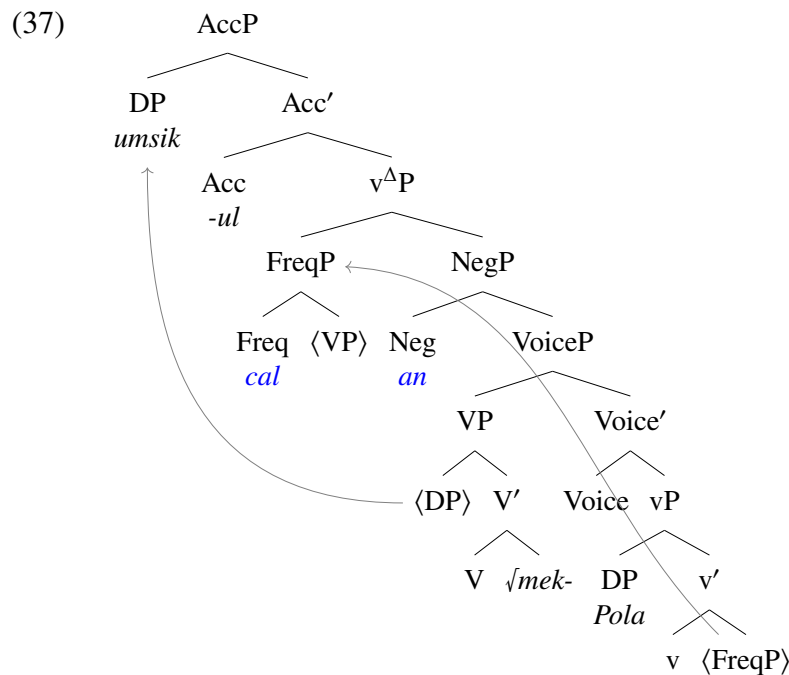
I will argue that *cal* is merged in a position lower than preverbal negation in the clausal spine, and this correctly accounts for the scope and surface word order between *an* and *cal*. I will show this by going through a partial derivation for (35a) as follows.

I will assume that *cal* is the head of FreqP which merges above VP but below vP, as shown in (36).¹⁶

¹⁶I represent *cal* as the head of its own functional projection for the sake of simplicity.



Once VP moves to SpecVoice, FreqP will be briefly stranded. The next steps are shown in (37), in which Neg° , v^Δ , and Acc° are merged in the clausal spine. When v^Δ is merged above NegP, it triggers movement of the complement of v° (= FreqP) to $\text{Spec}v^\Delta$. Due to this movement, the adverb is moved across negation and the object (in Spec^+ of Voice°) and the correct word order between *cal* and preverbal negation will be obtained. The O-Adv-Neg-V order will be correctly derived when the DP object *umsik* undergoes movement across negation and the adverb to SpecAcc.



As for the scope, the structure (37) suggests that negation takes scope over the frequentative adverb (because Neg° asymmetrically c-commands Freq° in the clausal spine) in spite of what the surface

word order may suggest.

We will introduce $\text{Agr}_{\text{HON}}^\circ$ in the next section.

2.7 Agreement-related projection: Subject honorific agreement

In this dissertation, we will concern ourselves with two types of agreement-related phenomena in Korean: subject honorific agreement relating to the morpheme *-si* and plural agreement concerning the morpheme *-tul*.¹⁷ I will assume that each of these agreement morphemes is the head of an agreement-related projection, i.e., AgrP . In order to differentiate between these two, I will refer to the projection headed by *-si* as $\text{Agr}_{\text{HON}}\text{P}$, where the subscript HON stands for honorific, and the projection headed by *-tul* as $\text{Agr}_{\text{PL}}\text{P}$, where the subscript PL stands for plural. However, for brevity, I will generally write Agr to specifically refer to Agr_{HON} from now on, because it will appear throughout the dissertation, whereas we will not discuss *-tul* until §4.3.5.3.

Subject honorific agreement can be observed in the paradigm in (38).¹⁸ When the speaker wants to address the referent of the subject with the deference, the verb is followed by the honorific morpheme *-si* (or, depending on the verb, the honorific suppletive form of the verb may appear; e.g., *cwumwusi-* instead of *ca-* for the verb meaning ‘to sleep’), while the subject typically carries honorific morphology (e.g., the honorific suffix *-nim* or the honorific subject-marking postposition *-kkeyse*).

(38) (*Circumstance*: From a college student to a fellow student in the same lecture.)

- a. kyoswu-**nim**-i onul-to ilccik o-**sy**-ess-e.
 professor-HON-NOM today-also early come-HON-PST-DEC:INT
 ‘The professor came early today again.’

¹⁷We will not discuss object honorification, as discussed in Boeckx & Niinuma (2004) and Boeckx (2006) for Japanese with criticisms by Bobaljik & Yatsushiro (2006) as to whether object honorification in Japanese is amenable to agreement-based analyses. See also Lee (2022) for object honorification in Korean.

¹⁸A couple of remarks on morphophonology of the honorific marker *-si* are worthy of mention. First, when the stem ends in a consonant, the epenthetic vowel *u* will appear in between the stem and *-si* due to morpheme structure constraints, creating a syllable for the last consonant of the stem. Second, since I use past tense for many of my examples, we will often find the last vowel *i* of *-si* to have undergone glide formation, appearing as *y* (= [j]). This is because the honorific marker *-si* precedes the past tense marker *-(e/a)ss* (whose initial vowel shows vowel harmony, such that *a* would appear if the stem that has *a* or *o* as the last vowel, and *e* would appear in all other cases), so that, e.g., after the vowel harmony has taken place, *-si* + *-ess* → *syess*.

- b. * kyoswu-ka onul-to ilccik o-sy-ess-e.
 professor-NOM today-also early come-HON-PST-DEC:INT
- c. # kyoswu-nim-i onul-to ilccik w-ass-e.
 professor-HON-NOM today-also early come-PST-DEC:INT

Given the circumstance in (38), sentence (38a) is fully acceptable because honorific morphology is present both on the subject and the verb, whereas (38b) is unacceptable because *-si* on the verb appears without a matching honorific subject. Sentence (38c), which has the honorific subject but no *-si* on the verb, is acceptable but functionally different from (38a) such that it has an air of impoliteness towards the professor, i.e., (38c) is not an honorific sentence. In other words, it would be infelicitous to say (38c) in the context where (38a) would be appropriate.

Therefore, the paradigm in (38) suggests that the honorific *-si* on the verb requires the presence of the honorific subject, and not the other way around.

This can be further confirmed by the fact that the referent of a null subject whose verb appears with *-si* must be whom the speaker wants to address with the deference, as shown in (39a), where the subscript HON on small *pro* indicates that the referent of *pro* is restricted to honorific-worthy entities, cf. (39b).

- (39) a. Pola-ka [**pro**_{HON}/***pro** onul-to ilccik o-sy-ess-ta-ko] ha-yss-e.
 Bora-NOM today-also early come-HON-PST-DEC-C say-PST-DEC:INT
 ‘Bora said that the person to be addressed with the deference (e.g., the professor) came early today again.’
- b. Pola-ka [**pro** onul-to ilccik w-ass-ta-ko] ha-yss-e.
 Bora-NOM today-also early come-PST-DEC-C say-PST-DEC:INT
 ‘Bora said that the person/someone/the thing/something came early today again.’

Under our framework, we can formulate *-si*’s requirement in terms of the agreement-related feature that *-si* carries. I will assume that the honorific agreement morpheme *-si* is Agr_{HON}^o with the honorific feature [**HON**], which must be discharged by being matched with [*HON*]. In turn, we must assume that honorific subjects carry [*HON*]. A remaining question is under what syntactic configuration can the matching take place. As discussed in §2.2.3, an agreement relation between α and β is established in a Spec⁺-head configuration. That is, α must be in Spec⁺ of β or vice versa, in order for the features in α and β to be matched.

I will further assume that Agr_{HON} is merged in a position higher than Acc° and triggers movement of vP into its specifier in a transitive sentence. vP contains the external argument in its specifier. Therefore, once vP is in $\text{SpecAgr}_{\text{HON}}$, Agr_{HON} 's $[\ast\text{HON}\ast]$ can be matched with $[\text{HON}]$ of the external argument (if the external argument carries $[\text{HON}]$) because the external argument is in Spec^+ of Agr_{HON} . Additionally, I will assume that Agr_{HON} is projected even in the absence of the honorific morpheme, in which case it will not carry $[\ast\text{HON}\ast]$ but will still carry $[\bullet\text{v}\bullet]$, triggering movement of vP into its specifier as a silent head.

As a consequence, we would not expect the case-marking on the external argument to affect honorific agreement. That is, we expect that the accusative-marked external argument can participate in honorific agreement, just as the nominative-marked external argument can, as long as it has been in Spec^+ -head relation with $\text{Agr}_{\text{HON}}^\circ$. This is confirmed by the periphrastic causative sentence in (40), where *-si* can appear on the embedded verb regardless of the case marking on the external argument of the embedded verb, which can receive either nominative or accusative.

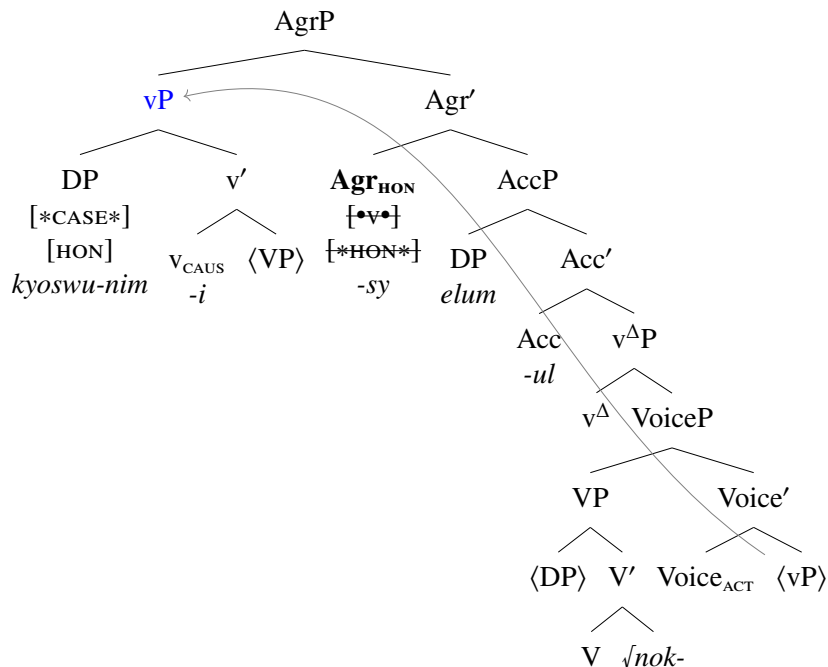
- (40) anay-ka cangmo-nim-ul/-i thayksi-lul tha-si-key ha-yss-ta.
 wife-NOM mother.in.law-HON-ACC/-NOM taxi-ACC ride-HON-C do-PST-DEC
 ‘(My) wife made (my) mother-in-law take a taxi.’

To demonstrate how this system works, we will continue the derivation from (33). However, to do so, we need to modify (26a) to adjust for subject honorification, as shown in (41).

- (41) kyoswu-nim-i elum-ul nok-i-sy-ess-ta.
 professor-HON-NOM ice-ACC melt-CAUS-HON-PST-DEC
 ‘The professor melted the ice.’

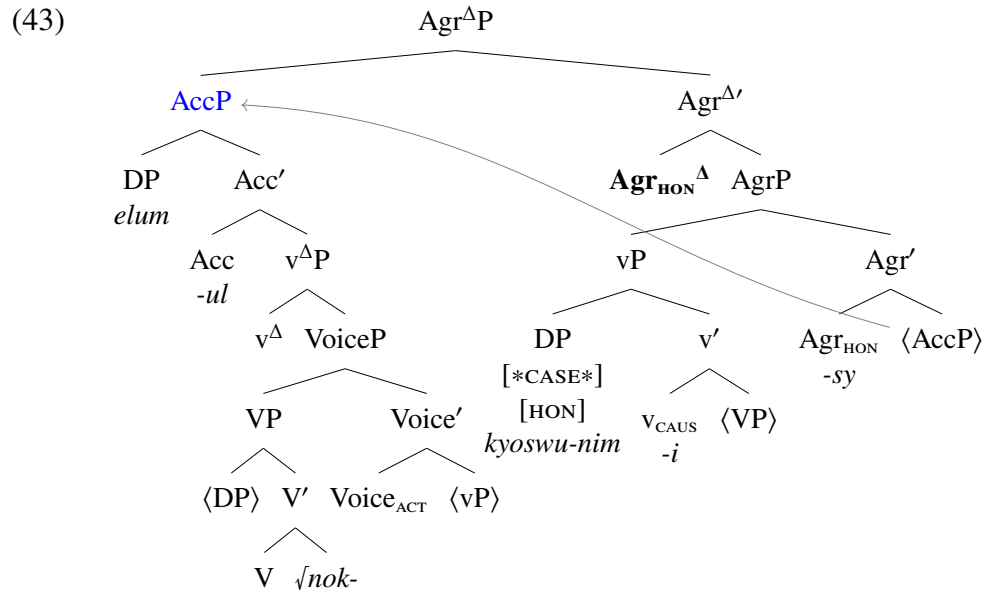
Therefore, we will show the derivation for (41), proceeding from the step in the derivation equivalent to the next step of (33) for (26a), as shown in (42).

(42)



In (42), $\text{Agr}_{\text{HON}}^{\circ}$ is merged above AccP and triggers movement of vP into $\text{SpecAgr}_{\text{HON}}$. This movement causes the honorific subject (i.e., the external argument) to be in Spec^+ -head relation with $\text{Agr}_{\text{HON}}^{\circ}$. Therefore, Agr_{HON} 's $[\text{*HON*}]$ is matched with the honorific DP *kyoswu-nim*'s $[\text{HON}]$ and discharged. It is instructive to note that nothing else other than the external argument can enter into agreement relation with Agr_{HON} , given the selectional requirement of Agr_{HON} as well as the Specifier Impenetrability Condition in (7).

In the next step as shown in (43), $\text{Agr}_{\text{HON}}^{\Delta}$ (i.e., the double of $\text{Agr}_{\text{HON}}^{\circ}$) is merged above AgrP and triggers movement of the complement of $\text{Agr}_{\text{HON}}^{\circ}$.



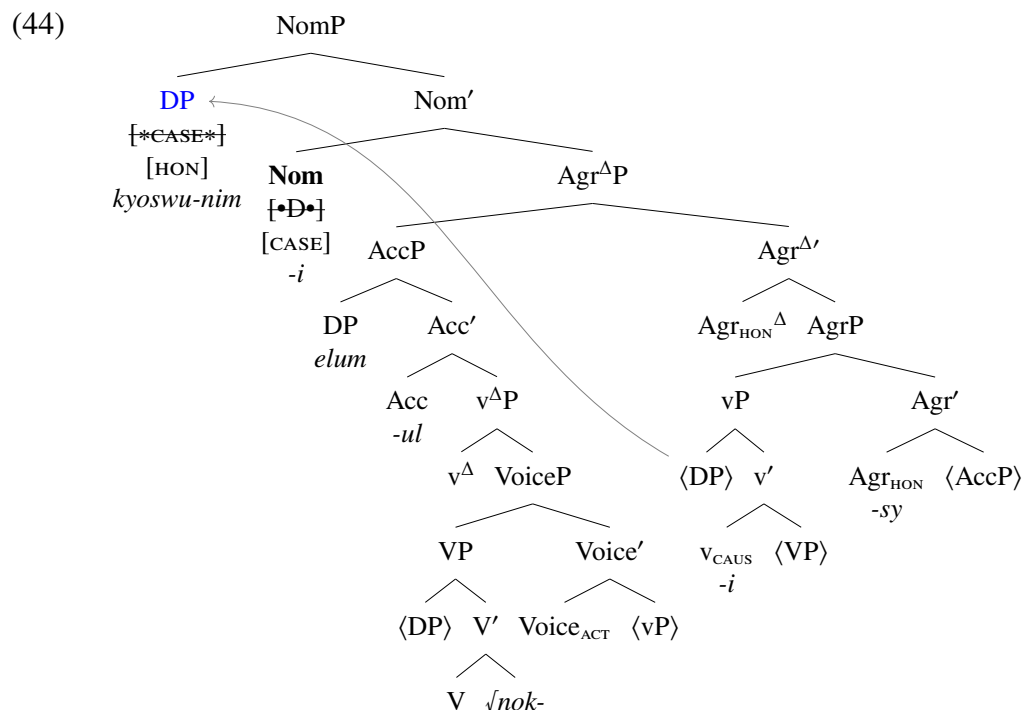
Owing to this movement, we obtain the correct surface order among the case-marked DP object, the main verb, the causative morpheme, and the honorific morpheme at this stage of derivation. However, the external argument has not yet received case. The next head to be merged will assign case to this DP, which we introduce next.

2.8 Case-related projection: Nominative case

I will assume that the nominative case marker *-ka/-i* is the nominative head Nom, which is merged in a position higher than AgrP in the clausal spine (e.g., Kayne 1994, Whitman 2001, Koopman 2005).¹⁹ NomP carries [**D**] along with [CASE] and therefore will trigger movement of DP into its specifier, matching DP's [***CASE***] with its [CASE].

We will continue the derivation from (43), introducing Nom° to it, as shown in (44).

¹⁹My formulation of Kayne's (1994) idea that the nominative case marker in Korean and Japanese is a clausal head is different from Whitman's (2001) analysis but similar to Koopman's (2005), in that the nominative case head under our framework is not the head of IP (nor TP or AgrP) although it is merged in the clausal spine (i.e., Nom°). Whitman (2001) argues that the nominative case marker is finite Infl° and therefore it determines the form of the verb. This line of proposal would be plausible under the Chomsky-style lexicalist hypothesis (e.g., Chomsky 1991), under which the verb will be fully inflected for syntax to operate on from the beginning (i.e., an inflected verb is inserted into syntax with all the relevant features). However, that is incompatible with our framework, in which complex words are built in syntax via phrasal movement.



In (44), the external DP argument is moved into SpecNom and has its $[\ast\text{CASE}\ast]$ matched with Nom° 's $[\text{CASE}]$ and discharged in Spec⁺-head relation with Nom° .

At this stage of the derivation, no DP with undischarged $[\ast\text{CASE}\ast]$ remains and all of the morphemes that entered the derivation so far will be arranged in the correct linear order as the output of the structure.

It is important to note that the subject with the nominative case marker (i.e., *kyoswu-nim-i*) does not form a constituent in (44). This structure suggests a simple, purely syntactic answer to the long-standing puzzle as to why nominative case marked subjects in Korean and Japanese cannot be scrambled (e.g., Saito 1985), as discussed in Whitman (2001: 86–87): Non-constituents cannot be moved.

On the other hand, we can also see that the object with the accusative case marker (i.e., *elum-ul*) is not a constituent in (44). This appears to be problematic because objects can be scrambled, and there are two types of scrambling generally referred to as A-scrambling and A-bar scrambling (e.g., Mahajan 1990), distinguished with respect to the associated properties. I will argue in §2.11 that there are two types of derivation, the one related to A-scrambling and the other related to A-bar scrambling. In the A-scrambling derivation, Acc° will be merged higher than Nom° and therefore

the accusative object will receive case in the position higher than the case-position of the subject. On the other hand, in the A-bar scrambling derivation, the accusative object will receive case in the position lower than the nominative subject as usual but form a constituent to allow for its movement across the subject.

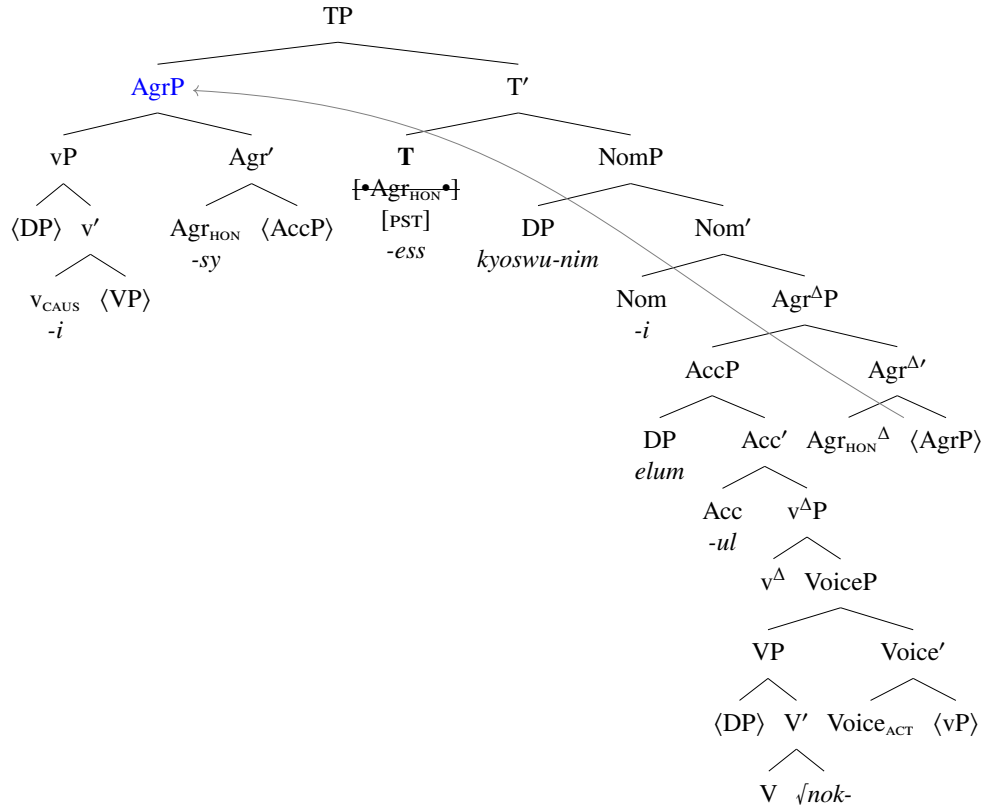
As for the derivation for (41), there remain two morphemes that have not participated in the derivation: the past tense marker *-ess* and the declarative mood marker *-ta*. We will introduce the tense head T and the mood head Mood in the following two sections, each of which relates to *-ess* and *-ta*, respectively.

2.9 TP-layer

I will assume that the tense head T is merged in a position higher than NomP. The tense morpheme always follows the honorific agreement morpheme. This suggests that T° carries [$\bullet \text{Agr}_{\text{HON}} \bullet$] and therefore will trigger movement of $\text{Agr}_{\text{HON}}\text{P}$ into its specifier. I further assume that T° carries a tense feature, of which there are two types, [PST] for past or [NPST] for non-past. Then, the past tense morpheme *-ess* is T° with [PST], while the non-past tense morpheme *-(nu)n* or its silent form \emptyset is T° with [NPST].

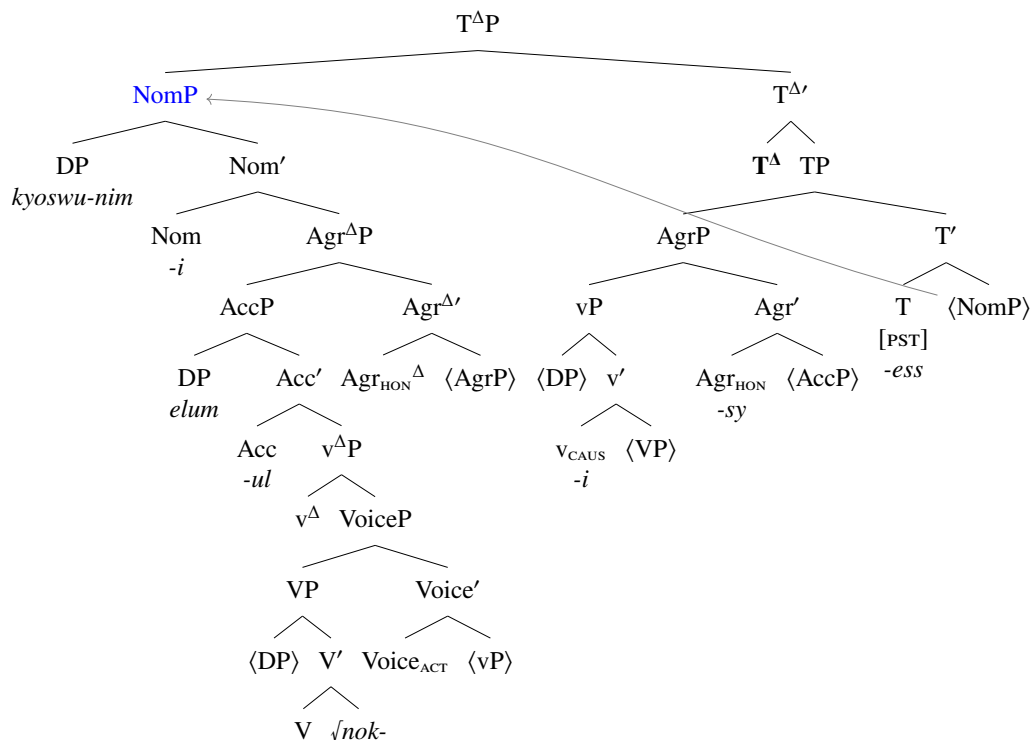
We can continue the derivation for (41), with T° to be merged above NomP, as shown in (45).

(45)



This will be followed by the merge of T^{Δ} , which triggers movement of the complement of T° , as shown in (46).

(46)



We will introduce the mood head Mood, as well as the modal head Mod in the next section.

2.10 Modal and mood-related projections

The only remaining morpheme from (41) that has not entered the derivation is the declarative mood marker *-ta*, which follows the past tense marker *-ess*. However, it is important to acknowledge that at least three more morphemes may follow the tense morpheme before the declarative mood marker appears. This is shown in (47), which is the version of (41) with the addition of the relevant morphemes along with the declarative mood marker changed into a compatible variant accordingly.

- (47) kyoswu-nim-i elum-ul nok-i-sy-ess-**keyss-te-kwun**-yo.
 professor-HON-NOM ice-ACC melt-CAUS-HON-PST-MOD-EVID-EVAL-DEC:POL
 ‘This is news to me and I have evidence to say that the professor must have melted the ice.’

In (47), three morphemes, *-keyss*, *-te*, and *-kwun*, appear between the past tense marker *-ess* and the polite speech-level declarative marker *-yo*.

First, *-keyss* is the modal that may indicate epistemic necessity, the speaker’s presumption

about the past, or volition (E.-H. Lee 2019: 102–109). Second, *-te* marks evidentiality (Cinque 1999: 53–56; E.-H. Lee 2019: 109–116). Third, *-kwun* expresses mirativity, which relates to the speaker’s discovery of the information in a proposition (i.e. the proposition is new knowledge for the speaker) and therefore it may convey the speaker’s surprise (DeLancey 1997: 45–47; Cinque 1999: 53–56, 84–85; E.-H. Lee 2019: 124–125).

This suggests that above TP, there are projections related modality and different flavors of mood. I follow Cinque (1999) in assuming that the above-mentioned morphemes each head its own functional projection.

I will refer to the projection headed by the modal *-keyss* as ModP, where Mod stands for modal (Cinque 1999: 77, 154), the projection headed by the evidential *-te* as Mood_{EVID}P, where Mood_{EVID} stands for evidential mood (Cinque 1999: 86, 154), and the projection headed by the mirative *-kwun* as Mood_{EVAL}P, where Mood_{EVAL} stands for evaluative mood (Cinque 1999: 53, 154). Lastly, I will refer to the declarative marker *-ta* (as well as all of its variants such as *-yo*, organized in terms of speech level/style; see, e.g., Portner et al. 2022 for discussion) as Mood_{SA}P, where the subscript SA stands for speech act (Cinque 1999: 53, 154).

I will further assume that in the functional sequence, they are arranged in the following way:

$$(48) \text{ Mood}_{SA} > \text{Mood}_{EVAL} > \text{Mood}_{EVID} > \text{Mod} > T > \dots$$

Therefore, Mod[°] carries [**•T•**] and therefore will trigger movement of TP into SpecMod, followed by Mod^Δ being merged above ModP, triggering movement of the complement of T[°]. The other heads are similarly configured. For example, when all of these heads enter the derivation, they will be configured as follows:

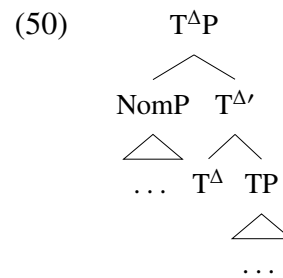
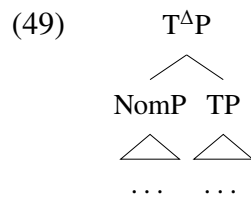
- **Mood_{EVID}**[°] carries [**•Mod•**]; Mod[°]’s complement moves into SpecMood_{EVID}^Δ
- **Mood_{EVAL}**[°] carries [**•Mood_{EVID}•**]; Mood_{EVID}[°]’s complement moves into SpecMood_{EVAL}^Δ
- **Mood_{SA}**[°] carries [**•Mood_{EVAL}•**]; Mood_{EVAL}[°]’s complement moves into SpecMood_{SA}^Δ

It should be easy to imagine how the derivation for (47) would proceed from the step in the derivation equivalent to the step shown in (46) for (41), because starting from T[°], the addition of

each head in (48) into the derivation triggers two very simple, mechanical movement operations, building the agglutinative sequence of verbal suffixes.

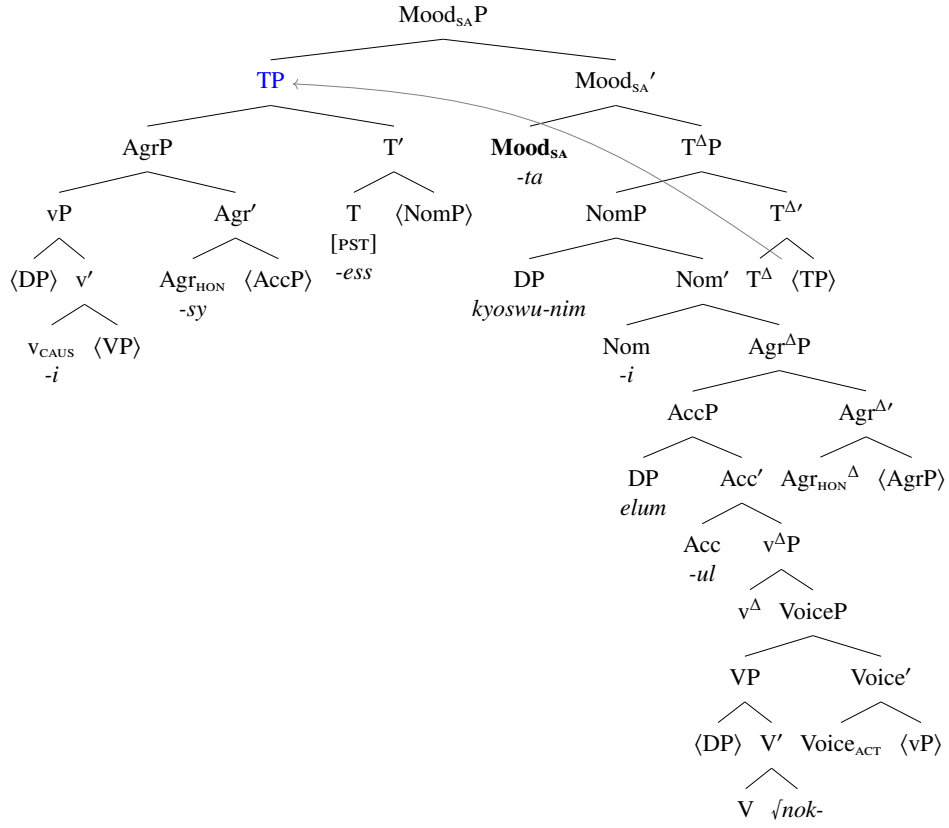
For brevity, I will assume that when none of these heads except for $\text{Mood}_{\text{SA}}^{\circ}$ participates in the derivation with T° (which is generally the case with most of the examples in this dissertation), Mood_{SA} carries $[\bullet T \bullet]$ and $\text{Mood}_{\text{SA}}^{\Delta}$ triggers movement of $\text{Mood}_{\text{SA}}^{\circ}$'s complement into its specifier.

Also, from now on, I will hide the head of a double's projection in derivations for brevity. Therefore, for example, I will show (49), as opposed to (50), when T^{Δ} is merged and contains a phrase in its specifier.

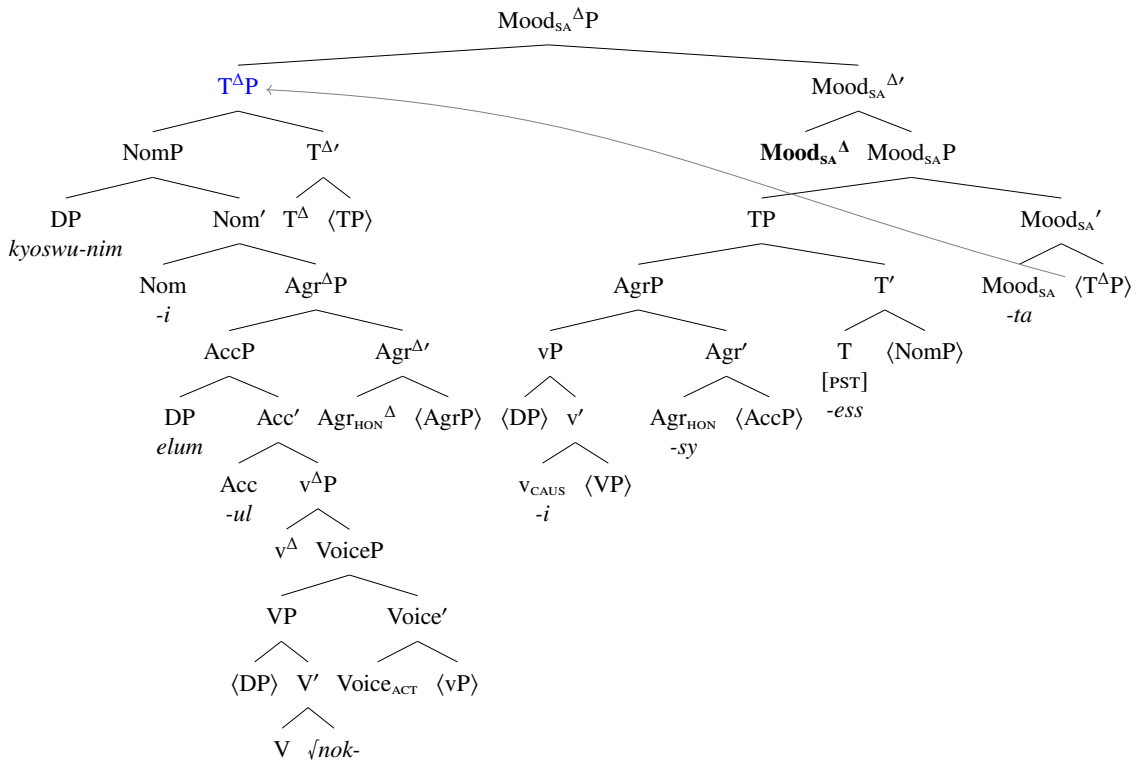


We will end this section by showing the last two steps in the derivation for (41), where the declarative mood marker (i.e., $\text{Mood}_{\text{SA}}^{\circ}$) enters the derivation, as shown in (51–52).

(51)



(52)



In the next section, I will lay out how scrambling works under our framework.

2.11 Scrambling

2.11.1 Preliminary information

In §2.8, we saw that extraction of neither the nominative case marked subject nor the accusative case marked object would be expected to be possible in the structure for an SOV sentence under our framework; see (44). This was because neither of them forms a constituent in that structure, although only constituents can undergo movement.

On the one hand, this is a desired consequence because subjects cannot be scrambled in general. On the other hand, this is problematic because case-marked objects can be scrambled. For example, the accusative object can be scrambled either across the nominative subject within the same clause as shown in (53) or across the clause boundary as shown in (54). I will refer to the first type of scrambling as *medium scrambling* and the second type of scrambling as *long scrambling*.²⁰

(53) *Medium scrambling*

Pola-ka [ku nonmwun-ul Hwun-i _____ ss-ess-ta-ko] malha-yss-ta.
Bora-NOM that paper-ACC Hoon-NOM write-PST-DEC-C say-PST-DEC

(Lit.) ‘Bora said that that paper_i, Hoon wrote t_i.’

(54) *Long scrambling*

ku nonmwun-ul Pola-ka [Hwun-i _____ ss-ess-ta-ko] malha-yss-ta.
that paper-ACC Bora-NOM Hoon-NOM write-PST-DEC-C say-PST-DEC

(Lit.) ‘That paper_i, Bora said that Hoon wrote t_i.’

Medium scrambling and long scrambling do not only differ with respect to how far the scrambled element is moved, but are also different from each other in terms of, for example, properties associated with binding and scope, as we will discuss later in this section; see (75) and (74). As a

²⁰Here, the terms *medium scrambling* and *long scrambling* are based on and used in similar senses to Tada’s (1993: 12 & 16) *M(iddle)-scrambling* and *L(ong)-scrambling*, respectively. There is another type of scrambling which Tada calls *S(hort)-scrambling*, which I will call *short scrambling* for ease of understanding. Short scrambling refers to the operation that gives rise to the linear order in which the direct (accusative) object precedes, as opposed to follows, the indirect (dative) object within the same ditransitive clause. Some assume that this operation is movement (e.g., Hoji 1985, Saito 1992, Tada 1993, Takano 1998), while others assume that it is base-generation (e.g., Miyagawa 1997, Aldridge 2001). We will not concern ourselves with short scrambling in this dissertation. (It is also worth noting that sometimes the term *short(-)distance scrambling* is used synonymously with short scrambling or medium scrambling, and more often the term *long(-)distance scrambling* with long scrambling, outside of this dissertation.)

prerequisite for further discussion, I will make the following assumptions about scope and binding, which I will be assuming throughout the dissertation:

(55) *Scope*

α takes scope over β iff (i) α asymmetrically c-commands β at some point in the derivation and (ii) β does not asymmetrically c-command the highest position of α from which it asymmetrically c-commands β .

(56) *Binding*

α binds β iff (i) α is in a case position (e.g., SpecNom and SpecAcc, where DP's [*CASE*] is discharged), (ii) α asymmetrically c-commands β , and (iii) α and β are co-indexed.

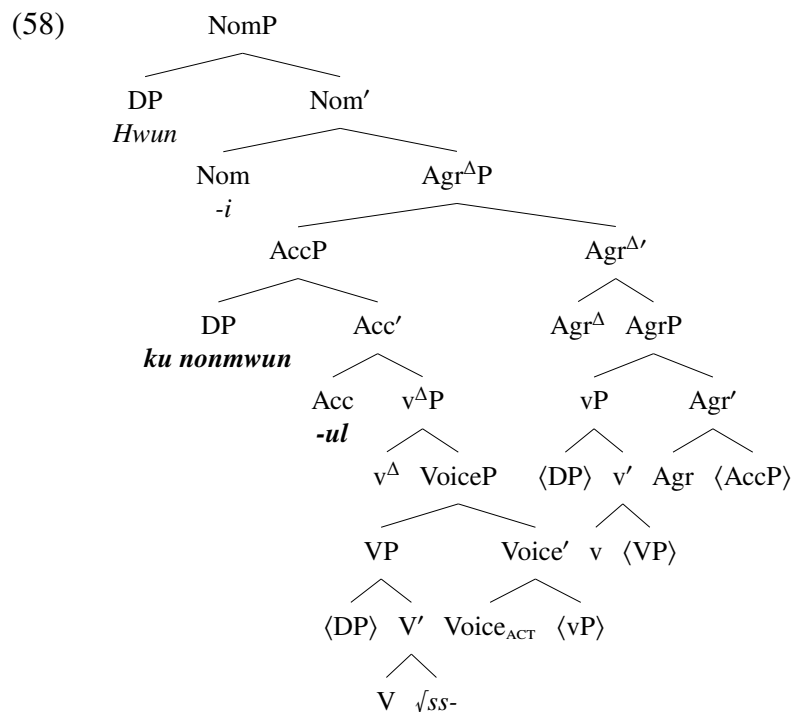
In this section, I will show how I propose to derive each type of scrambling under our framework, in which I will connect different properties of each type of scrambling with their structural differences. The important assumption behind the proposal is that only constituents can be moved. I propose that, as a consequence, an OSV derivation (including both medium scrambling and long scrambling) must involve a series of movements which creates a remnant constituent containing the accusative case marked object.

2.11.2 Scrambling with A-bar properties

As an example, I will show how we derive the OSV order in (57b), whose unmarked SOV counterpart is shown in (57a).

- (57) a. Hwun-i **ku nonmwun-ul** ss-ess-ta.
 Hoon-NOM that paper-ACC write-PST-DEC
 ‘Hoon wrote that paper.’
 b. **ku nonmwun-ul** Hwun-i _____ ss-ess-ta.
 that paper-ACC Hoon-NOM write-PST-DEC
 (Lit.) ‘That paper_i, Hoon wrote t_i.’

The SOV sentence in (57a) would be assigned the structure as shown in (58).



In (58), the accusative case marked object *ku nonmwun-ul* in (58) does not form a constituent because AccP contains the materials other than the DP object and the accusative marker. Therefore, the case marked object cannot undergo further movement in this derivation. Consequently, we must assume that the OSV order in (57b) is the result of a distinct derivation which does not proceed from the derivation for (57a).

I propose that deriving the OSV order involves the functional head Scr, whose label stands for scrambling, as well as its double Scr^Δ, and a different order of merge. For example, the relevant order of merge in the derivation for (57a) (see (58)) is as follows:

- (59) For (57a) (SOV order):
 Nom > **Agr^Δ** > Agr > Acc

On the other hand, the order of merge in the derivation for (57b), which includes Scr^o and its double, will be as follows:

- (60) For (57b) (OSV order):
Agr^Δ > Nom > **Scr^Δ** > Agr > Acc > **Scr**

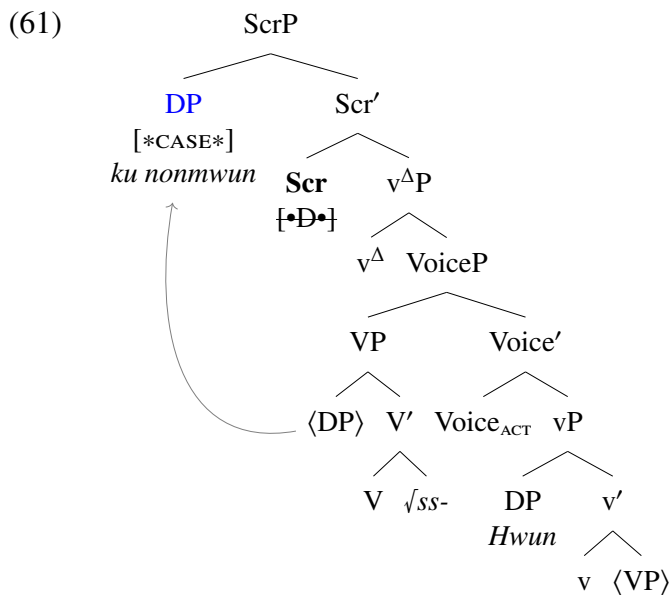
In (60), there are three things to note in comparison with (59). First, the relative order of merge among the non-doubles Nom, Agr, and Acc remains constant between (60) and (59). Second, Agr^Δ

in the OSV derivation would be merged in a position higher than Agr with other projections in between, although it would be merged immediately above AgrP in the SOV derivation. Third, by the same token, Scr^Δ in the OSV derivation would be merged in a position away from and higher than Scr, as opposed to being merged immediately above ScrP.

Basically, for the OSV order, the elements other than the accusative case marked object within AccP will undergo movement out of AccP due to Scr and Scr^Δ (because the complement of Scr° will be moved when Scr^Δ is merged). As a result, the accusative case marked object becomes a remnant constituent. Subsequently, Agr^Δ will trigger movement of the remnant constituent (i.e., AccP) across the subject. In a sense, scrambling exploits a loophole in the design of our framework in which functional heads are rigidly ordered with respect to the functional sequence while their doubles are not.

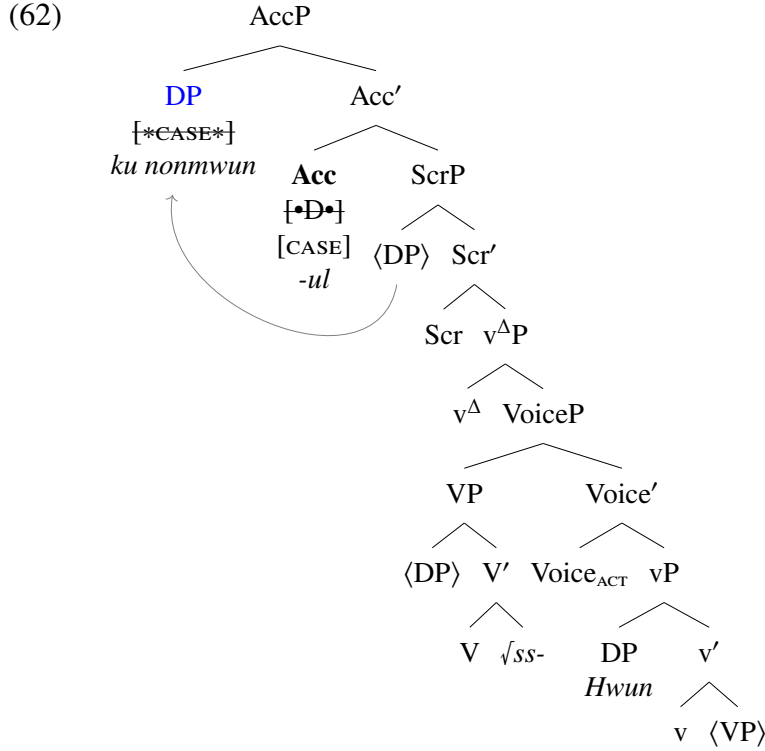
I will lay out the specifics of how Scr and Scr^Δ contribute to generating the OSV order by going through the derivation for (57b).

As the first step, we merge all the VP-related projections. Scr° will be merged above $v^\Delta\text{P}$ and trigger movement of the internal DP argument into SpecScr because Scr° carries [$\bullet\text{D}\bullet$], as shown in (61).



I will assume that Scr° carries [$\bullet\text{D}\bullet$] in derivations where DP undergoes scrambling (as shown above), carries [$\bullet\text{C}\bullet$] in derivations where CP undergoes scrambling, and so forth.

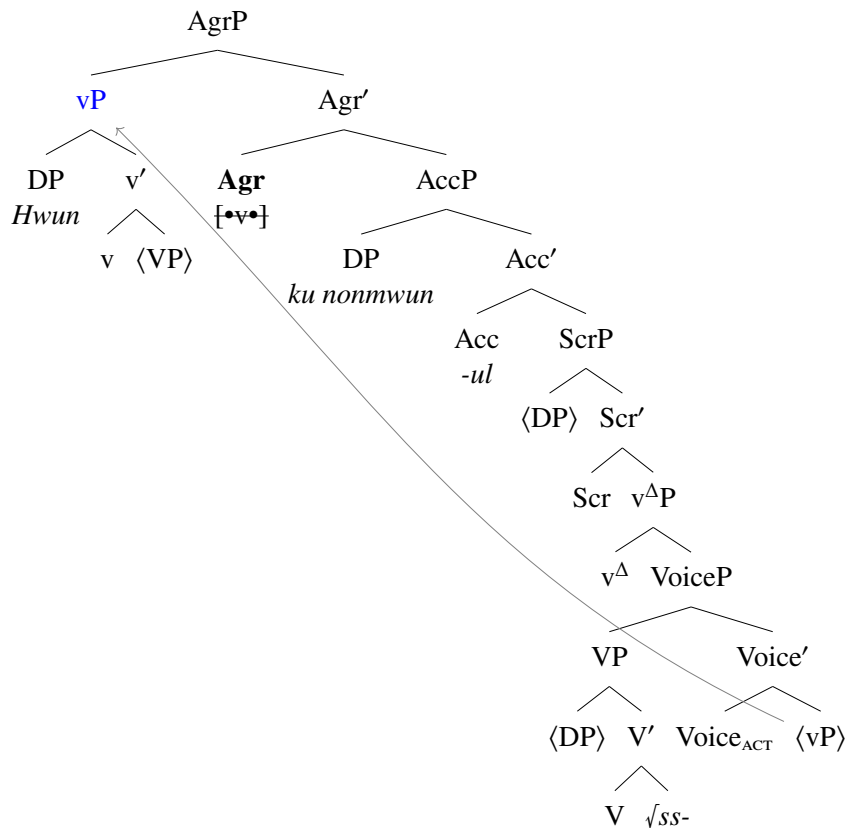
The next step is shown in (62), where Acc° is merged, triggers movement of the internal argument into SpecAcc , and the internal argument's $[\ast\text{CASE}\ast]$ is matched with Acc° 's $[\text{CASE}]$ and discharged.



At this point of the derivation, we can foresee that a remnant constituent for the accusative case marked object *ku nonmwun-ul* (i.e., AccP) will be formed when Scr^Δ is merged and then the complement of Scr° (i.e., $v^\Delta\text{P}$) is moved.

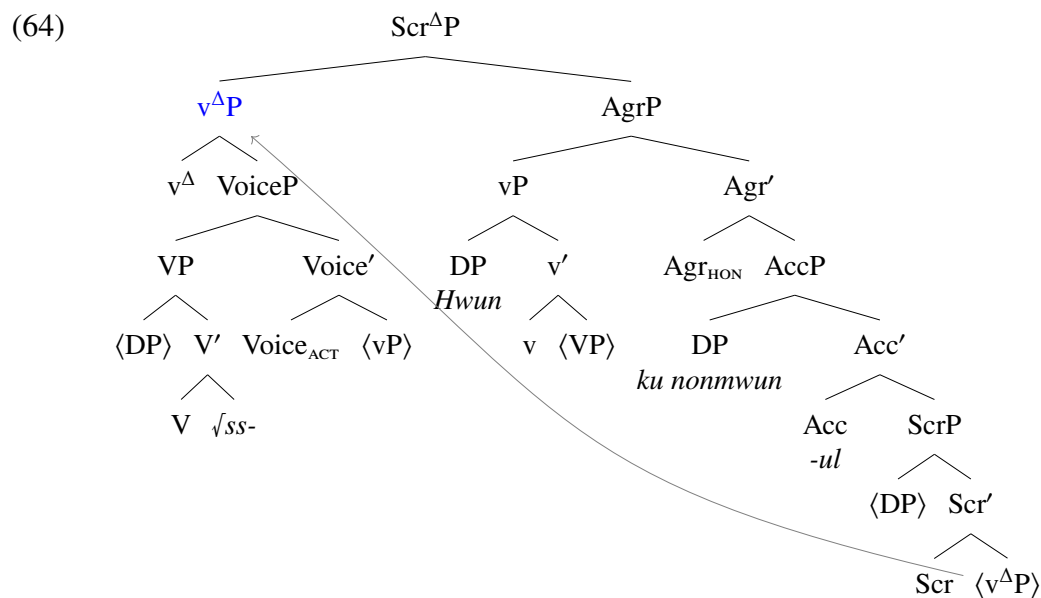
Next, $\text{Agr}^\circ (= \text{Agr}_{\text{HON}}^\circ)$ is merged above AccP , as shown in (63), and triggers movement of $v\text{P}$ into SpecAgr . It is worth noting that Agr° in this derivation is silent and does not carry $[\ast\text{HON}\ast]$ because the honorific agreement morpheme *-si* does not appear in (57b).

(63)

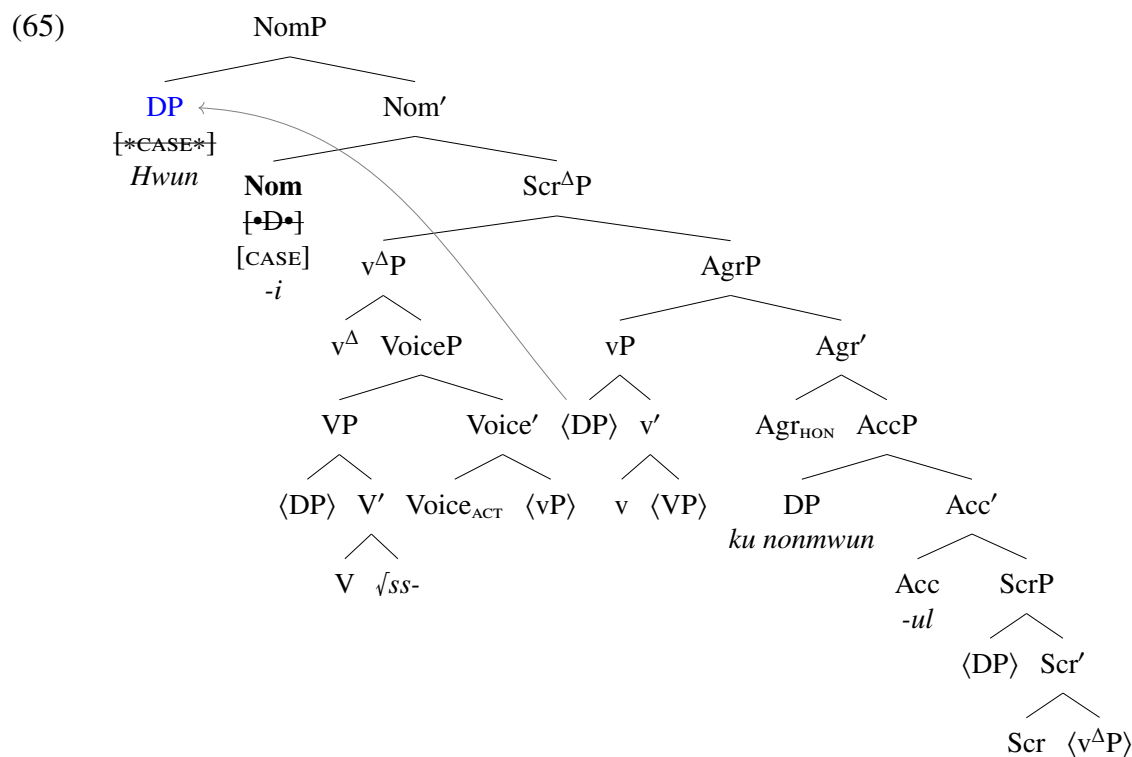


In a derivation for the SOV order, Agr^Δ would be merged above AgrP . However, if that were also true in a derivation for the OSV order, we would not be able to build a remnant constituent for the accusative case marked object because Agr^Δ will trigger movement of the complement of Agr° (i.e., AccP in (63)) as soon as it is merged, after which the complement of Acc° will be frozen in place due to the Specifier Impenetrability Condition. Therefore, Agr^Δ must be merged later than Scr^Δ in order to allow for the formation of the accusative remnant.

So, in the next step, we will have Scr^Δ merged above AgrP , which will in turn trigger movement of the complement of Scr° (i.e., $v^\Delta\text{P}$) into SpecScr^Δ , as shown in (64), creating the accusative remnant.



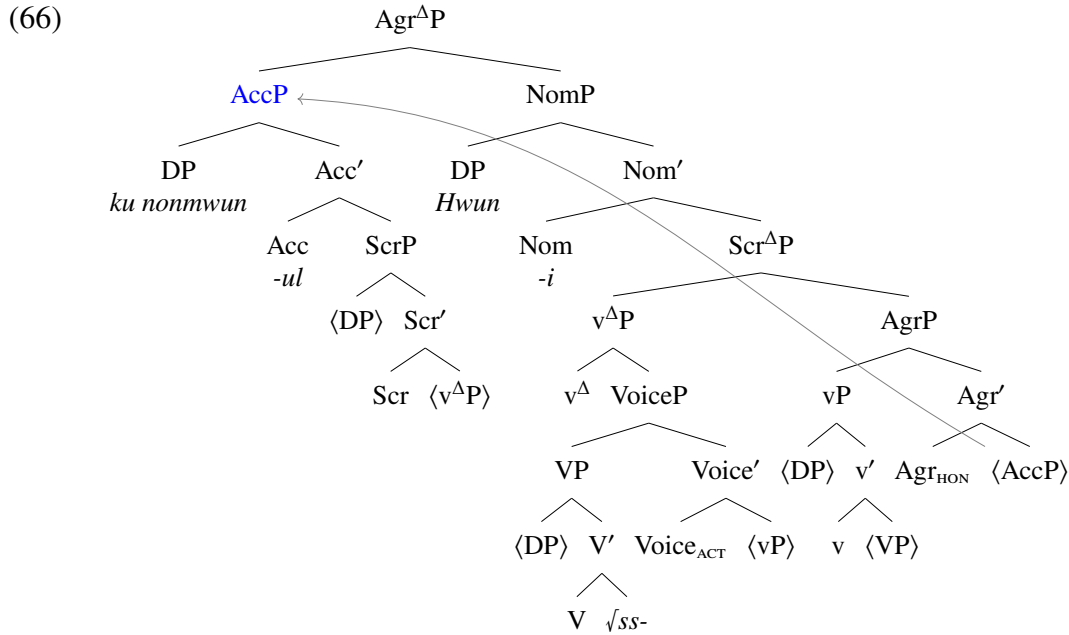
In the next step as shown in (65), Nom° will be merged above $\text{Scr}^\Delta\text{P}$ and this will generate the SV order once Nom° triggers movement of the external argument into SpecNom.



It is important to note that Agr^Δ must be merged in the next step, as opposed to before Nom° is merged. This merge order (i.e., $\text{Agr}^\Delta > \text{Nom}$) is crucial to correctly generate the OSV order,

because the opposite merge order $\text{Nom} > \text{Agr}^\Delta$ will generate the SOV order instead.²¹ Therefore, it is the combination of Scr° , as well as Scr^Δ , and the specific merge order (i.e., $\text{Agr}^\Delta > \text{Nom} > \text{Scr}^\Delta > \text{Agr} > \text{Acc} > \text{Scr}$) that allows for generating the OSV order.

As shown in (66), Agr^Δ is merged above NomP and triggers movement of AccP (i.e., the complement of Agr°) into SpecAgr^Δ , finalizing the OSV order.



The rest of the steps in the derivation after (66) will proceed in the manner identical to the derivation for the SOV order as seen in §2.9–2.10, where T° is merged and triggers movement of AgrP into SpecT , followed by the merge of T^Δ which triggers movement of T° 's complement into SpecT^Δ , after which $\text{Mood}_{\text{SA}}^\circ$ is merged and the similar steps follow.

There are two important things to note in (66). First, from this point on, AccP (i.e., the accusative case marked object, which is now a constituent) will continuously be in Spec^+ of a head merged in the clausal spine, because $\text{Agr}^\Delta \text{P}$ will be moved into SpecT^Δ after T° and T^Δ are merged, $T^\Delta \text{P}$ into $\text{SpecMood}_{\text{SA}}^\Delta$ after $\text{Mood}_{\text{SA}}^\circ$ and $\text{Mood}_{\text{SA}}^\Delta$ are merged, and (if the complementizer *-ko* is further merged) $\text{Mood}_{\text{SA}}^\Delta \text{P}$ into SpecC^Δ after C° and C^Δ are merged (assuming that C° carries $[\bullet \text{Mood}_{\text{SA}} \bullet]$). This means that one would expect the accusative object to be able to undergo further movement,

²¹In §4.3.2, I will argue that such “string-vacuous” scrambling (in which Scr° is part of the derivation but the merge order $\text{Nom} > \text{Agr}^\Delta > \text{Agr}$ is adopted) is in fact employed to generate a certain scope reading in sentences with postverbal negation and the quantified object.

even across the clause boundary when the sentence is embedded, i.e., undergo long scrambling as seen in (54). Second, one would not expect the accusative object to take scope over the nominative subject or to bind the nominative anaphor or an unbound pronoun contained in the nominative subject, because the nominative subject asymmetrically c-commands the accusative object's case position (i.e., SpecAcc).

The first expectation is confirmed by the existence of long scrambling as seen in (54). The second expectation, however, is only partially confirmed, because the accusative object which has undergone long scrambling behaves as expected whereas the medium-scrambled accusative object does not.

2.11.3 Medium scrambling with A-properties

We will discuss the second expectation in more detail, which will lead to the postulation of the double attachment sites for Acc° : the one positioned lower than Nom° and the other higher than Nom° . I will further argue that the higher attachment site of Acc° accounts for the unexpected behavior of the medium-scrambled object.

For example, it is well known that the scope relation in Korean, as well as languages like Japanese (e.g., Kuroda 1970: 136–137, Hoji 1985: 65–66), Hungarian (e.g., Szabolcsi 1997), German (e.g., Pafel 1993, 1999), is determined largely by the linear order.²²

Within the embedded clause in (67), the indefinite nominative subject precedes the accusative object containing the universal quantifier phrase headed by *motun*, and the former must take scope over the latter, i.e., the wide scope existential reading is the only possible reading of (67).

- (67) Pola-ka [nwukwunka-ka **motun cepsi-lul** takk-ass-ta-ko] malha-yss-ta.
 Bora-NOM someone-NOM every plate-ACC wash-PST-DEC-C say-PST-DEC
- i. 'Bora said that there exists a person who cleaned every plate.' ($\exists > \forall$)
 - ii. * 'Bora said that for every x , x a plate, there exists a person who cleaned x .' ($*\forall > \exists$)

However, the relative scope between the embedded subject and object remains unchanged if the embedded object undergoes long scrambling, as shown in (68a), despite the surface order in which

²²As for Hungarian, this only applies to preverbal orders, not postverbal ones (Hilda Koopman, p.c.).

the embedded object precedes the embedded subject. In contrast, if the embedded object undergoes medium scrambling, as in (68b), the embedded object can take surface scope, as well as inverse scope, over the embedded subject. It is worth emphasizing that the wide scope existential reading does not become unavailable because of medium scrambling.

- (68) a. **motun cepsi-lul** Pola-ka [nwukwunka-ka _____ takk-ass-ta-ko] malha-yss-ta.
 every plate-ACC Bora-NOM someone-NOM wash-PST-DEC-C say-PST-DEC
 i. ‘Bora said that there exists a person who cleaned every plate.’ ($\exists > \forall$)
 ii. * ‘Bora said that for every x , x a plate, there exists a person who cleaned x .’ ($*\forall > \exists$)
- b. Pola-ka [**motun cepsi-lul** nwukwunka-ka _____ takk-ass-ta-ko] malha-yss-ta.
 Bora-NOM every plate-ACC someone-NOM wash-PST-DEC-C say-PST-DEC
 i. ‘Bora said that there exists a person who cleaned every plate.’ ($\exists > \forall$)
 ii. ‘Bora said that for every x , x a plate, there exists a person who cleaned x .’ ($\forall > \exists$)

So, long scrambling does not affect scope as expected under our analysis of scrambling, whereas it is unexpected that medium scrambling can engender the surface scope reading in addition to the inverse scope reading. This suggests that medium scrambling is associated with two types of derivation: one that derives the inverse scope reading (i.e., the reading (i) of (68b)) and the other that derives the surface scope reading (i.e., the reading (ii) of (68b)).

Our derivation for the OSV order (i.e., the derivation for (57b)) would be the first type of derivation. In what follows, I will lay out my proposal for the second type of derivation.

I propose that Acc° has two attachment sites in the clausal spine, below Nom° or above Nom° . The second type of derivation amounts to the derivation in which Acc° is merged higher than Nom° . We will refer to this derivation as the high-Acc derivation, with its relevant order of merge shown in (69). In this derivation, the surface scope reading of (68b) arises because the internal argument in higher SpecAcc (i.e., a case position) will asymmetrically c-command the external argument in SpecNom.

- (69) High-Acc derivation:
 $\text{Acc} > \text{Agr}^\Delta > \text{Nom} > \text{Scr}^\Delta > \text{Agr} > \text{Scr}$

On the other hand, the first type of derivation, in which Acc° is merged lower than Nom° , would result in the inverse scope reading of (68b). We will call this derivation the low-Acc derivation,

and the relevant merge order for this derivation is shown in (70), which is the same as (60).

(70) Low-Acc derivation:

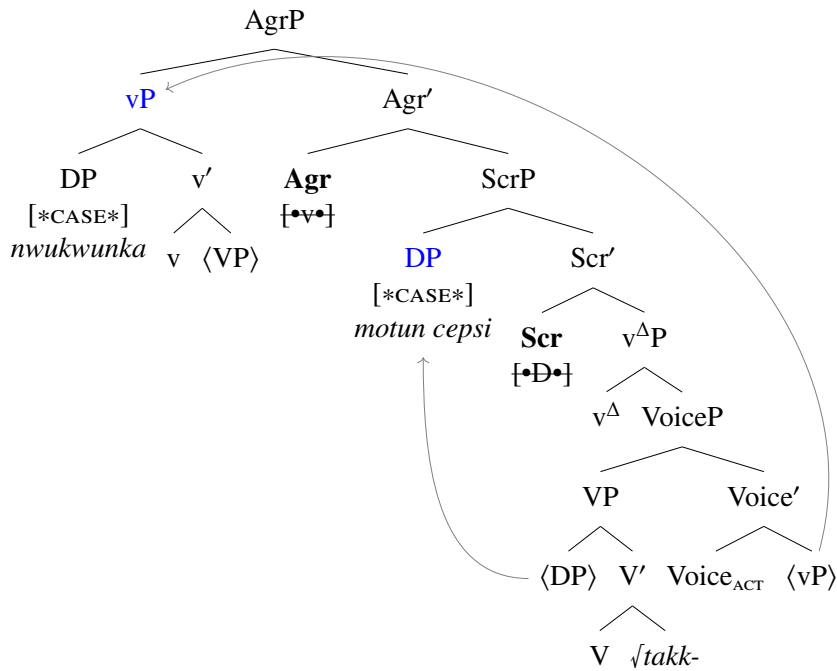
$\text{Agr}^\Delta > \text{Nom} > \text{Scr}^\Delta > \text{Agr} > \text{Acc} > \text{Scr}$

All the other aspects of the two types of derivation are identical to each other.

I will show how the high-Acc derivation generates the surface scope reading of (68b) in what follows.

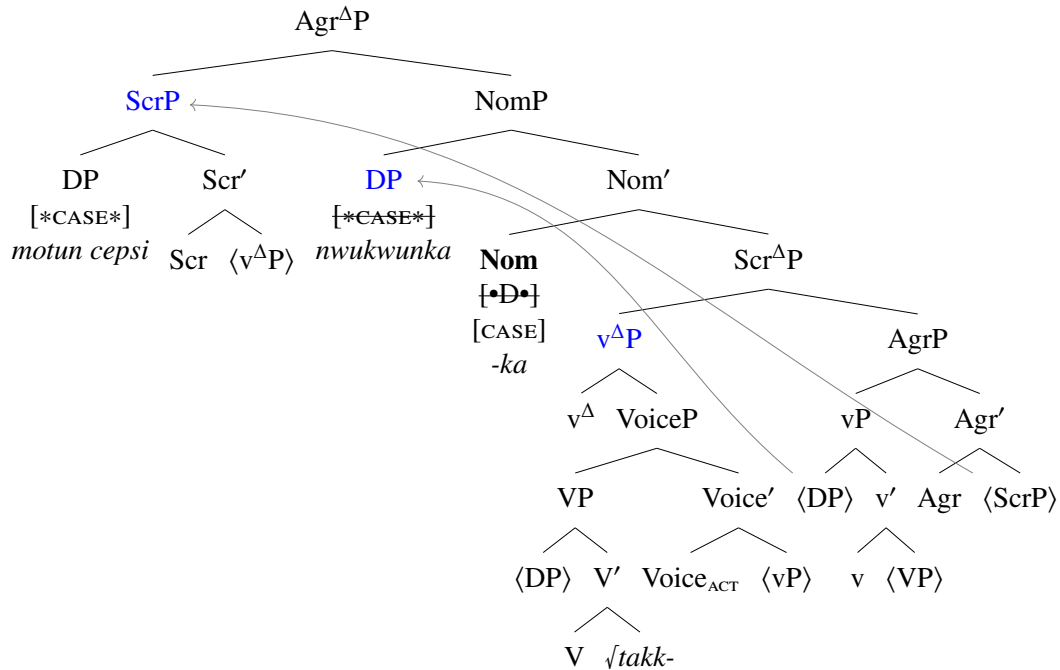
In the high-Acc derivation, as shown in (71), Agr° is merged above Scr° as opposed to above Acc° . When Scr° is merged above $v^\Delta\text{P}$, it triggers movement of the internal argument (i.e., *motun cepsi* ‘every plate’) into SpecScr. Subsequently, Arg° is merged above ScrP. Since Acc° has not been merged yet, the internal argument is not assigned case at this stage of derivation. This is in contrast to the low-Acc derivation, in which Acc° would be merged above ScrP and the internal argument will be assigned case accordingly at this point.

(71)



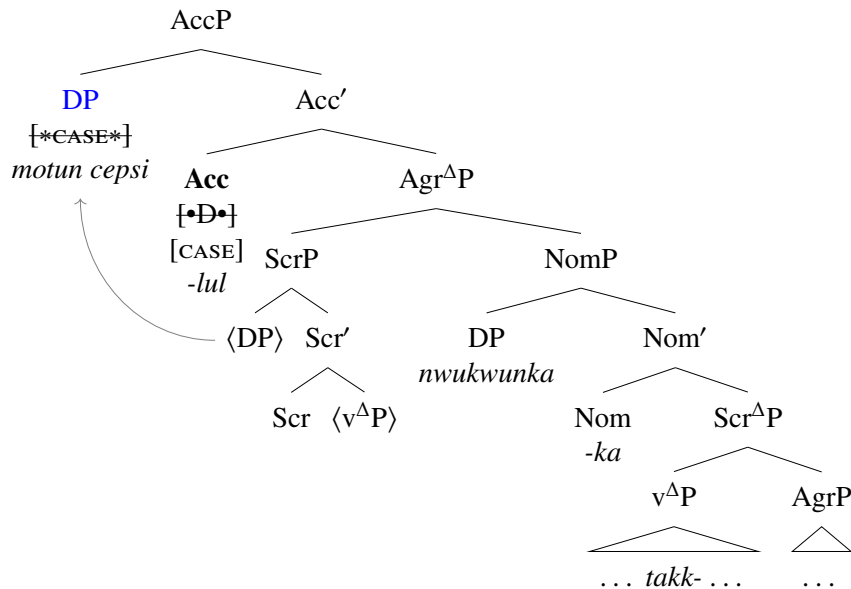
Just like in the low-Acc derivation, the merge order $\text{Agr}^\Delta > \text{Nom}$ is required to correctly derive the OSV order, as shown in (72); cf. (66).

(72)



In (72), the external argument is assigned case in SpecNom. The internal argument will receive case when Acc° is merged, which takes place in the next step as shown in (73).

(73)



In (73), the correct linear order between the accusative case marked object and the nominative case marked subject is established. Importantly, the object takes scope over the subject in this derivation, because SpecAcc is the highest position from which the object asymmetrically c-commands the subject, and the subject will not asymmetrically c-command the object at any point of the derivation

after this stage.

It is also worth noting that neither the accusative case marked object nor the nominative case marked subject forms a constituent in (73), which is reminiscent of the derivation for the unmarked SOV order; see (58). This means that the accusative case marked object cannot undergo further movement because it is not a constituent in this derivation, i.e., long scrambling cannot proceed from this derivation. Therefore, the low-Acc derivation must be employed for long scrambling.

2.11.4 Summary

In summary, the low-Acc derivation is responsible for scrambling with A-bar properties (e.g., long scrambling), while the high-Acc derivation accounts for scrambling with A-properties (e.g., some instances of medium scrambling). For example, the low-Acc derivation generates the inverse scope reading of (68a) whose embedded quantified object has undergone long scrambling and the same reading of (68b) whose embedded object has been medium-scrambled, while the high-Acc derivation generates the surface scope reading of (68b).

The claim is that all instances of medium and long scrambling involve derivations with Scr° while some instances of derivations for medium scrambling necessitate a higher attachment site for Acc° . This non-unitary construal of scrambling is in line with Mahajan's (1990, 1994) conclusion that long scrambling always behaves like A-bar movement while medium scrambling shows ambiguous behavior such that it sometimes behaves like A-movement but behaves like A-bar movement at other times.

The long scrambling and medium scrambling data with respect to binding corroborate my proposal. For example, the long-scrambled embedded accusative object in (74b) cannot bind the matrix subject reciprocal anaphor because the direct object is not in a case position and does not asymmetrically c-command the anaphor from its long-scrambled position.

- (74) a. ***selo_i-ka** [Ciwu-ka Inho-eykey [**Pola-wa Hwun**]_i-ul
each_other-NOM Jiwoo-NOM Inho-DAT Bora-CONJ Hoon-ACC
sokayha-yss-ta-ko] malha-yss-ta.
introduce-PST-DEC-C say-PST-DEC
(Intended:) (lit.) 'Each other said that Jiwoo introduced Bora and Hoon to Inho.'

- b. * **[Pola-wa Hwun]_i-ul selo_i-ka** [Ciwu-ka Inho-eykey ____
 Bora-CONJ Hoon-ACC each_other-NOM Jiwoo-NOM Inho-DAT
 sokayha-yss-ta-ko] malha-yss-ta.
 introduce-PST-DEC-C say-PST-DEC
 (Intended:) (lit.) ‘[Bora and Hoon]_i, each other_i said that Jiwoo introduced t_i to Inho.’

On the other hand, medium scrambling shows ambiguous behavior because both the high-Acc derivation and the low-Acc derivation can be employed to move the object across the subject, such that a given sentence will be acceptable if at least one of the derivations is acceptable. For example, assuming that the structure of (75b) is associated with the high-Acc derivation, the direct object in (75b) is in the specifier of Acc°, which is merged higher than Nom°, from which it asymmetrically c-commands the nominative anaphor, and therefore the direct object can bind the anaphor. It cannot be that (75b) is due to the low-Acc derivation because the direct object in that derivation would not asymmetrically c-command the anaphor from its case position.

- (75) a. * **selo_i-ka** Inho-eykey **[Pola-wa Hwun]_i-ul** sokayha-yss-ta.
 each_other-NOM Inho-DAT Bora-CONJ Hoon-ACC introduce-PST-DEC
 (Intended:) (lit.) ‘Each other introduced Bora and Hoon to Inho.’
 b. ? **[Pola-wa Hwun]_i-ul selo_i-ka** Inho-eykey ____ sokayha-yss-ta.
 Bora-CONJ Hoon-ACC each_other-NOM Inho-DAT introduce-PST-DEC
 (Lit.) ‘[Bora and Hoon]_i, each other_i introduced t_i to Inho.’

This contrasts with (76b), in which the accusative anaphor can remain bound by the nominative subject after undergoing medium scrambling. That (76b) is acceptable must be due to the low-Acc derivation, because in that derivation, the accusative anaphor in its scrambled position does not asymmetrically c-command the nominative subject, while the nominative subject asymmetrically c-commands (the copy of) the accusative anaphor from its case position.

- (76) a. **[Pola-wa Hwun]_i-i** Inho-eykey **selo_i-lul** sokayha-yss-ta.
 Bora-CONJ Hoon-NOM Inho-DAT each_other-ACC introduce-PST-DEC
 ‘Bora and Hoon introduced each other to Inho.’
 b. **selo_i-lul** **[Pola-wa Hwun]_i-i** Inho-eykey ____ sokayha-yss-ta.
 each_other-ACC Bora-CONJ Hoon-NOM Inho-DAT introduce-PST-DEC
 (Lit.) ‘Each other_i, [Bora and Hoon]_i introduced t_i to Inho.’

The high-Acc derivation for (76b), on the other hand, would leave the accusative anaphor unbound

because the scrambled anaphor would be in higher SpecAcc, which is a case position from which it asymmetrically c-commands the nominative subject.

Although I will not attempt to give a complete account of scrambling here, what I have laid out so far should prepare us enough for the following chapters, in which we will discuss the central topic of this dissertation: negation, as well as negative indefinites and polarity items.

CHAPTER 3

Preverbal Negation

3.1 Structural position of preverbal negation

I propose that the preverbal negation *an* is positioned above the topmost VP-related projection (e.g., VoiceP) as the head of NegP, based on the following two reasons. First, the scope and surface order between *an* and a low adverb such as the frequentative *cal*: *cal* linearly precedes *an*, but *an* scopes over *cal*. Second, the ambiguous scope of *an* in verbal complexes: *an* can scope over the lower VP or the whole verbal complex. I will explain these with examples in turn.

3.1.1 Preverbal negation marker *an* and frequentative adverb *cal*

Sentences (77–78) show that the preverbal negation marker *an* has to immediately precede the verb.

- (77) a. Pola-ka khephi-lul **an** masy-ess-ta.
Bora-NOM coffee-ACC NEG drink-PST-DEC
'Bora did not drink coffee.'
- b. *Pola-ka **an** khephi-lul masy-ess-ta.
Bora-NOM NEG coffee-ACC drink-PST-DEC
- (78) a. Pola-ka Hwun-eykey khephi-lul **an** ponay-ss-ta.
Bora-NOM Hoon-DAT coffee-ACC NEG send-PST-DEC
'Bora did not send coffee to Hoon.'
- b. *Pola-ka Hwun-eykey **an** khephi-lul ponay-ss-ta.
Bora-NOM Hoon-DAT NEG coffee-ACC send-PST-DEC

This holds true regardless of the type of elements that can appear to the immediate left of the verb, as shown in (79), (80), and (81).

- (79) a. Hwun-i kyengchalse-ey **an** ka-ss-ta.
Hoon-NOM police_station-to NEG go-PST-DEC

- ‘Hoon did not go to the police station.’
- b. *Hwun-i **an** *kyengchalse-ey* ka-ss-ta.
Hoon-NOM NEG police_station-to go-PST-DEC
- (80) a. Hwun-i *khi-ka* **an** khu-ta.
Hoon-NOM height-NOM NEG big-DEC
‘Hoon is not tall.’
- b. *Hwun-i **an** *khi-ka* khu-ta.
Hoon-NOM NEG height-NOM big-DEC
- (81) a. thaykpay-ka *ecey* **an** tochakha-yss-ta.
package-NOM yesterday NEG arrive-PST-DEC
‘The package did not arrive yesterday.’
- b. *thaykpay-ka **an** *ecey* tochakha-yss-ta.
package-NOM NEG yesterday arrive-PST-DEC

Such elements also include adverbs, as shown in (82) and (83).²³

- (82) a. Hwun-i chayk-ul *acik* **an** phye-ss-ta.
Hoon-NOM book-ACC still NEG open-PST-DEC
‘Hoon still did not open the book.’ (still > ¬, *¬ > still)
- b. *Hwun-i chayk-ul **an** *acik* phye-ss-ta.
Hoon-NOM book-ACC NEG still open-PST-DEC
- (83) a. Hwun-i chayk-ul *ppalli* **an** phye-ss-ta.
Hoon-NOM book-ACC quickly NEG open-PST-DEC
‘Hoon did not open the book quickly.’ (*quickly > ¬, ¬ > quickly)
- b. ??Hwun-i chayk-ul **an** *ppalli* phye-ss-ta.
Hoon-NOM book-ACC NEG quickly open-PST-DEC

Since Korean is a scope-rigid language where the surface word order of expressions (largely) determines the scope relations among them, one could imagine that if X precedes Y in the word order (where X is not an inflectional suffix, examples of which include the past tense marker and the mood marker) then X is higher than Y in the structure and therefore X takes scope over Y.

In that regard, it is noteworthy that in (83a), the celerative adverb *ppalli* is interpreted under the scope of negation, in contrast to (82a) in which the continuative adverb *acik* is interpreted outside

²³The other possible translation of (82a) would be ‘Hoon did not open the book yet’, in which the adverb *acik* would correspond to ‘yet’. However, I chose to gloss *acik* as ‘still’ because *acik* is not an NPI, as it can occur in the contexts where NPIs in Korean cannot (i.e., in non-negative clauses). For example:

- i. Hwun-un *acik* celm-ta.
Hoon-TOP still young-DEC
‘Hoon is still young.’

the scope of negation. That is, (83a) means that Hoon's opening of the book was not quick (i.e., $\neg > \text{quickly}$). This suggests that the word order between *ppalli* and *an* and their scope relation are not aligned. If this is correct, it would mean that preverbal negation is merged higher than the celerative adverb in the clausal spine.

However, one may argue that the $\neg > \text{quickly}$ reading is forced to be the only available reading since there is no possible meaning which corresponds to the reading where *ppalli* is interpreted outside the scope of negation (i.e., $\text{quickly} > \neg$) (for example, it is very difficult, if not impossible, to find a sentence such as *quickly not do X*, as opposed to *not quickly do X*). In spite of that, in what follows, I will show that even when both wide and narrow scope readings of negation with respect to an adverb are logically possible in a sentence with a similar configuration, the only possible reading is the wide scope negation reading.

A low adverb such as the frequentative *cal* has to immediately precede the verb as shown in (84–85). According to Cinque (1999: 91–93; 93, fn. 44), the (lower) frequentative adverb merges very low in the structure and therefore is lower in the functional sequence than the celerative adverb such as *ppalli*.

- (84) a. Pola-ka yehayng-ul **cal** tani-n-ta.
Bora-NOM trip-ACC often go-NPST-DEC
'Bora often goes on a trip.'
- b. *Pola-ka **cal** yehayng-ul tani-n-ta.
Bora-NOM often trip-ACC go-NPST-DEC
- (85) a. Pola-ka khullep-ul **cal** tani-n-ta.
Bora-NOM club-ACC often go-NPST-DEC
'Bora often goes clubbing.'
- b. *Pola-ka **cal** khullep-ul tani-n-ta.
Bora-NOM often club-ACC go-NPST-DEC

Similar to the cases in (82) and (83), *cal* precedes preverbal negation when they appear together, as shown in (86–87).

- (86) a. Pola-ka yehayng-ul **cal an** tani-n-ta.
Bora-NOM trip-ACC often NEG go-NPST-DEC
'Bora does not go on a trip often.' ($\neg > \text{freq}$)
- b. *Pola-ka yehayng-ul **an cal** tani-n-ta.
Bora-NOM trip-ACC NEG often go-NPST-DEC

- (87) a. Pola-ka khullep-ul **cal** **an** tani-n-ta.
 Bora-NOM club-ACC often NEG go-NPST-DEC
 ‘Bora does not go clubbing often.’ (¬ > freq)
- b. *Pola-ka khullep-ul **an** **cal** tani-n-ta.
 Bora-NOM club-ACC NEG often go-NPST-DEC

In terms of the scope relation between the frequentative *cal* and preverbal negation in this context, preverbal negation only has the wide scope interpretation with respect to *cal*, as discussed in Whitman (2005: 897–898). An example such as (88) can let us clearly discern that there could be two theoretically possible scopal readings but only one of them is an acceptable reading.

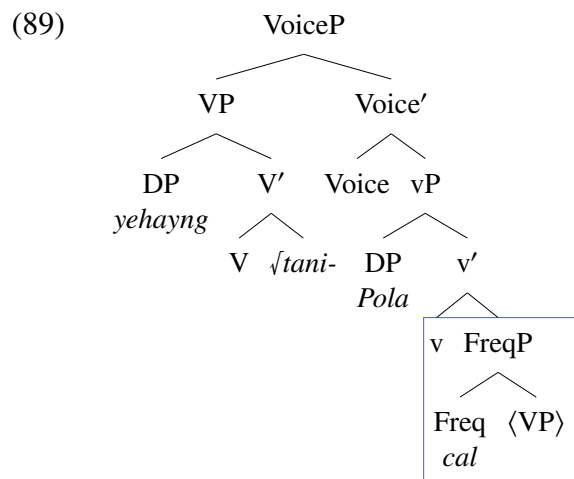
- (88) Pola-ka umsik-ul **cal** **an** mek-nun-ta.
 Bora-NOM food-ACC often NEG eat-NPST-DEC
- i. ‘It is not the case that Bora eats food often.’ (¬ > freq)
- ii. *‘It often happens to be the case that Bora does not eat food.’ (*freq > ¬)

A speaker can felicitously say (88) if Bora does not like to eat snacks and often skips breakfast (i.e., ¬ > freq). However, it is infelicitous to say the same sentence if Bora often fasts (i.e., freq > ¬).

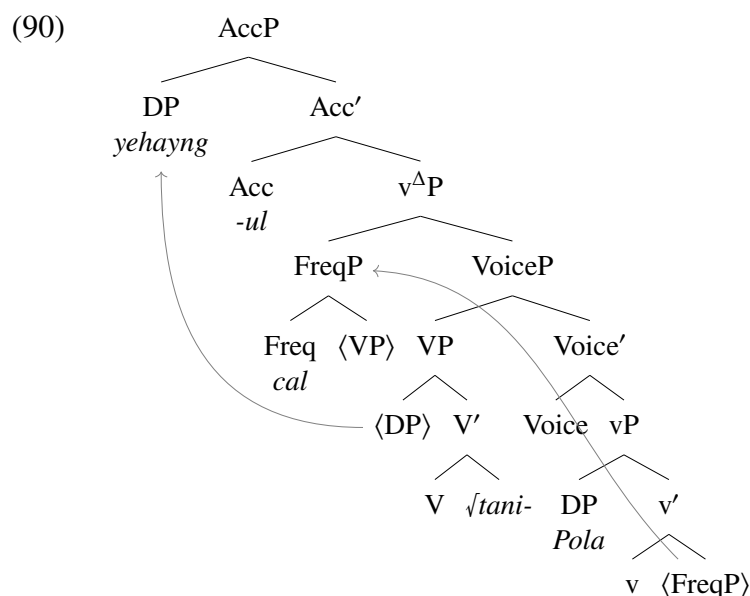
Based on the discussion above, I will argue that the preverbal negation *an* is merged higher than *cal*, and this correctly accounts for the scope and surface word order between *an* and *cal*. I lay out the details in the following.

I will assume that *cal* is the head of FreqP which merges above VP but below vP, as shown in (89).²⁴

²⁴For the sake of simplicity, I will assume that each adverb is the head of its own functional projection, as opposed to AdvP merged in the specifier of a corresponding functional projection as in Cinque (1999). Nevertheless, it is likely the case that a more adequate analysis would require a more elaborated structure for the projections that host adverbs than what Cinque (1999) suggests, as discussed in Cinque (2017).

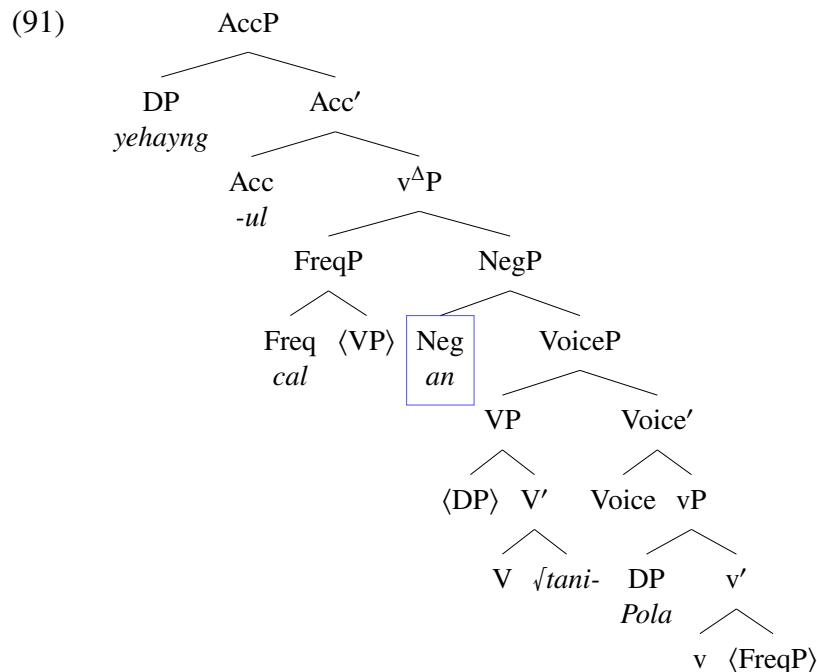


Once VP moves to SpecVoice, FreqP will be briefly stranded. The next steps are shown in (90). The adverb will be moved across the object when v^Δ (i.e., the double of v) is merged above VoiceP and triggers movement of the complement of v° (= FreqP) to Spec v^Δ . Since the DP object *yehayng* has to undergo movement across the adverb to SpecAcc, the O-Adv-V order will be correctly derived.



As can be seen in the steps shown in (90), the postulation of v^Δ in the position above VoiceP is crucial to deriving the correct surface order of low adverbs as in (84–85).

Sentences (86–87) showed that *cal* must precede *an*. If our analysis with respect to the position of *cal* is correct, positioning NegP between v^Δ P and VoiceP would be the natural way to derive the correct surface word order between *cal* and *an*, as shown in (91).



The structure (91) suggests that as for the scope, negation takes scope over the frequentative adverb (because Neg° asymmetrically c-commands Freq° in the clausal spine) in spite of what the surface word order may suggest.

We can further confirm that it is the structural position of the adverb in the functional sequence, not necessarily the surface order of the adverb, that determines its scope relation with negation by comparing (88) with (92), which has the adverb *kakkum* ‘occasionally’ (which is not a habitual adverb, but likely a type of (higher) frequentative aspect adverb; for discussion, see Cinque 1999: 91, fn. 37; 105) in place of *cal*.

(92) Pola-ka umsik-ul **kakkum** **an** mek-nun-ta.
Bora-NOM food-ACC occasionally NEG eat-NPST-DEC

- i. * ‘It is not the case that Bora eats food occasionally.’ ($*\neg > \text{occasionally}$)
- ii. ‘Bora occasionally does not eat food.’ ($\text{occasionally} > \neg$)

The wide scope adverb reading (i.e., $\text{freq} > \neg$) that is not accessible in (88) is the salient reading in (92). Sentence (92) is a felicitous sentence if Bora occasionally fasts, or (sarcastically) if Bora likes to eat snacks throughout the day such that she only occasionally does not eat food; but not if Bora is always eating. On the other hand, the wide scope negation reading (i.e., $\neg > \text{freq}$) is not

accessible. This suggests that the projection associated with *kakkum* is merged higher than NegP (e.g., between AccP and NegP), contrary to *cal* which is merged lower than NegP.

(93) *kakkum* ('occasionally') > ... > Neg > ... > *cal* ('often')

Therefore, we can conclude that syntactic movement results in the surface position of the adverb *cal* which is identical to that of the adverb *kakkum*, but *cal*'s (initial) structural position in the clausal spine nevertheless determines its scope relation with respect to negation.

In summary, the structural position and surface position of the low adverb *cal* combined together suggest that NegP is merged above VoiceP and below v^ΔP.

3.1.2 Structural ambiguities in verbal complexes

Further evidence that NegP has to be positioned above the highest VP-related projection comes from verbal complexes. In a verbal complex, which involves more than one verb, the preverbal negation marker *an* precedes the leftmost verb in terms of the word order, but the scope of negation is not restricted only to the string-adjacent verb, as shown in (94–95). In short, preverbal negation can give rise to a structural ambiguity depending on its attachment site, because it can be merged above any one of the highest VP-related projections when there is more than one clause.

- (94) a. Pola-ka tampay-lul **an** phiw-e pw-ass-ta.
 Bora-NOM cigarette-ACC NEG smoke-C try-PST-DEC
 i. 'Bora tried not smoking cigarettes.' (try > ¬ > smoke)
 [Context: Bora is a heavy smoker but wants to quit.]
 ii. 'Bora did not try smoking cigarettes.' (¬ > try > smoke)
 [Context: Bora never smoked a cigarette before.]
 b. *Pola-ka tampay-lul phiw-e **an** pw-ass-ta.
 Bora-NOM cigarette-ACC smoke-C NEG try-PST-DEC
- (95) a. Hwun-i swul-ul **an** masy-e pw-ass-ta.
 Hoon-NOM alcohol-ACC NEG drink-C try-PST-DEC
 i. 'Hoon tried not drinking alcohol.' (try > ¬ > drink)
 [Context: Hoon is a heavy drinker but wants to quit.]
 ii. 'Hoon did not try drinking alcohol.' (¬ > try > drink)
 [Context: Hoon never had any alcoholic beverages before.]
 b. *Hwun-i swul-ul masy-e **an** pw-ass-ta.
 Hoon-NOM alcohol-ACC drink-C NEG try-PST-DEC

Following Koopman (2005: 610–613), I assume that the control restructuring verb *po-* (= *pw-*) selects for *V-e* (i.e., *phiw-e* in (94a) and *masy-e* in (95a)).²⁵ I will categorize *-e* as a type of complementizer, following Cho & Sells (1995: 121). Therefore, *V-e* is a (reduced) clause headed by *-e*.

Assuming that preverbal negation can take scope over the lower VP or over the entire verbal complex (because Neg° is merged above the topmost VP-related projection), we can schematize the structural possibilities as follows:

- (96) a. [[*an* [V *-e*]] *po-* ...]
 b. [*an* [[V *-e*] *po-* ...] ...]
 c. * [[V *-e*] [*an* [*po-* ...]] ...]

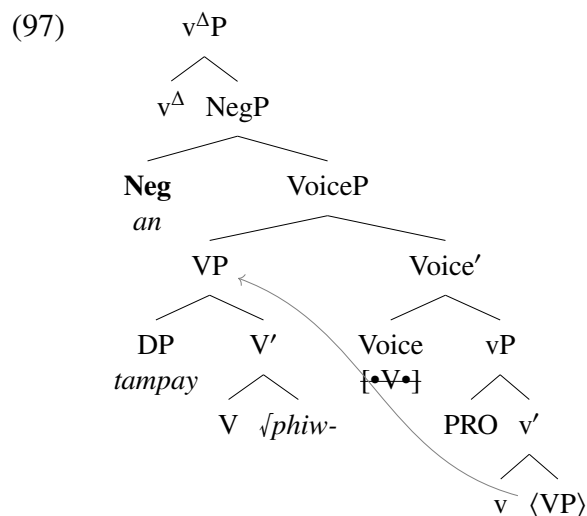
To illustrate exactly how each one of the possible structures above is derived, I will show the relevant steps in the derivation for (94a) in five parts.

First, we will merge all the VP-related projections of the *e*-clause.²⁶ VP undergoes movement into SpecVoice. Then, we may choose to merge Neg° above VoiceP, which will lead to the reading in (94a-i) where negation takes narrow scope. I will proceed with this option and later point out the other attachment site for Neg° . Since VP has undergone movement, this leaves only the copy of VP as the complement of v° and v^Δ plays no role here.²⁷ The other decision we have to make (in addition to the attachment site of Neg°) is whether we want to merge Acc° within the *e*-clause. If we choose to do so, Acc° can be merged above $v^\Delta\text{P}$ and the internal DP argument *tampay* will receive case in SpecAcc within the *e*-clause. I will choose the other option where Acc° is introduced later in the upper clause.

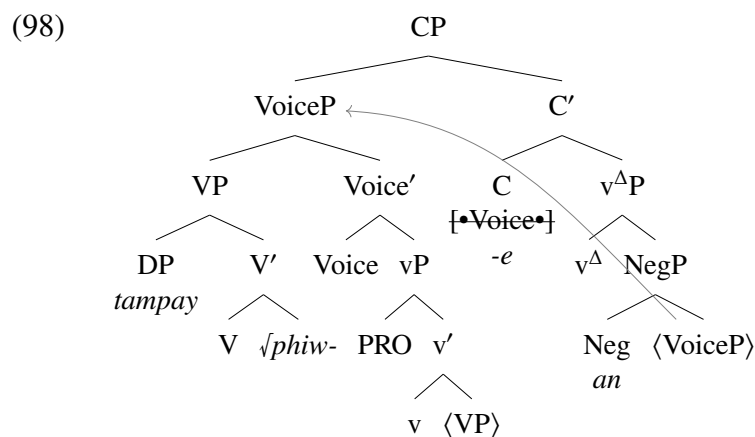
²⁵The base form of *pw-* is *po-*, and the glide *w* is due to a phonological process conditioned by the initial vowel of the tense morpheme that follows the verb.

²⁶As for PRO, which is the external argument of *phiw-*, I will assume that it does not carry [**CASE**] like overt DPs do and therefore does not require to be moved into the specifier of a case-related projection such as Nom° and Acc° .

²⁷See fn. 15 for the discussion related to our presentational choice with respect to what v^Δ does here.

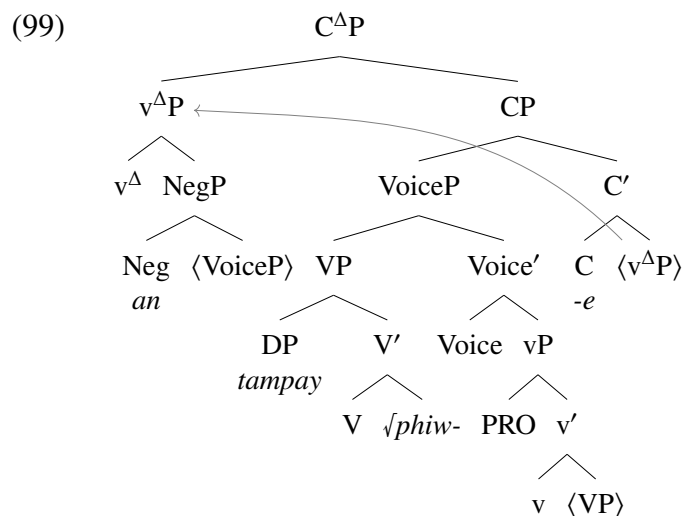


Second, *-e* is merged and triggers movement of VoiceP into its specifier.

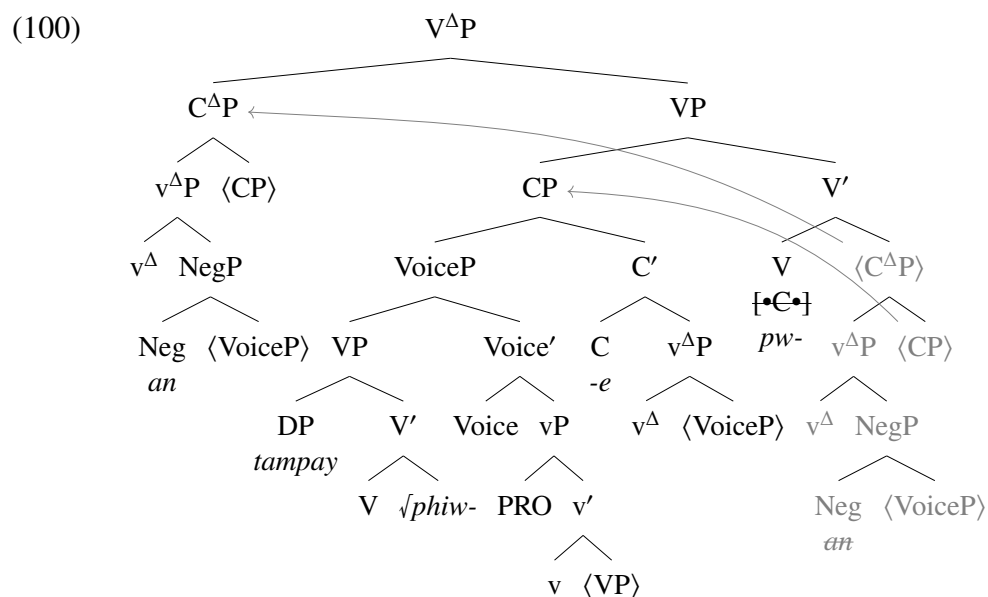


Due to movement of VoiceP, the preverbal negation marker *an* is stranded. This basically echoes our derivation for sentences with low adverbs and preverbal negation in §3.1.1, specifically the steps in (89–90), where the frequentative adverb *cal* (FreqP) is stranded after VP undergoes movement. In that derivation, FreqP was moved across the VP when v^Δ was merged above VoiceP (i.e., v^Δ “rescues” the stranded FreqP). C^Δ is what will play the analogous role of v^Δ in this derivation as we will see in the next part of the derivation.

Third, C^Δ is merged above CP and triggers movement of $v^\Delta P$ (= the complement of C°). Owing to this movement, *an* will linearly precede the verb *phiw-* again and *-e* will be the rightmost element (for the time being).

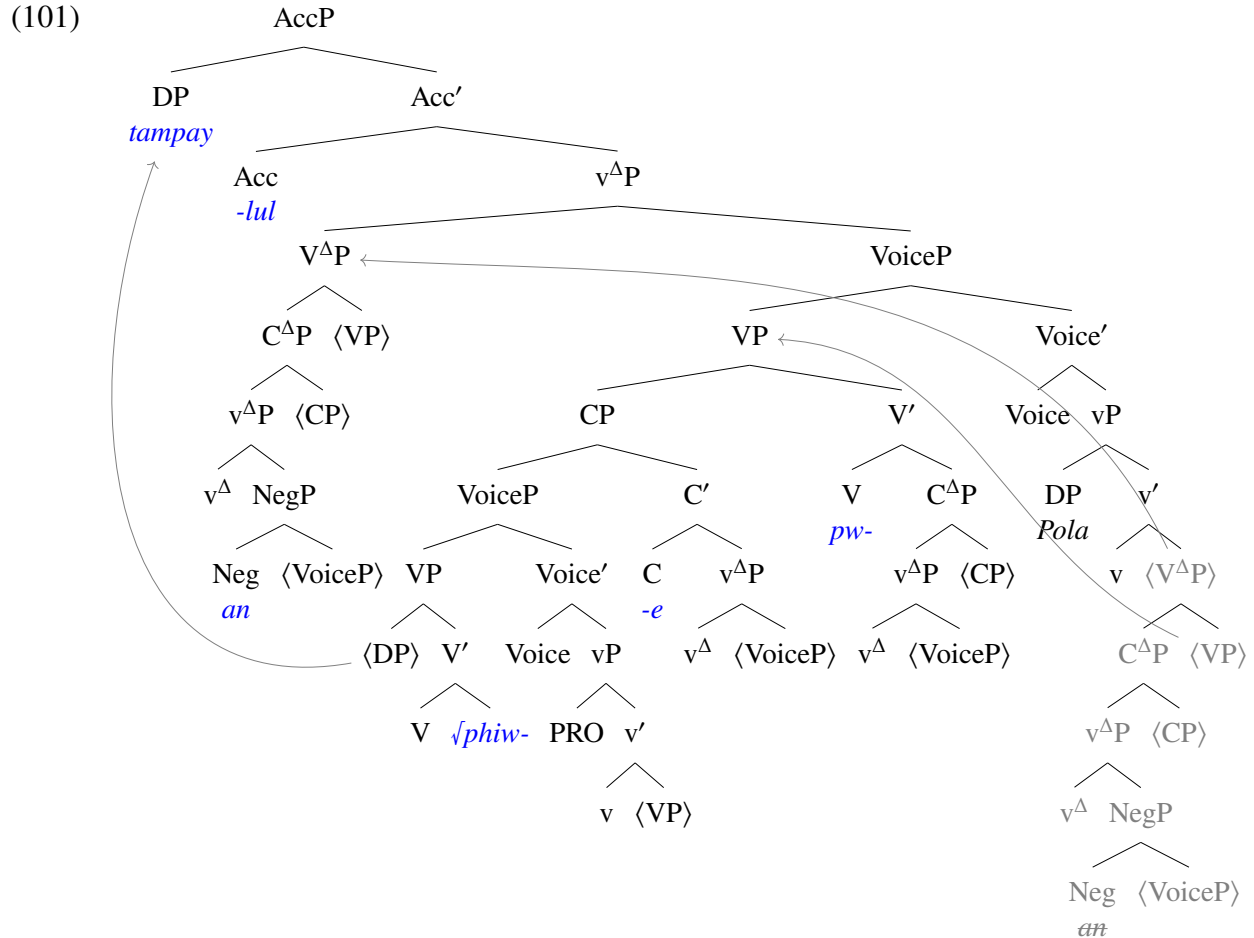


Fourth, the restructuring verb *po-* is merged and CP undergoes movement into SpecV. This results in the stranded *an* again. I will assume that restructuring verbs such as *po-* introduce the double (i.e., V^Δ). V^Δ will trigger movement of $C^\Delta P$ because $C^\Delta P$ is the complement of V° , and as a consequence, *an* will be moved across VP and *po-* will now be the rightmost element.



As we can see, the postulation of the doubles (i.e., X^Δ) plays a pivotal role in correctly obtaining the word order for preverbal negation (as well as low adverbs) and conferring head-finality on the heads known to be head-final. It is also noteworthy to mention that the type of movement that takes place due to the merge of a double is mechanical, in the sense that it is automatic and repetitive. For this reason, it does not add much complexity to the derivation despite what it seems at first sight.

Lastly, VP is moved into SpecVoice when Voice^o is merged, followed by movement of V^ΔP across VoiceP due to v^Δ. Then when Acc^o is merged, the internal argument undergoes movement into SpecAcc. The rest of the steps in the derivation will proceed in the usual manner (as we have seen in Chapter 2), involving the merge of Agr^o, Nom^o, T^o, and Mood_{SA}^o.



Importantly, if we were to merge Neg^o above VoiceP and below v^ΔP in the *po*-clause (i.e., the clause containing the *e*-clause) at this stage of the derivation (instead of merging it inside the *e*-clause), we would generate the identical word order but Neg^o would asymmetrically c-command both *po*- and *phiw*- such that they will be interpreted under the scope of negation. That would correspond to the wide scope negation reading in (94a-ii).

In addition to explaining the scope ambiguities of sentences such as (94a) and (95a), the proposed analysis accounts for why the preverbal negation marker *an* cannot appear between *-e* and *po*-, as seen in (94b) and (95b), repeated below.

(94b) * Pola-ka tampay-lul phiw-e **an** pw-ass-ta.
Bora-NOM cigarette-ACC smoke-C NEG try-PST-DEC

(95b) * Hwun-i swul-ul masy-e **an** pw-ass-ta.
Hoon-NOM alcohol-ACC drink-C NEG try-PST-DEC

To allow for the word order in which *an* immediately precedes *po-*, *an* would have to be merged right after *po-* is merged, which would be before the *e*-clause is moved into the specifier of *po-*. However, this is not a possible option under our analysis, because there is no position for *an* (i.e., Neg°) between the restructuring verb *po-* and the CP headed by *-e*: As soon as *po-* is merged in the spine, the *e*-clause must be moved into Spec of *po-*.

(102) The order of merge for the clause with a restructuring verb like *po-*:
 $\text{Acc} > v^\Delta > (\text{Neg}) > \text{Voice} > v > V^\Delta > V$

As discussed in the derivation for (94a) above, the internal argument of the verb of the *e*-clause can receive case in the specifier of Acc° merged within its own clause or outside of its clause (i.e., the *po*-clause). Combined with the assumption that Neg° can be merged within the *e*-clause or the *po*-clause, this means that Acc° and Neg° can be clause-mates in either the *e*-clause or the *po*-clause.

- (103) a. **Acc** > ... > **Neg** > ... > *po-* > ... > *phiw-*
b. **Acc** > ... > *po-* > ... > **Neg** ... > *phiw-*
c. ... > **Neg** > ... > *po-* > ... > **Acc** > ... > *phiw-*
d. ... > *po-* > ... > **Acc** > ... > **Neg** > ... > *phiw-*

On the other hand, the external argument of *po-*, which controls PRO (i.e., the external argument of *phiw-*), can only receive case in the *po*-clause. This means that Nom° and Neg° can be clause-mates only in the *po*-clause.

- (104) a. **Nom** > ... > **Neg** > ... > *po-* > ... > *phiw-*
b. **Nom** ... > *po-* > ... > **Neg** > ... > *phiw-*

This makes a specific prediction about the possibility of negative indefinites, such as *amwu-to* ‘no one’, under the assumption that negative indefinites in Korean must be in the same clause with sentential negation (H. Choe 1988). (We will discuss negative indefinites and their licensing in Chapter 5.)

The prediction is as follows:

- If the internal argument is a negative indefinite, the wide and narrow scope readings of negation are both possible.
- If the external argument is a negative indefinite, only the wide scope reading of negation is possible.

The data confirm the prediction. Sentence (105) is a modified version of (94a) with the negative indefinite *amwu-kes-to* as the object, and the scope ambiguity exists.

- (105) Pola-ka amwu-kes-to an phiw-e pw-ass-ta.
 Bora-NOM INDF-thing-PRT NEG smoke-C try-PST-DEC
- a. ‘Bora tried not smoking anything.’ (try > ¬ > smoke)
 b. ‘Bora did not try smoking anything.’ (¬ > try > smoke)

On the other hand, (106) has the negative indefinite *amwu-to* as the subject, and the narrow scope reading of negation is unavailable in this sentence.

- (106) amwu-to tampay-lul an phiw-e pw-ass-ta.
 INDF-PRT cigarette-ACC NEG smoke-C try-PST-DEC
- a. * ‘Somebody tried not smoking cigarettes.’ (*try > ¬ > smoke)
 b. ‘Nobody tried smoking cigarettes.’ (¬ > try > smoke)

This suggests that our analysis of the verbal complex for (94a–95a), in which two different attachment sites for Neg° are available, is on the right track.

Another type of sentences which involves verbal complexes and shows a scope ambiguity with preverbal negation is periphrastic causatives, as shown in (107a–107b). As discussed in Y.-S. Lee (1989), negation may take scope over the lowest VP containing the main verb or the higher VP containing the causative verb in these sentences.²⁸

- (107) a. Hwun-i Pola-lul an wus-key mantul-ess-ta.
 Hoon-NOM Bora-ACC NEG smile-C make-PST-DEC

²⁸The wide scope negation reading can be facilitated by a pitch accent on *an* and a short pause before the string-adjacent verb.

- i. ‘Hoon made Bora not smile.’ (make > ¬ > smile)
[Context: Hoon said a stupid joke so that Bora stopped smiling.]
- ii. ‘Hoon did not make Bora smile.’ (¬ > make > smile)
[Context: Hoon did something else other than making Bora smile.]
- b. ai-ka kangaci-lul an cic-key ha-yss-ta.
kid-NOM puppy-ACC NEG bark-C do-PST-DEC
 - i. ‘A kid made a puppy not bark.’ (do > ¬ > bark)
[Context: The kid pacified the puppy so that it stopped barking.]
 - ii. ‘A kid did not make a puppy bark.’ (¬ > do > bark)
[Context: The kid did something else other than making the puppy bark.]

The scope ambiguity in (107a–107b) can be similarly accounted for under the assumption that *-key* is the head of a (reduced) clause, which is selected for by the causative verb *mantul-* or *ha-*. The two possible attachment sites of NegP, either inside or outside the *key*-clause, will give rise to the scope ambiguity.

In summary, the structural ambiguities in verbal complexes further strengthen my proposal that NegP is merged above the topmost VP-related projection.

3.2 Scope of preverbal negation with respect to *-man* ‘only’

In §3.1, we established that preverbal negation (i.e., NegP) is located in a position just above the topmost VP-related projection (e.g., above VoiceP and below v^{Δ}) as opposed to a position higher in the clause.

In this section, we will use the structural position of preverbal negation as the basis to determine the position of other scope-bearing elements. If negation takes scope over such element, we can assume that the corresponding projection of that element is structurally lower than NegP in the functional sequence. In contrast, if negation scopes under such element, we can assume that NegP is merged lower in the functional sequence than the corresponding projection of that element.

The scope-bearing element of concern in this section is the exhaustive focus marker *-man*:

(108) *-man* on the DP subject, the DP direct object, and the PP indirect object

- a. [ile-n salam-tul]-**man**(-i) salanam-ass-ta.
this_kind-ADN person-PL-only(-NOM) survive-PST-DEC

- ‘Only this kind of people survived.’
- b. Hwun-i huynssalpap-**man**(-ul) mek-ess-ta.
Hoon-NOM white_rice-only(-ACC) eat-PST-DEC
‘Hoon ate only white rice.’
- c. Pola-ka kangaci-hanthey-**man** kansik-ul cw-ess-ta.
Bora-NOM puppy-DAT-only treat-ACC give-PST-DEC
‘Bora gave a treat only to a puppy.’

The claim to be defended is that *-man* is the head of a focus-related projection which takes the focused constituent in its specifier (Koopman 2005), and it has multiple attachment sites in the clausal spine—I will call it OnlyP. For example, we will see that OnlyP is often found to be merged higher than NegP, but can be merged below NegP under appropriate contexts. This semantically-active, scope-bearing overt head analysis of *-man* is in contrast to Y. Lee’s (2004, 2005) proposal in which *-man* is a semantically-vacuous agreement morpheme, while the corresponding null head determines the scope and provides the exhaustive meaning. Nevertheless, the current analysis and Y. Lee’s analysis share the fundamental premise in which different attachment sites of OnlyP decide the relative scope of *-man*.

3.2.1 Basic scope relation between *-man* and preverbal negation

NegP is merged lower than OnlyP when the only scope bearing elements in a sentence are *-man* and *an*, because we find a strong tendency for the exhaustively focused element to take scope over negation. For example, negation only has the narrow-scope interpretation with respect to the *man*-marked phrase in subject position, direct object position, and indirect object position, as shown in (109), (110), and (111), respectively.

(109) *In subject position*

- a. **Pola-man** Hwun-ul an ttayly-ess-ta.
Bora-only Hoon-ACC NEG hit-PST-DEC
- i. ‘Bora is the only person who did not hit Hoon.’ (only > ¬)
- ii. * ‘It is not the case that Bora is the only person who hit Hoon.’ (*¬ > only)
- b. **Pola-man** sinmwun-ul an ilk-ess-ta.
Bora-only newspaper-ACC NEG read-PST-DEC
- i. ‘Bora is the only person who did not read the newspaper.’ (only > ¬)

- ii. * ‘It is not the case that Bora is the only person who read the newspaper.’
($*\neg > \text{only}$)

(110) *In direct object position*

- a. Pola-ka **ppang-man** an mek-ess-ta.
Bora-NOM bread-only NEG eat-PST-DEC
 - i. ‘Bread is the only thing that Bora did not eat.’ (only $> \neg$)
 - ii. * ‘It is not the case that bread is the only thing that Bora ate.’ ($*\neg > \text{only}$)
- b. Pola-ka **khephi-man** an masy-ess-ta.
Bora-NOM coffee-only NEG drink-PST-DEC
 - i. ‘Coffee is the only thing that Bora did not drink.’ (only $> \neg$)
 - ii. * ‘It is not the case that coffee is the only thing that Bora drank.’ ($*\neg > \text{only}$)

(111) *In indirect object position*

- a. Pola-ka **Hwun-eykey-man** khephi-lul an ponay-ss-ta.
Bora-NOM Hoon-DAT-only coffee-ACC NEG send-PST-DEC
 - i. ‘Hoon is the only person who Bora did not send coffee to.’ (only $> \neg$)
 - ii. * ‘It is not the case that Hoon is the only person who Bora sent coffee to.’
($*\neg > \text{only}$)
- b. Pola-ka **Hwun-eykey-man** yongton-ul an cw-ess-ta.
Bora-NOM Hoon-DAT-only allowance-ACC NEG give-PST-DEC
 - i. ‘Hoon is the only person who Bora did not give an allowance.’ (only $> \neg$)
 - ii. * ‘It is not the case that Hoon is the only person who Bora gave an allowance.’
($*\neg > \text{only}$)

3.2.2 Preverbal negation and the universal quantifier phrase headed by *motun*

What would the scope relation be like if *-man* and *an* appear with another scope-bearing element, such as a universal quantifier? To answer this question, it would be necessary to understand the relative scope between preverbal negation and a universal quantifier phrase. I will digress from *-man* here and provide a concise description of the scope relation between the universal quantifier phrase headed by *motun* and the preverbal negation *an*, which can be summarized as follows:

(112) *The scope relation between preverbal negation and a universal quantifier phrase*

- a. There is a strong tendency for the universal quantifier phrase in subject position to take scope over negation. (That is, with very little variation across contexts and speakers.)
- b. For the universal quantifier phrase in direct object position, there is a variation across speakers as to whether the wide scope reading of negation is readily accessible.
- c. The universal quantifier phrase in indirect object position seems to behave similarly to that in direct object position.

I will give examples for each of these and discuss them as needed, in turn. Importantly, I assume that the universal quantifier phrase headed by *motun* takes scope from the case position (i.e., where the DP's [*CASE*] is discharged). For example, the universal quantifier phrase that appears with the nominative case marker (e.g., the subject of a transitive sentence) takes scope from SpecNom.

Sentences in (113) show that negation does not scope over the universally quantified subject. This suggests that NegP is positioned lower than NomP, which should follow from the functional sequence we postulated in §2.2.

- (113) a. **motun ai-ka** Hwun-ul an cohaha-yss-ta.
 every child-NOM Hoon-ACC NEG like-PST-DEC
 i. 'No child liked Hoon.'
 (= For every x , x a child, there is no x that liked Hoon) ($\forall > \neg$)
 [Context: Five out of five children did not like Hoon.]
 ii. * 'Not every child liked Hoon.' ($*\neg > \forall$)
 [Context: Two out of five children did not like Hoon.]
- b. **motun kangaci-ka** salyo-lul an mek-ess-ta.
 every puppy-NOM dog_food-ACC NEG eat-PST-DEC
 i. 'No puppy ate dog food.' ($\forall > \neg$)
 [Context: Five out of five puppies did not eat dog food.]
 ii. * 'Not every puppy ate dog food.' ($*\neg > \forall$)
 [Context: Two out of five puppies did not eat dog food.]

In comparison, sentences in (114) show that negation may take scope over the universally-quantified DP in direct object position, or at least that there are speakers who can access the wide scope negation reading. In experimental settings with the truth-value judgment task, whether preverbal negation can take scope over the universal quantifier in direct object position has been shown to be subject to speaker variation (Han et al. 2007, 2016, T. Kim 2017). For those interpretations prepended with “(?)/%” in (114), “(?)” corresponds to my judgment and “/%” indicates the variability in acceptability across speakers.

- (114) a. Pola-ka **motun cheyli-lul** an mek-ess-ta.
 Bora-NOM every cherry-ACC NEG eat-PST-DEC
 i. 'Bora did not eat any cherries.' ($\forall > \neg$)
 [Context: Bora ate zero out of five cherries.]
 ii. (?)/% 'It is not the case that Bora ate every cherry.' ($((?)\neg > \forall)$)
 [Context: Bora ate three out of five cherries.]

- b. koyangi-ka **motun cangnankam-ul** an kentuly-ess-ta.
 cat-NOM every toy-ACC NEG touch-PST-DEC
 i. ‘The cat did not touch any toys.’ (V > ¬)
 [Context: The cat touched zero out of five toys.]
 ii. (?)/% ‘It is not the case that the cat touched every toy.’ ((?)/%¬ > V)
 [Context: The cat touched three out of five toys.]

My judgment is that the wide scope negation reading is readily accessible given the appropriate context, but not perfect without it. Adding a continuation which forces the contrastive focus reading of the object gives rise to the wide scope negation reading, as shown in (115).²⁹

- (115) a. Pola-ka motun cheyli-lul an mek-ko myech kay-man mek-ess-ta.
 Bora-NOM every cherry-ACC NEG eat-PST-CONJ some CL-only eat-PST-DEC
 ‘Bora didn’t eat every cherry and ate only some of the cherries.’
 b. koyangi-ka motun cangnankam-ul an kentuli-ko myech kay-man kentuly-ess-ta.
 cat-NOM every toy-ACC NEG touch-CONJ some CL-only touch-PST-DEC
 ‘The cat didn’t touch every toy and touched only some of the toys.’

Building on our analyses in §3.1.1 and §3.1.2, I will keep the assumption that Acc° is merged in a position higher than Neg° . That is, the relevant order of merge for a transitive sentence is as follows:

- (116) $\text{Acc} > v^\Delta > \text{Neg} > \text{Voice} > v > V$

If this is the unmarked merge order, it may explain why all speakers accept the narrow scope negation reading with respect to the universal quantifier phrase in object position because the quantified DP in SpecAcc will asymmetrically c-command Neg° .

However, we still need an explanation for the additional availability of the wide scope negation reading for those who can access this reading (i.e., (114a-ii) and (114b-ii)).

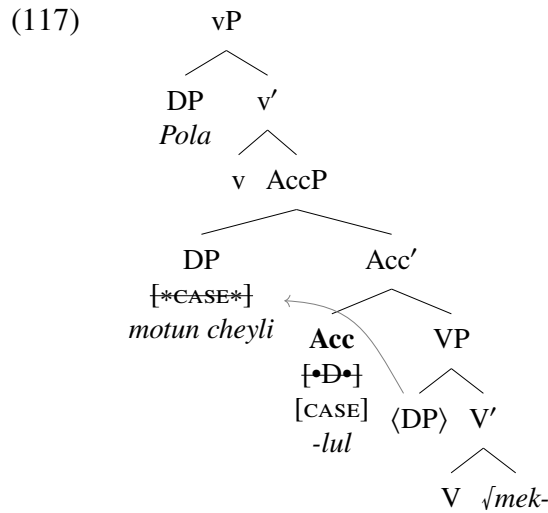
²⁹It is possible that what gives rise to the wide scope negation reading of (114a) and (114b) and what forces the wide scope negation reading of (115a) and (115b) are disparate structures. That is, the focus-related projections which generate the contrastive focus reading of the object in (115a) and (115b) may fundamentally alter the resulting structure to the extent that it is incomparable with the structure for (114a) and for (114b). However, the point is that the continuation is not required to obtain the wide scope negation reading. Rather, sentences in (115) are shown as the examples in which the wide scope negation reading becomes evident because it is forced due to the presence of contrastive focus.

I will propose that the narrow scope readings of negation as seen in (114a-ii) and (114b-ii) are obtained when Acc° is merged very low in the clause, immediately above VP.

We have already seen an element requiring the identical attachment site: the frequentative adverb *cal*. As discussed in §3.1.1, when *cal* appears in a sentence with preverbal negation, negation takes scope over *cal* but *cal* linearly precedes the preverbal negation marker *an*. We accounted for this by merging FreqP (= *cal*) above VP but below vP . Since Neg° asymmetrically c-command FreqP from a higher position in the clause, the correct scope relation between the two is obtained. And importantly, the correct word order between *an* and *cal* is generated due to v^Δ , as it triggers movement of FreqP across NegP , into $\text{Spec}v^\Delta$.

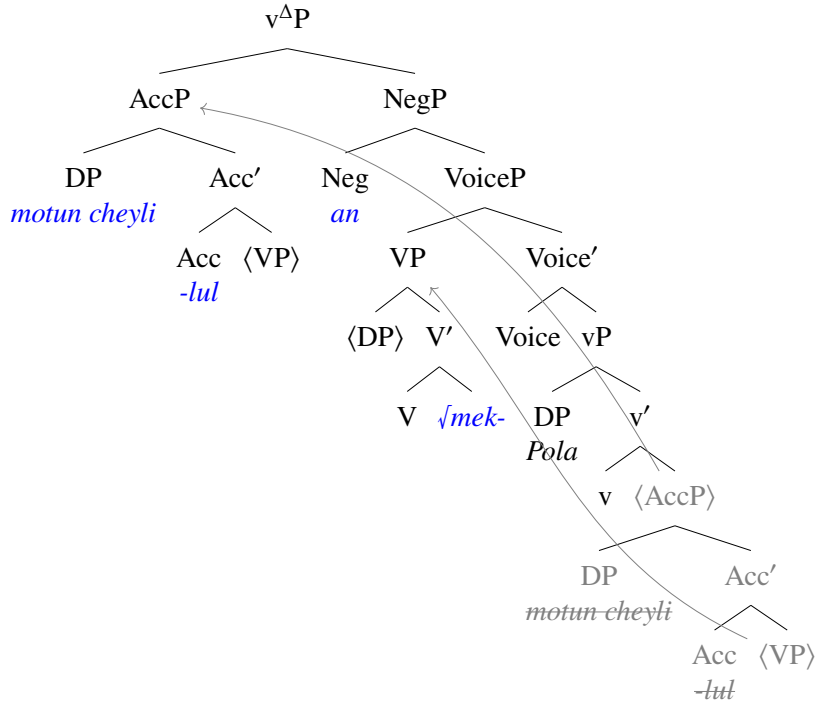
I will propose that the misalignment of the word order and scope between preverbal negation and the quantified object can be attributed to a similar structure. I will illustrate my proposal by showing the relevant steps of the derivation for the wide scope negation reading of (114a) (i.e., (114a-ii)) in what follows.

First, as shown in (117), Acc° is merged immediately above VP and the internal DP argument undergoes movement into SpecAcc . The internal argument receives case in this position.



Then, VP undergoes movement into SpecVoice when Voice° is merged above vP . Neg° is merged next, and when we merge v^Δ above NegP , AccP is moved into $\text{Spec}v^\Delta$.

(118)



In (118), the quantified object linearly precedes preverbal negation in the word order. However, preverbal negation takes scope over the quantified object because Neg^0 asymmetrically c-commands the object in SpecAcc. Therefore, we obtain the wide scope negation reading in (114a-ii) along with the correct word order for (114a).

Before moving on to the next subsection, I would like to briefly discuss sentences in (119), which have the universal quantifier phrase in indirect dative object position.

- (119) a. Pola-ka **motun ciin-eykey** chengchepcang-ul an ponay-ss-ta.
 Bora-NOM every acquaintance-DAT wedding_invitation-ACC NEG send-PST-DEC
 i. 'Bora did not send a wedding invitation to any acquaintances.' ($\forall > \neg$)
 [Context: Bora sent an invitation to zero out of five acquaintances.]
 ii. (?) 'It is not the case that Bora sent every acquaintance a wedding invitation.'
 ((?) $\neg > \forall$)
 [Context: Bora sent an invitation to three out of five acquaintances.]
- b. Hwun-i **motun ai-eykey** chokhollis-ul an cw-ess-ta.
 Hoon-NOM every child-DAT chocolate-ACC NEG give-PST-DEC
 i. 'Hoon did not give a chocolate to any children.' ($\forall > \neg$)
 [Context: Bora gave a chocolate to zero out of five children.]
 ii. (?) 'It is not the case that Hoon gave every child a chocolate.' ((?) $\neg > \forall$)
 [Context: Bora gave a chocolate to three out of five children.]

The acceptability of the wide scope negation reading with the quantified indirect object has not been experimentally investigated, although my judgment is similar to the case of the universal quantifier phrase in direct object position: It is readily accessible given the appropriate context, as provided in the format of continuation in (120), similar to what we saw in (115).

- (120) a. Pola-ka motun ciin-eykey chengchepcang-ul an ponay-ko myech
 Bora-NOM every acquaintance-DAT wedding_invitation-ACC NEG send-CONJ some
 myeng-eykey-man ponay-ss-ta.
 CL-DAT-only send-PST-DEC
 ‘Bora didn’t send every acquaintance a wedding invitation and sent it only to some of the acquaintances.’
- b. Hwun-i motun ai-eykey chokhollis-ul an cwu-ko myech myeng-eykey-man
 Hoon-NOM every child-DAT chocolate-ACC NEG give-CONJ some CL-DAT-only
 cw-ess-ta.
 give-PST-DEC
 ‘Hoon didn’t give every child a chocolate and gave it only to some of the children.’

This suggests that NegP can be merged in a position lower than the dative PP, assuming that prepositions are merged in the clausal spine (e.g., Kayne 2005, Schweikert 2005). As for the availability of the wide scope negation reading, I suppose that this can be accounted for by an analysis similar to the proposal for the wide scope negation reading with the universal quantifier phrase in direct object position. However, I will leave the exact analysis for future research.

In summary, we have examined the scope relation between preverbal negation and a universal quantifier phrase in subject and object position, and concluded that NomP is merged in a position higher than NegP, although AccP can be merged higher or lower than NegP. When AccP is merged lower than NegP, the surface word order and the scope relation between preverbal negation and the quantified object do not align because of movement.

3.2.3 The universal quantifier phrase, *-man*, and preverbal negation

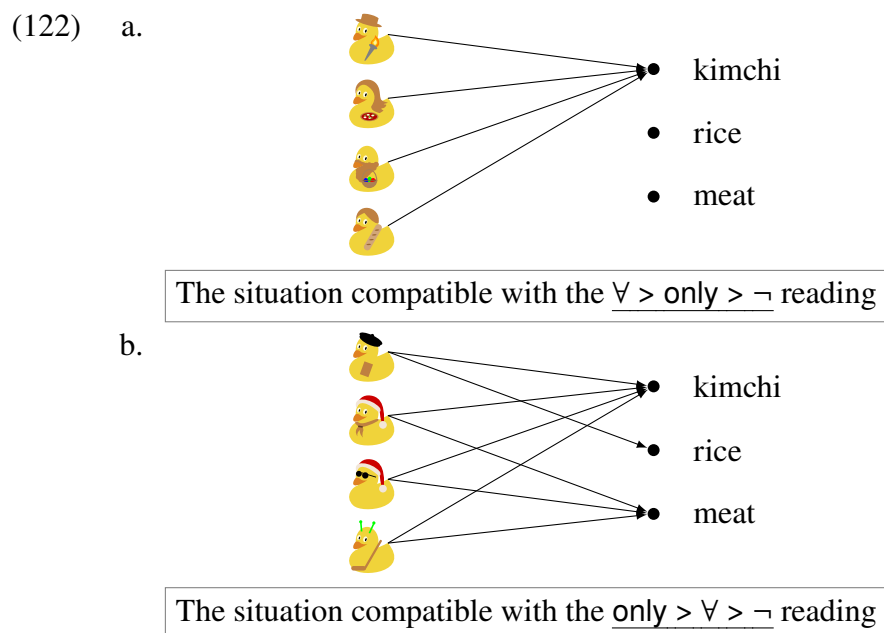
We are now prepared to discuss the scope relation among *-man*, *an*, and the universal quantifier phrase headed by *motun*.

What we will find is that the surface order between the *man*-phrase and the universal quantifier phrase determines their relative scope in a sentence without scrambling, while preverbal negation

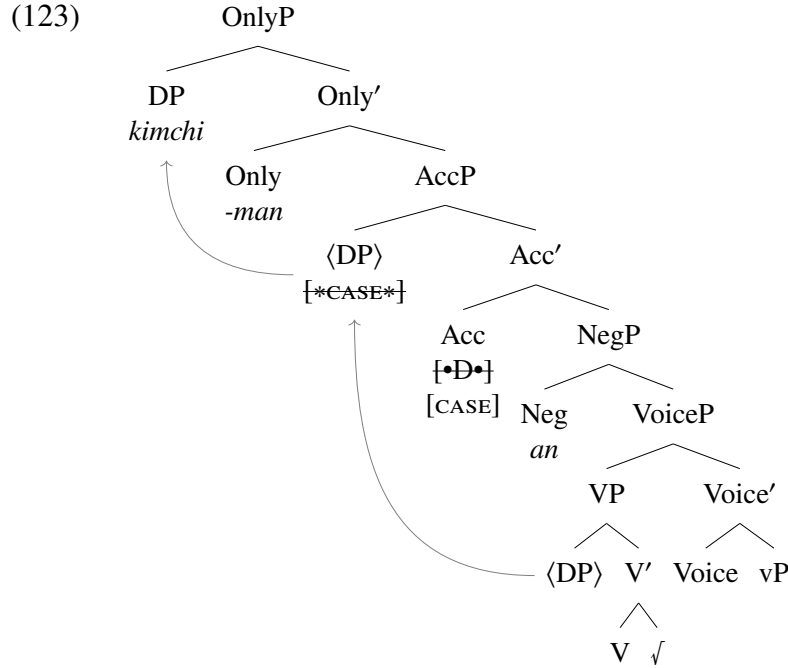
takes the lowest scope except when the universal quantifier phrase is in object position. In (121), where the universal quantifier phrase is the subject and the *man*-marked phrase is the object, the universal quantifier phrase takes scope over *-man* and negation takes the narrowest scope.

- (121) **motun** sonnim-i kimchi-**man** an mek-ess-ta.
 every customer-NOM kimchi-only NEG eat-PST-DEC
- a. 'For every x , x a customer, kimchi is the only thing x didn't eat.' ($\forall > \text{only} > \neg$)
 b. * 'Kimchi is the only thing that every customer didn't eat.' (* $\text{only} > \forall > \neg$)

That the wide scope 'only' reading is not acceptable can be tricky to see. It becomes a lot easier to understand this with the use of diagrams. Imagine a situation in which there are four customers at a table in a restaurant and they were served three dishes, namely kimchi, rice, and meat. The diagrams in (122a) and (122b) represent the outcome of the situation, where the customers are depicted as ducks and the right arrow means 'did not eat'. Then, it is felicitous to say (121) to describe (122a), but not (122b).



I assume that Only° is merged above Acc° and the DP object successively moves from SpecAcc to SpecOnly (Koopman 2005):



A partial derivation of the string *kimchi-man an* in (121)

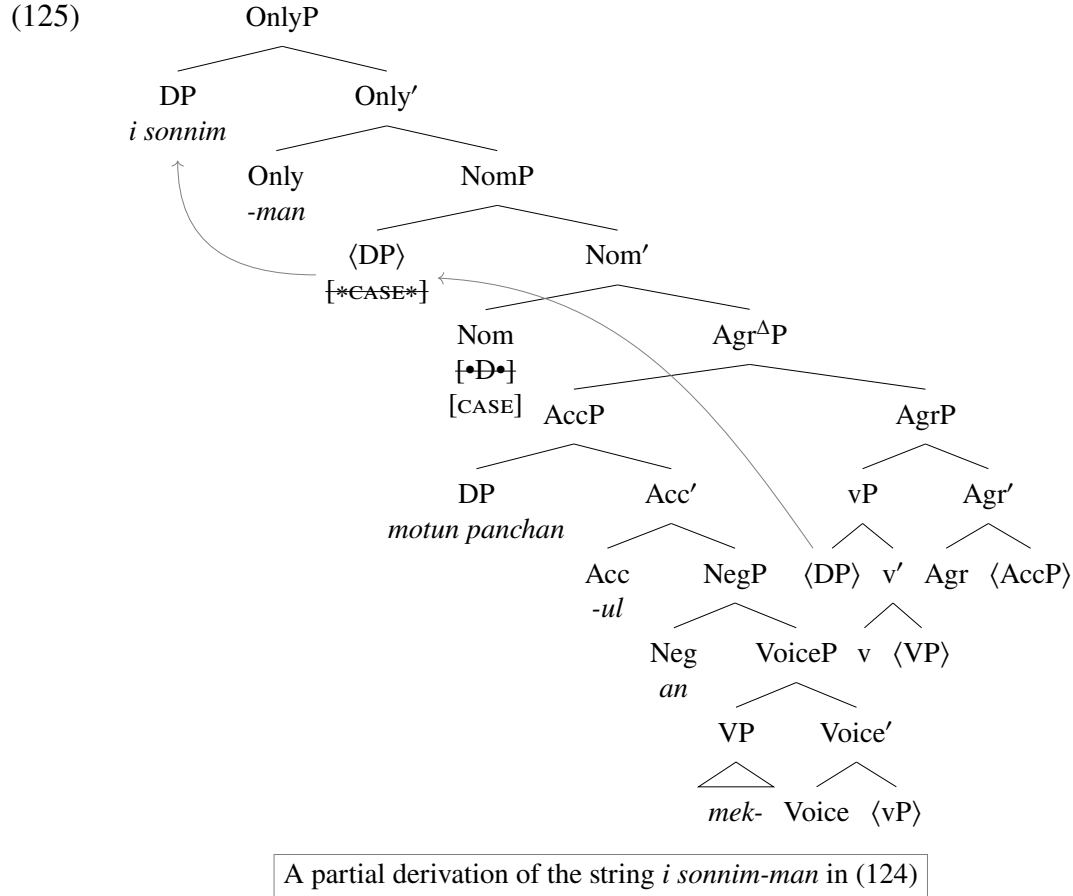
As shown in (123), the DP object *kimchi* takes scope from SpecOnly and scopes over negation because Only° asymmetrically c-commands Neg° . The universal quantifier phrase *motun sonnim* is merged in SpecNom which is positioned higher than AccP, and therefore scopes over the *man*-marked object. On the other hand, the wide scope ‘only’ reading of (121) is not possible because no derivation involving Only° merged above Nom° can produce the surface order of (121).

The surface order between the universal quantifier phrase and the *man*-phrase is reversed in (124), where *-man* appears on the subject and the universal quantifier phrase is the object.

- (124) i sonnim-**man** motun panchan-ul an mek-ess-ta.
 this customer-only every side_dish-ACC NEG eat-PST-DEC
- a. ‘This customer is the only person who didn’t eat any side dishes.’ (only > \forall > \neg)
 b. (?) ‘This customer is the only person who ate not every side dish.’ (only > \neg > \forall)
 c. * ‘For every x , x a side dish, this customer is the only person who didn’t eat x .’
 (* \forall > only > \neg)

The *man*-marked object takes the widest scope as expected, given the surface order. As for the scope of negation with respect to the universal quantifier phrase in object position, the narrow scope negation is readily accessible while the wide scope negation reading is accessible given the appropriate context, as discussed above with (114).

I propose that the derivation of the *man*-marked DP subject is similar to that of the *man*-marked DP object as was shown in (123), in that it involves the successive DP movement from the case position to SpecOnly. The position above NomP is another attachment site for OnlyP and the subject moves from SpecNom to SpecOnly:



The DP subject takes scope over the universal quantifier phrase in SpecAcc and negation because Only° asymmetrically c-commands Acc° and Neg°. The scope of negation relative to the quantified object will be determined based on the attachment site of Acc°, as discussed in §3.2.2.

In summary, the surface order between the *man*-marked argument and the universal quantifier phrase headed by *motun* determines the scope relation between the two, as far as unscrambled orders are concerned. I argued that this follows from the different attachment sites of Only°: above Nom° or Acc°.

CHAPTER 4

Postverbal Negation

4.1 Introduction

In §3, we have examined the properties of preverbal negation and analyzed the negator *an* as Neg^o that may be merged above the topmost VP-related projection (e.g., above VoiceP and below v^Δ).

This chapter turns to and presents an analysis of the other major type of negation in Korean: *Postverbal negation*, also known as *long (form) negation*.³⁰

The main idea is that postverbal negation involves a raising restructuring verb that selects for a reduced clause headed by *-ci*, whose predicate's arguments can be assigned case in a position outside of their originating clause and higher than negation. To put it simply, postverbal negation involves restructuring and therefore a more complex structure than preverbal negation.

As we did with analyzing preverbal negation, we will pay particular attention to the scope of postverbal negation with respect to other scope-bearing elements. It will emerge that in many cases, a sentence with postverbal negation allows for a wider range of scopal readings compared to that with preverbal negation. For example, postverbal negation can take wide scope over the element that preverbal negation cannot. I will argue that this follows from the analysis, where postverbal negation involves restructuring.

Establishing the explanatorily adequate analysis of postverbal negation is an important step towards understanding negative indefinites. In §5, we will see that the split scope of negative indefinites can be observed in examples with postverbal negation.

³⁰The term *long form negation* (or *long negation*), as the name suggests, is used in relation to *short (form) negation* which is another name for preverbal negation. For the sake of consistency, I will exclusively use the term “postverbal negation” throughout.

4.2 Morphosyntactic properties of postverbal negation

In this section, I will analyze *anh-* as being composed of two morphemes the negation marker *an* (= Neg°) and the raising restructuring verb *h-* (= *v*°) which takes the TP-less reduced clause headed by *-ci*.

4.2.1 Negation marker *an(i)* and verb *h(a)-*

Phonologically speaking, postverbal negation in modern Korean is composed of two parts: *-ci* and *anh-*. A basic example with postverbal negation in (126) illustrates this.

- (126) Pola-ka Hwun-ul ttayli-**ci anh-**ass-ta.
Bora-NOM Hoon-ACC hit-C NEG.do-PST-DEC
'Bora did not hit Hoon.'

It is intuitive to native speakers and widely accepted to view *anh-* as a contraction of *ani* and *ha-*. The use of the non-contracted form, as shown in (127), is archaic but acceptable in a limited number of registers such as law and religious texts.

- (127) cwusikhoysa-ka cwukwen-ul palhaynggha-**ci ani-ha-**yess-ta.
joint-stock_company-NOM share-ACC issue-C NEG-do-PST-DEC
'The joint-stock company did not issue shares.'

Therefore, morphologically speaking, there are three morphemes that contribute to the structure of postverbal negation: *-ci*, *an(i)*, and *h(a)-*.

The morpheme *an* in the contracted form *anh-* and the morpheme *ani* in the non-contracted form *ani-ha-* should be understood as being morphologically identical to the negator in preverbal negation. This is supported by the fact that the preverbal negation marker *an* is also generally understood to be a contraction of *ani*, whose use in preverbal negation, as well as in postverbal negation, is archaic in modern Korean.

The distribution of the modal negator *mos*, which can be translated as 'cannot', also supports the claim that the morpheme identical to the preverbal negator *an* precedes *h(a)-* in postverbal negation. The modal negator *mos* appears as the preverbal negator in (128) and as the postverbal

negator in (129).³¹

(128) *Preverbal mos*

Pola-ka cemsim-ul **mos** mek-ess-ta.
Bora-NOM lunch-ACC cannot eat-PST-DEC

‘Bora could not eat lunch.’

(129) *Postverbal mos*

Pola-ka cemsim-ul mek-ci **mos**-ha-yss-ta.
Bora-NOM lunch-ACC eat-C cannot-do-PST-DEC

‘Bora could not eat lunch.’

The morpheme *ha-* typically functions as a light verb like Japanese *suru* and English *do* and commonly used to form verbs by suffixation to the roots of Chinese or foreign origins, e.g., *kongpwu.ha-* ‘to study’, *palley.ha-* ‘to do ballet’, *insutha(kulaym).ha-* ‘to instagram’. However, when the light verb *ha-* appears with the preverbal negator *an*, as in (130a–131a), the contracted form *anh-* is not available, as shown in (130b–131b), as discussed in Cho (1993: 43–44).

- (130) a. Pola-ka kongpwu-lul (**an**) **ha**-yss-ta.
Bora-NOM study-ACC NEG do-PST-DEC
‘Bora did not study.’
(without *an*;) ‘Bora studied.’

- b. *Pola-ka kongpwu-lul **an.h**-ass-ta.
Bora-NOM study-ACC NEG.do-PST-DEC

- (131) a. Pola-ka kongpwu-lul **an** **ha**-n-ta.
Bora-NOM study-ACC NEG do-NPST-DEC
‘Bora does not study.’

- b. *Pola-ka kongpwu-lul **an.h**-nun-ta.
Bora-NOM study-ACC NEG.do-NPST-DEC

Likewise, *anh-* in postverbal negation cannot be substituted for by *an ha-* (which would be the case of preverbal negation preceding the light verb *ha-*), as shown in (132b–133b), although this would be expected to be possible if *h(a)-* in postverbal negation is equivalent to the regular light verb *ha-*.

- (132) a. Pola-ka kongpwu-lul ha-ci **an.h**-ass-ta.
Bora-NOM study-ACC do-C NEG.do-PST-DEC
‘Bora did not study.’

³¹For discussion on *mos*, see Song (1967: 72–83).

- (133) b. *Pola-ka kongpwu-lul ha-ci **an** **ha-yss**-ta.
 Bora-NOM study-ACC do-C NEG do-PST-DEC
- a. Pola-ka kongpwu-lul ha-ci **an.h-nun**-ta.
 Bora-NOM study-ACC do-C NEG.do-NPST-DEC
 ‘Bora does not study.’
- b. *Pola-ka kongpwu-lul ha-ci **an** **ha-n**-ta.
 Bora-NOM study-ACC do-C NEG do-NPST-DEC

This suggests the light verb *ha-* that is found in other places is, to be precise, not equivalent to *h(a)-* which appears in postverbal negation, at least in terms of morphophonological properties. Semantically speaking, it is a “dummy” verb in the sense that it is semantically vacuous and has no thematic roles to assign. However, I will argue in §4.2.3 that it is syntactically active such that it is a raising restructuring verb.

Once we establish that *h-* in *anh-* is a contracted form of the verb *ha-*, it follows that *anh-* behaves like a verb. Just like with any other verbs, *anh-* precedes a tense marker:

- (134) a. Pola-ka khephi-lul masi-ci anh-**ass**-ta.
 Bora-NOM coffee-ACC drink-C NEG.do-PST-DEC
 ‘Bora did not drink coffee.’
- b. Pola-ka khephi-lul masi-ci anh-**nun**-ta.
 Bora-NOM coffee-ACC drink-C NEG.do-NPST-DEC
 ‘Bora does not drink coffee.’

The honorific agreement marker appears between the verb and the tense marker in (135a), and *anh-* occurs in the position of the verb, as in (135b).

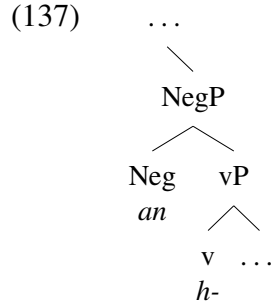
- (135) a. halmeni-kkeyse khephi-lul masi-sy-ess-ta.
 grandmother-NOM:HON coffee-ACC drink-HON-PST-DEC
 ‘The grandmother drank coffee.’
- b. halmeni-kkeyse khephi-lul masi-ci anh-**usy**-ess-ta.
 grandmother-NOM:HON coffee-ACC drink-C NEG.do-HON-PST-DEC
 ‘The grandmother did not drink coffee.’

The phrase containing postverbal negation without tense marking as in (136a) can be coordinated just like the phrase containing the bare verb, as in (136b).

- (136) a. [Pola-ka khephi-lul masi-ci anh-ko hongcha-lul masy]-ess-ta.
 Bora-NOM coffee-ACC drink-C NEG.do-CONJ black_tea-ACC drink-PST-DEC

- ‘Bora did not drink coffee and drank black tea.’
- b. [Pola-ka khephi-lul masi-**ko** hongcha-lul masy]-ess-ta.
 Bora-NOM coffee-ACC drink-CONJ black_tea-ACC drink-PST-DEC
 ‘Bora drank coffee and drank black tea.’

Given the observations above, I propose that the following structure underlies *anh-* in postverbal negation:



I assume that *an* in postverbal negation is Neg^o, which is categorically and phonologically identical to the preverbal negator *an*. However, Neg^o in postverbal negation must take as its complement a functional projection headed by *h-* (i.e., vP). That the postverbal *an* is merged above vP headed by *h-* follows from our general assumption that the attachment site of NegP is above the VP layer.

This bimorphemic analysis of *anh-* makes a prediction that *anh-* cannot be preceded by *an*, because there cannot be an extra layer of NegP atop of NegP, as can be observed in examples with preverbal negation:

- (138) * Pola-ka cemsim-ul **an an** mek-ess-ta.
 Bora-NOM lunch-ACC NEG NEG eat-PST-DEC
 (Intended:) ‘Bora could not *not* eat lunch.’

The following examples with postverbal negation confirm the prediction:

- (139) a. * Pola-ka cemsim-ul mek-ci **an anh-**ass-ta.
 Bora-NOM lunch-ACC eat-C NEG NEG.do-PST-DEC
 (Intended:) ‘Bora did not *not* eat lunch.’
- b. * Pola-ka cemsim-ul mek-ci **an(i) mos-**ha-yss-ta.
 Bora-NOM lunch-ACC eat-C NEG cannot-do-PST-DEC
 (Intended:) ‘Bora could not *not* eat lunch.’

In contrast, sentences like (139) will be wrongly predicted to be grammatical under a monomorphemic analysis where *anh-* is assumed to be a lexicalized negative verb that projects some type of VP (e.g., Sells 2015). This is because the preverbal *an* should be able to be merged above the VP layer. Since *anh-* would be the head of some VP, there should be no reason why *an* cannot be merged above *anh-*. To prevent this, one must resort to stipulating a rule, for example, that specifically filters out the structure where Neg^o is merged above VP headed by *anh-*. The proposed bimorphemic analysis does not require such stipulation. A monomorphemic analysis where *anh-* is the head of NegP, as opposed to some type of VP, would rule out (139) as ungrammatical. However, such analysis would have to explain why *anh-* behaves like a verb as we have seen above.

In summary, the morphological makeup of postverbal negation includes *-ci*, *an*, and *h-*. I argued that *an* in postverbal negation is identical to the preverbal negator *an*, such that it is the head of NegP and is merged above the VP layer, and the verb *h(a)-* serves to provide the VP layer for Neg^o to be merged.

4.2.2 Complementizer *-ci*

Let us turn to the morpheme *-ci*. The basic idea of the analysis to be proposed is that *-ci* heads a restructured reduced clause.

The clause headed by *-ci* is not a full-fledged CP but a reduced clause without the TP layer, because the tense of the *ci*-clause is dependent on the tense marking on *anh-* (i.e., on the tense of the “matrix” clause).³² This can be observed in (140), where the tense marker suffixed to the main verb of the *ci*-clause renders the sentences unacceptable.

- (140) a. *Pola-ka khephi-lul masy-**ess**-ci anh{-ass/-nun}-ta.
 Bora-NOM coffee-ACC drink-PST-C NEG.do{-PST/-NPST}-DEC
 (Intended:) ‘It was/is not the case that Bora drank coffee.’
 b. *Pola-ka khephi-lul masi-**n**-ci anh{-nun/-ass}-ta.
 Bora-NOM coffee-ACC drink-NPST-C NEG.do{-NPST/-PST}-DEC
 (Intended:) ‘It is/was not the case that Bora drinks coffee.’

³²A similar line of argumentation is adopted by den Dikken (1996), where the possibility of tense marking (or temporal adverbial modification) in the complement clause independent of the matrix clause is taken to be evidence of the presence of TP in the embedded clause. See also, e.g., Wurmbrand (1998, 2001).

With the use of time adverbs, it can be further shown that the tense of the *ci*-clause is determined by the tense marking on *anh-*. The time adverb that mismatches with the tense marking on *anh-* as in (141a) cannot occur within the *ci*-clause, as opposed to the one that matches, as in (141b).

- (141) a. *Pola-ka **nayil** khephi-lul masy-ci anh-ass-ta.
 Bora-NOM tomorrow coffee-ACC drink-C NEG.do-PST-DEC
 (Intended:) ‘It was not the case that Bora will drink coffee tomorrow.’
 b. Pola-ka **ecey** khephi-lul masy-ci anh-ass-ta.
 Bora-NOM yesterday coffee-ACC drink-C NEG.do-NPST-DEC
 ‘Bora did not drink coffee yesterday.’

The *ci*-clause has properties similar to the reduced clause selected by a restructuring verb, as opposed to the full-fledged sentential complement.

In (142) where *-ko* is the head of a full finite CP selected by the matrix verb *sayngkakha-*, the adverb which modifies the matrix verb can appear between the complementizer and the matrix verb.

- (142) Hwun-un [casin-i pwucokha-ta-ko] **cacwu** sayngkakha-yss-ta.
 Hoon-TOP self-NOM imperfect-DEC-C often think-PST-DEC
 ‘Hoon often thinks that he is imperfect.’

It is also possible to strand the matrix subject between *-ko* and the matrix verb by scrambling the embedded CP headed by *-ko*:

- (143) [Pola-ka cha-lul hully-ess-ta-ko] **Hwun-i** malha-yss-ta.
 Bora-NOM tea-ACC spill-PST-DEC-C Hoon-NOM say-PST-DEC
 ‘Hoon said that Bora spilled the tea.’

On the other hand, no adverb can appear between *-ci* and *anh-* as shown in (144a), cf. (144b) where the adverb appears to the left of the main verb of the *ci*-clause.

- (144) a. *Pola-ka khephisyop-ul tani-ci **cacwu** anh-nun-ta.
 Bora-NOM coffee_shop-ACC go-C often NEG.do-NPST-DEC
 (Intended:) ‘It is often not the case that Bora goes to a coffee shop’
 b. Pola-ka khephisyop-ul **cacwu** tani-ci anh-nun-ta.
 Bora-NOM coffee_shop-ACC go-C often NEG.do-NPST-DEC
 ‘Bora does not often go to a coffee shop.’

This is similar to what we find with restructuring verbs. The restructuring verb *siph-* which selects for the clause headed by *-ko* cannot have an adverb modifying it in the position between *-ko* and itself, as shown in (145). Similarly, the restructuring verb *pw-* (with its original form *po-*) in (146) which selects for the *e*-clause does not allow the adverb to immediately precede it in the surface position.

- (145) * Pola-ka khephisyop-i ka-ko **cacwu** siph-ess-ta.
 Bora-NOM coffee_shop-NOM go-C often want-PST-DEC
 (Intended:) ‘Bora often wanted to go to a coffee shop.’
- (146) * Pola-ka khulwuasang-ul mek-e **cacwu** pw-ass-ta.
 Bora-NOM croissant-ACC eat-C often try-PST-DEC
 (Intended:) ‘Bora often tried to eat croissant.’

One may attempt to attribute the inability of adverbs to appear between *-ci* and *anh-* in (144a) to *h(a)-*’s having no thematic roles to assign. However, *siph-* in (145) and *pw-* in (146) assign an external thematic role, and yet adverbs are not allowed to appear between the complementizer and the restructuring verb.

Under our framework, adverbs cannot immediately precede the restructuring verb such as *siph-* or *po-*, because the reduced clause selected by the restructuring verb must move into the specifier of VP headed by the restructuring verb as soon as the verb is merged. In §3.1.2, this is exactly how we ruled out the sentences in (94b–95b), which show that the preverbal negator *an* immediately preceding the restructuring verb *po-* is unacceptable.

Therefore, it is a structural property of postverbal negation and restructured contexts unrelated to thematic role assignment that prevents the appearance of adverbs in the position which immediately precedes the “matrix” verb.

The shared structural property between postverbal negation and restructured contexts can be further shown by the impossibility of stranding the external argument between the head of the reduced clause and the verb that selects it by scrambling the reduced clause, in contrast to the full CP as seen in (143). The external argument cannot be stranded between *-ci* and *anh-* in postverbal negation:

- (147) * *khephisyop-ul tani-ci Pola-ka anh-nun-ta.*
 coffee_shop-ACC go-C Bora-NOM NEG.do-NPST-DEC

Neither can the external argument be stranded between the complementizer and the restructuring verb:

- (148) * *khephisyop-i ka-ko Pola-ka siph-ess-ta.*
 coffee_shop-NOM go-C Bora-NOM want-PST-DEC
- (149) * *khulwuasang-ul mek-e Pola-ka pw-ass-ta.*
 croissant-ACC eat-C Bora-NOM try-PST-DEC

In summary, the reduced clause head by *-ci* in postverbal negation behaves like the reduced clause selected by a restructuring verb, such that an adverb or an argument cannot appear between the head of the reduced clause and the verb that selects it.

4.2.3 Honorification and postverbal negation

A property that is not shared between restructured contexts and postverbal negation is the possibility of the honorific agreement marking on the “embedded” verb, which is only possible with postverbal negation.

In restructured contexts, the external argument introduced by a restructuring verb cannot trigger the appearance of the honorific marker on the main verb of the reduced clause. For example, the nominative honorific subject *kyoswu-nim-i* cannot engender the honorific agreement marker that follows the main verb of the *ko*-clause in (150a), because the DP *kyoswu-nim* is assigned the external thematic role by *siph-*, cf. (150b).

- (150) a. * *kyoswu-nim-i chinkwu-ka po-si-ko siph-ess-ta.*
 professor-HON-NOM friend-NOM meet-HON-C want-PST-DEC
- b. *kyoswu-nim-i chinkwu-ka po-ko siph-usy-ess-ta.*
 professor-HON-NOM friend-NOM meet-C want-HON-PST-DEC
 ‘The professor wanted to meet a friend.’

Similar remarks apply to the sentences in (151) with the restructuring verb *pw-* which selects for the reduced clause headed by *-e* and assigns the external thematic role to *kyoswu-nim*.

- (151) a. * *kyoswu-nim-i saymphul-ul manci-sy-e pw-ass-ta.*
 professor-HON-NOM sample-NOM touch-HON-C try-PST-DEC

- b. kyoswu-nim-i saymphul-ul mancy-e po-**sy**-ess-ta.
 professor-HON-NOM sample-NOM touch-C try-HON-PST-DEC
 ‘The professor wanted to touch a sample.’

In contrast, the nominative honorific subject *kyoswu-nim-i* can trigger the honorific agreement marking on the main verb of the *ci*-clause as in (152a), on *h-* of *anh-* as in (152b), or on both as in (152c).

- (152) a. kyoswu-nim-i saymphul-ul manci-**si**-ci anh-ass-ta.
 professor-HON-NOM sample-ACC touch-HON-C NEG.do-PST-DEC
 ‘The professor did not touch the sample.’
 b. kyoswu-nim-i saymphul-ul manci-ci anh-**usy**-ess-ta.
 professor-HON-NOM sample-ACC touch-C NEG.do-HON-PST-DEC
 ‘The professor did not touch the sample.’
 c. kyoswu-nim-i saymphul-ul manci-**si**-ci anh-**usy**-ess-ta.
 professor-HON-NOM sample-ACC touch-HON-C NEG.do-HON-PST-DEC
 ‘The professor did not touch the sample.’

Sentences (152a) and (152c) suggest that the external argument is introduced by the main verb *manci-* of the *ci*-clause, because the honorific agreement marking on *manci-* would not be possible if it were introduced higher in the structure by *h-*, given our observations about (150) and (151). In other words, the verb *h-* does not assign any thematic roles.

Sentence (152b) suggests that the external argument *kyoswu-nim* agreed with Agr^o by being in Spec⁺ of AgrP which is merged higher than NegP, and moved into SpecNom that is higher than AgrP. In relation to this, the sentence in (152c), where the honorific agreement marking is on both *manci-* and *h-*, involves the structure in which the external argument was in Spec⁺ of AgrP within the *ci*-clause first and then in Spec⁺ of AgrP higher than NegP later, forcing the external argument to receive case in SpecNom outside of the *ci*-clause. To put it simply, *h-* of *anh-* behaves like a raising restructuring verb, where the external argument of the “embedded” verb receives case in the “matrix” clause, at least for (152b) and (152c).

The verb *h-* of *anh-* in postverbal negation appears to be a raising restructuring verb, because the external argument in (152a) is not forced to be assigned case in SpecNom that is merged higher than NegP given that there is no agreement marking on *anh-*. In other words, sentence (152a) is

structurally ambiguous such that the DP *kyoswu-nim* can receive case either in SpecNom within the *ci*-clause or in SpecNom higher than NegP. This structural ambiguity becomes observable when the universal quantifier phrase is in subject position, as in (153).

- (153) motun kyoswu-nim-i saymphul-ul manci-**si**-ci anh-ass-ta.
 every professor-HON-NOM sample-ACC touch-HON-C NEG.do-PST-DEC
- i. ‘For every x , x a professor, x did not touch the sample.’ ($\forall > \neg$)
 [Context: There were five professors. None of them touched the sample.]
- ii. ‘Not every professor touched the sample.’ ($\neg > \forall$)
 [Context: There were five professors. Two of them touched the sample.]

The wide scope universal reading in (153) is caused by the quantified external argument receiving case in SpecNom that is higher than NegP, while the same argument receiving case in SpecNom lower than NegP (i.e., within the *ci*-phrase) triggers the wide scope negation reading.

Using the same method, we can confirm whether the external argument in (152b) and (152c) receives case in SpecNom that is higher than NegP, as we discussed above. The prediction is that a sentence with the universal quantifier phrase in subject position and the honorific agreement marking on *anh-* can only have the wide scope universal reading. This is confirmed by (154).

- (154) motun kyoswu-nim-i saymphul-ul manci(-si)-ci anh-**usy**-ess-ta.
 every professor-HON-NOM sample-ACC touch-HON-C NEG.do-HON-PST-DEC
- i. ‘For every x , x a professor, x did not touch the sample.’ ($\forall > \neg$)
 [Context: There were five professors. None of them touched the sample.]
- ii. * ‘Not every professor touched the sample.’ ($*\neg > \forall$)
 [Context: There were five professors. Two of them touched the sample.]

As far as I know, sentence (154) is a novel piece of data which shows the unavailability of the wide scope reading of negation with the universal quantifier phrase in subject position in the presence of the honorific agreement marking on *anh-* in postverbal negation. The existence of such examples strongly supports the approaches which view honorific agreement (or, at least, the core subset of it) as a genuine case of syntactic agreement (e.g., H.-S. Han 1987, H. Choe 1988, Ahn & Yoon 1989, Koopman 2005), because the overt agreement morphology determines the possible scopal reading. It has an analogy to the sentences where the presence of morphological case marking restricts the

possible scopal reading as discussed in Y. Lee (2005), which Koopman (2005) take as a strong piece of evidence suggesting that Korean case markers are syntactic heads projected in the clausal spine. A proponent of non-agreement approaches (e.g., Kim & Sells 2007) or post-syntactic approaches (e.g., Choi & Harley 2019) to the verbal honorific morphology in Korean will have no handle on examples like (154).

In summary, the difference between postverbal negation and restructured contexts with respect to the possibility of the honorific agreement marking on the verb within the “embedded” clause exists because the verb *h-* in postverbal negation lacks any thematic roles to assign. Importantly, *h-* is an optional raising restructuring verb such that the argument of the “embedded” verb may receive case in the case-related projection outside of the *ci*-clause and higher than NegP headed by *an*.

4.3 Syntax of postverbal negation

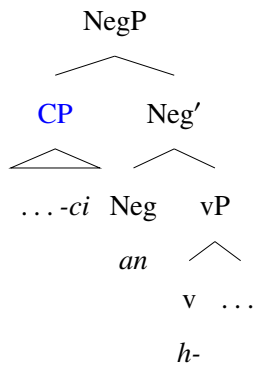
In §4.2, we established that the structure of postverbal negation involves restructuring, with the key points of discussion as follows:

- *an* is the head of NegP and *h-* is the head of vP. (§4.2.1)
- *-ci* is the head of a restructured reduced clause. (§4.2.2)
- *h-* is an optionally-raising restructuring verb that does not assign any thematic roles. (§4.2.3)

4.3.1 Overview of the analysis

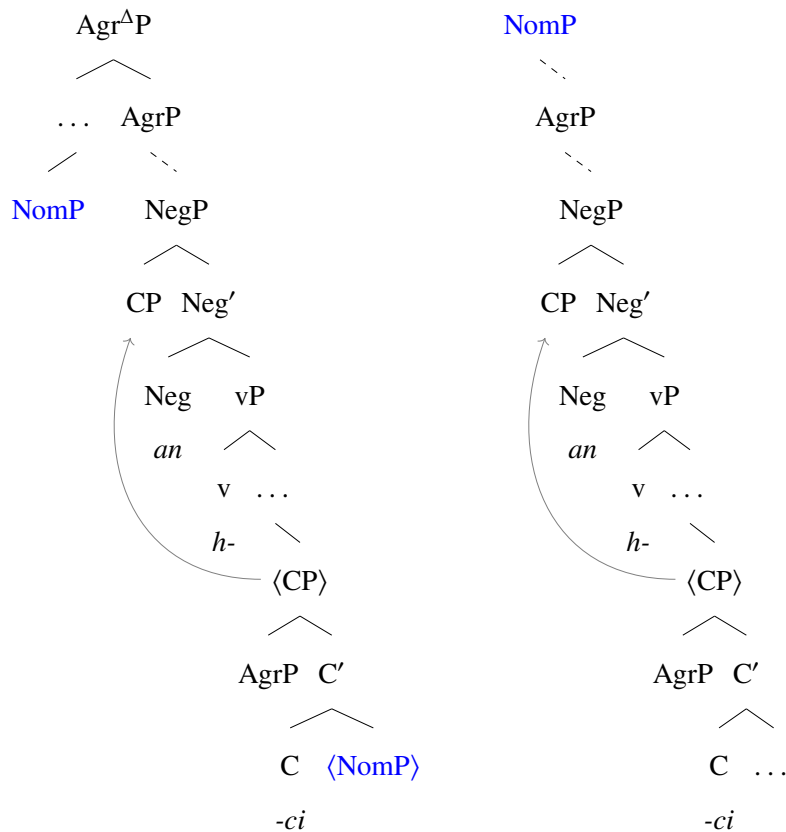
Building on what we established above, I will present in detail the analysis of postverbal negation in this section. The main proposal is as follows:

- The *ci*-clause moves into SpecNeg.



- The arguments of the predicate within the *ci*-clause receive case either inside the *ci*-clause (i.e., lower than Neg^o) or outside the *ci*-clause (i.e., higher than Neg^o).

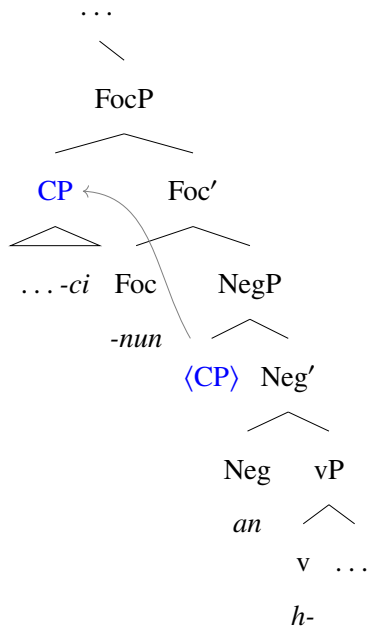
Case received outside the *ci*-clause



Case received inside the *ci*-clause

- Unless the honorific agreement marker *-si* (i.e., Agr^o) follows *anh-*; if so, the external argument must receive case outside the *ci*-clause. (§4.2.3)

- The focus-related morphemes which appear between *-ci* and *anh-* (i.e., *-man* and *-un*) are heads of functional projections merged above NegP, and trigger movement of the *ci*-clause into their Spec.



4.3.2 Raising restructuring verb *h-* and the scope of quantified phrases

I will assume that the verb *h-* is an optionally-raising restructuring verb. So, the complement of *h-* is a reduced clause that will be reanalyzed as part of a single clause whose main predicate is *h-*. As the restructuring verb *h-* optionally allows raising, the arguments introduced within *ci*-clause may receive case in a case-related projection (e.g., NomP and AccP) merged above *h-* (and therefore above NegP).

The optional raising of arguments predicts that quantified phrases such as the universal quantifier phrase headed by *motun* with postverbal negation will have ambiguous scope with respect to negation. This is confirmed as shown in (155), where the universal quantifier phrase is the external argument which receives nominative case.

- (155) a. **motun ai-ka** Hwun-ul cohaha-ci anh-ass-ta.
 every child-NOM Hoon-ACC like-C NEG-PST-DEC
 i. 'No child liked Hoon.'
 [Context: There were five children. None of them liked Hoon.]
- (∀ > ¬)

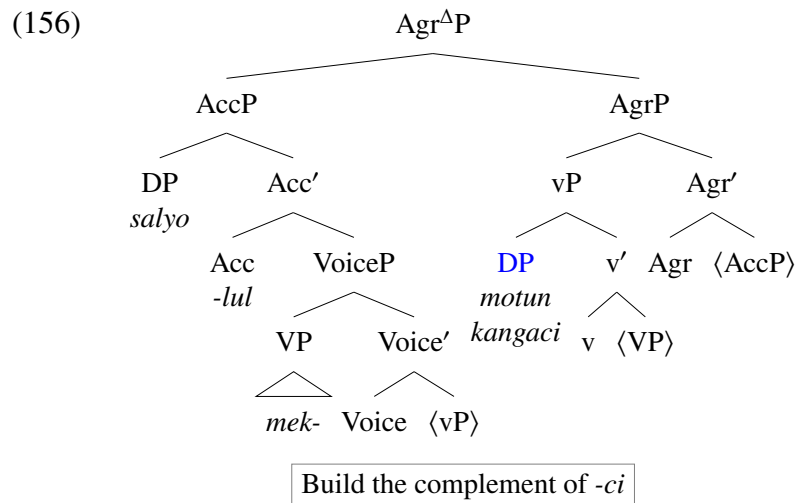
- ii. 'Not all the children liked Hoon.' ($\neg > \forall$)
 [Context: There were five children. Two of them liked Hoon.]
- b. **motun kangaci-ka** salyo-lul mek-ci anh-ass-ta.
 every puppy-NOM dog_food-ACC eat-C NEG-PST-DEC
- i. 'No puppy ate dog food.' ($\forall > \neg$)
 [Context: There were five puppies. None of them ate dog food.]
- ii. 'Not all the puppies ate dog food.' ($\neg > \forall$)
 [Context: There were five puppies. Two of them ate dog food.]

When the universal quantifier phrase in (155a–155b) receives case in SpecNom outside of the *ci*-clause, it takes scope over negation. On the other hand, the same universal quantifier phrase will take scope under negation if it receives case in SpecNom within the *ci*-clause.

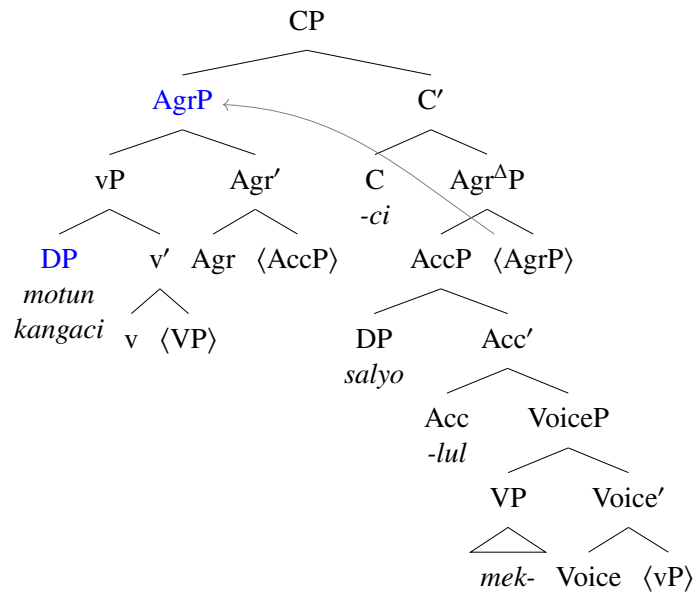
4.3.2.1 Quantified subject and the wide scope reading of the universal relative to negation

For example, the derivation of (155b) with the structure associated with the wide scope universal reading proceeds as follows.

First, the reduced clause headed by *-ci* is built, as shown in (156–158). Importantly, the external DP argument does not receive case at this point. The internal DP argument, on the other hand, receives case in SpecAcc within the *ci*-clause.

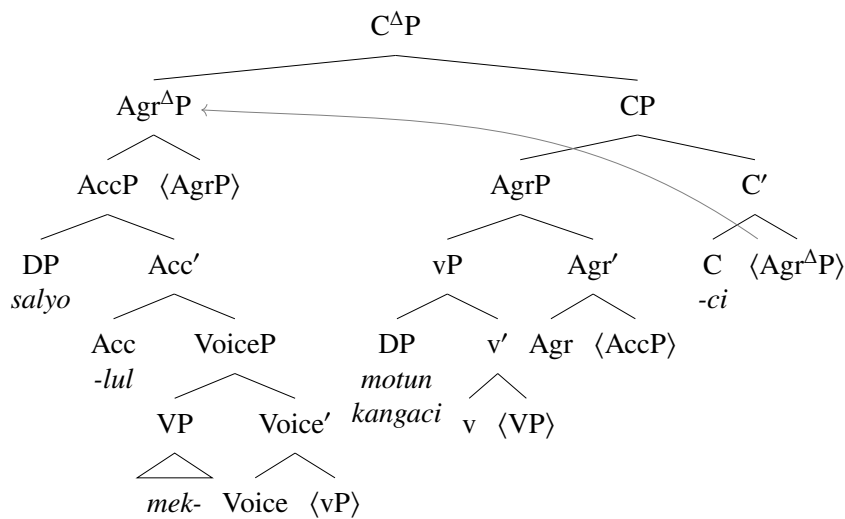


(157)



Move AgrP into SpecC; the external DP argument is in Spec⁺ of *-ci*

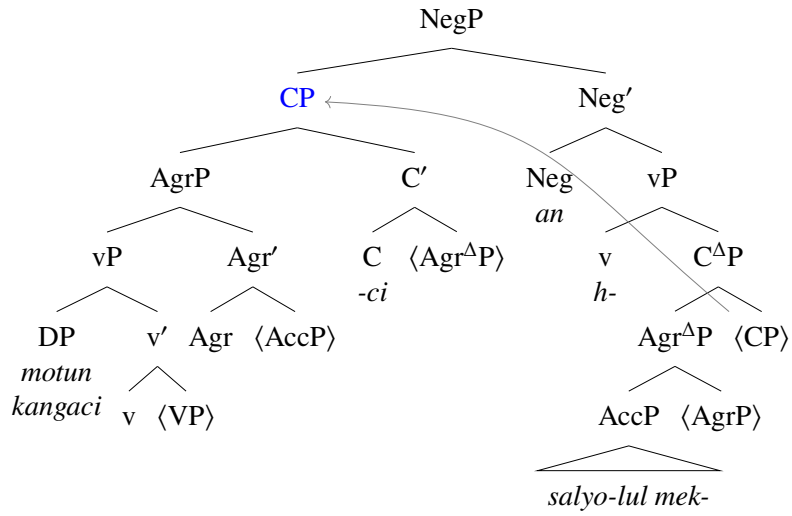
(158)



Move the complement of *-ci* into SpecC^Δ

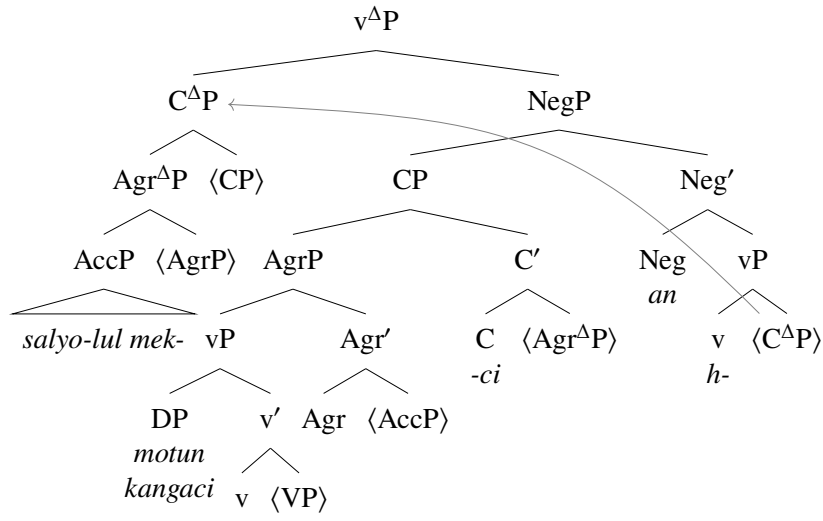
Second, *h-* and *an* are merged and the related operations ensue, as shown in (159–162). As soon as the Neg head *an* is merged, it triggers movement of the *ci*-clause (i.e., CP) into SpecNeg. Agr^o projected above Neg^o (in combination with the restructuring verb *h-*) specifically selects for NegP whose Spec⁺ contains the external argument, just like Agr^o project above the external-argument-introducing little *v* in a transitive sentence specifically selects for vP (whose Spec contains the external argument).

(159)



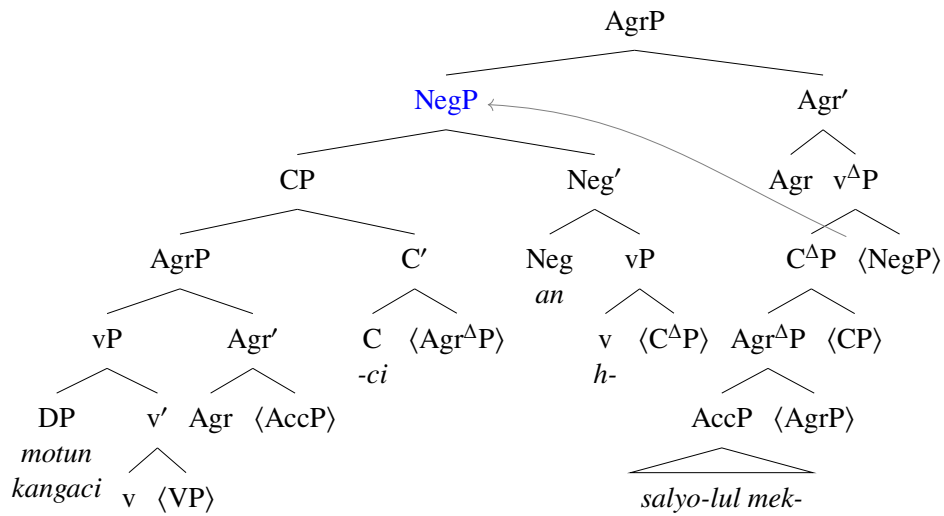
Merge *h-* and *an*, and move CP into SpecNeg

(160)



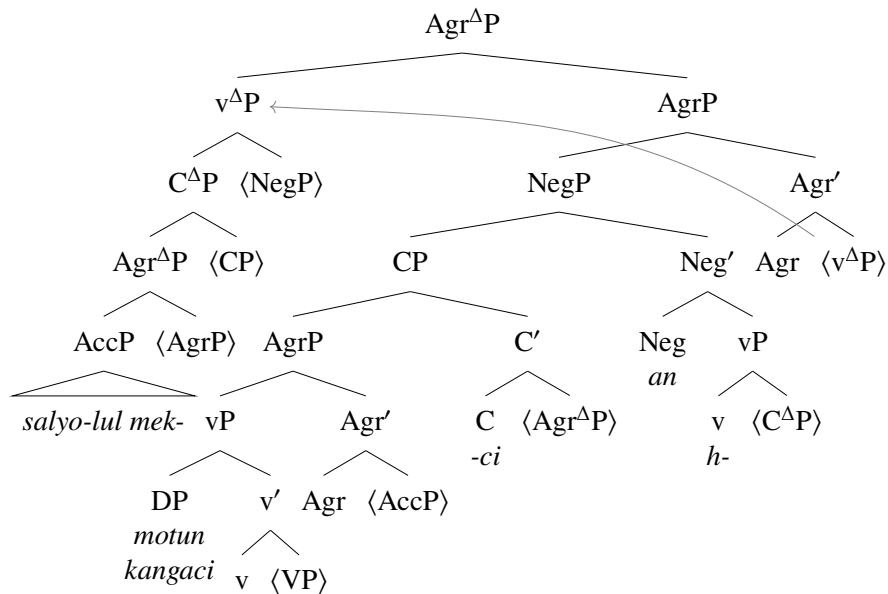
Move the complement of *h-* into Specv^Δ

(161)



Merge Agr° and move NegP into SpecAgr

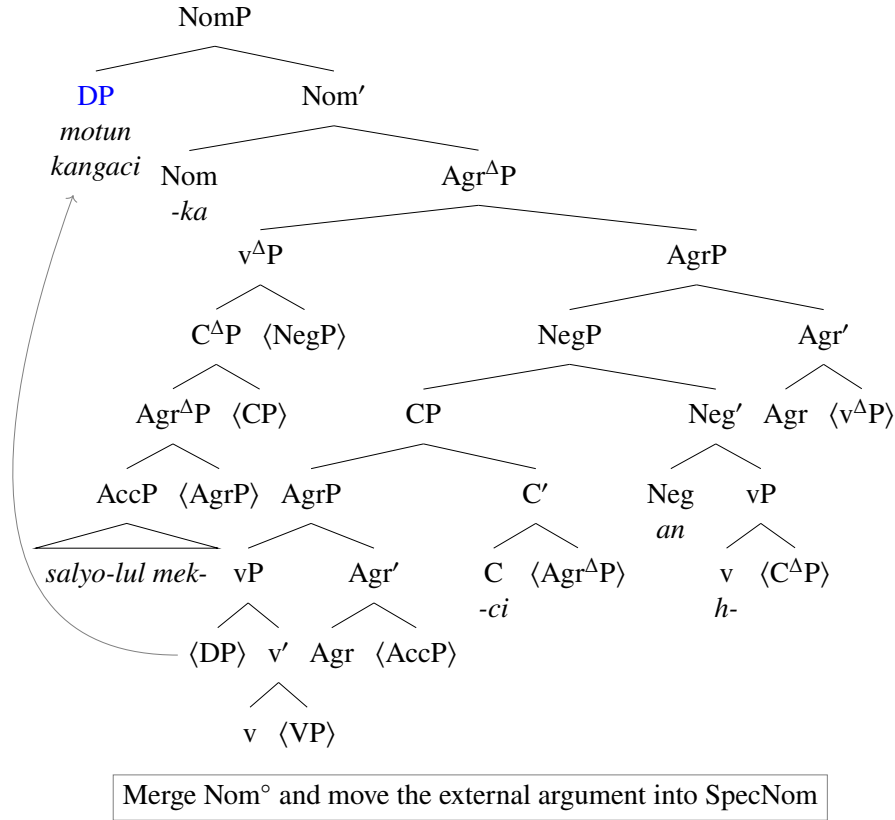
(162)



Move the complement of Agr into SpecAgr^Δ

Third, Nom° is merged and the external DP argument in Spec^+ of Agr is moved into SpecNom , as shown in (163).

(163)



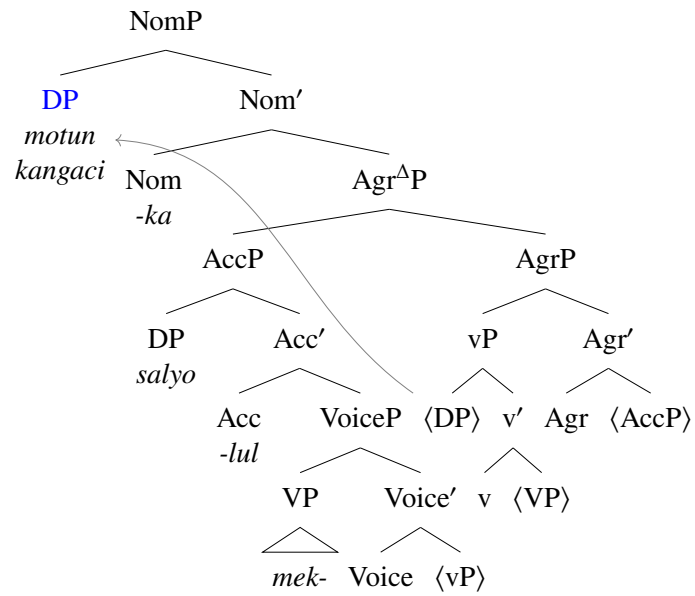
From its case position in (163), the universal quantifier phrase asymmetrically c-commands Neg^o and therefore takes scope over negation.

4.3.2.2 Quantified subject and the narrow scope reading of the universal relative to negation

In comparison, the derivation of the same sentence with the structure associated with the narrow scope universal reading has one main difference from the wide scope universal derivation. That is, there is no raising of the external argument such that Nom^o is merged above Agr^o inside the *ci*-clause, as opposed to outside. The relevant derivation proceeds as follows.

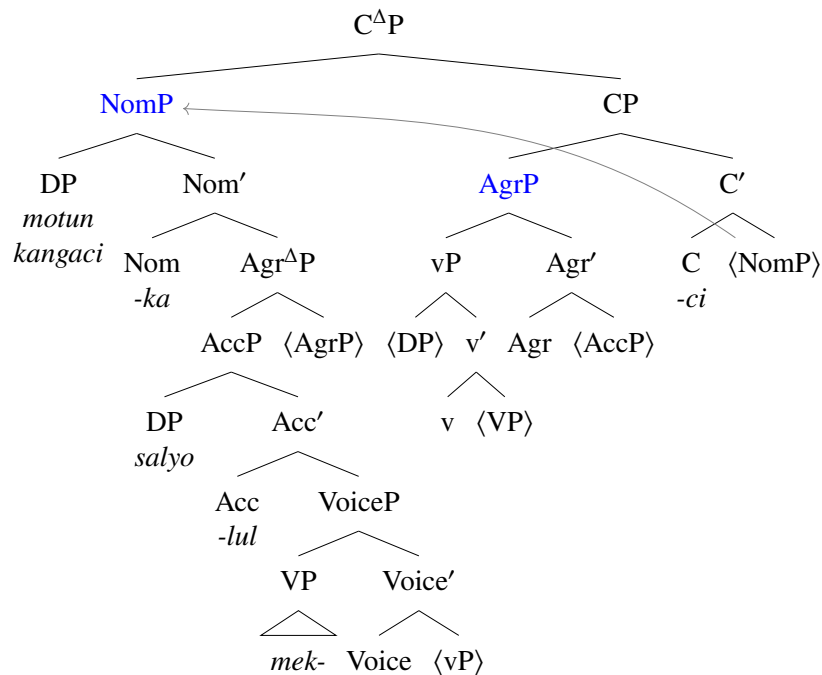
First, the *ci*-clause is built, as shown in (164–165). However, before *-ci* is merged, Nom^o is merged and the external argument moves into SpecNom, cf. (156).

(164)



Build the complement of *-ci*; the external DP argument receives case in SpecNom

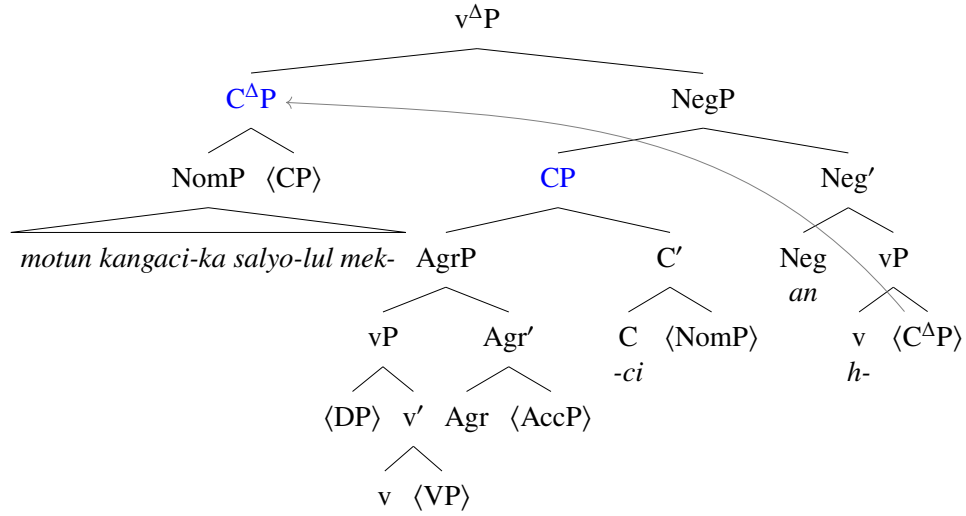
(165)



Merge *-ci*, move AgrP into SpecC, and move the complement of *-ci* into SpecC^Δ

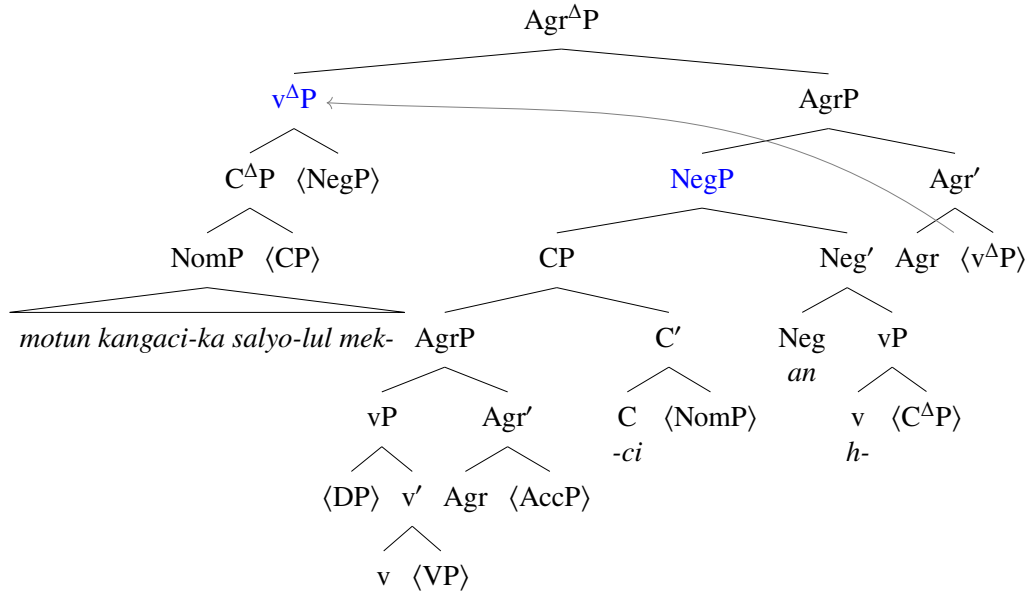
Second, the restructuring verb *h-* and the postverbal negator *an* are merged, followed by the merge of Agr[°], as shown in (166–167).

(166)



Merge *h-* and *an*, move CP into SpecNeg, and move the complement of *h-* into Specv^Δ

(167)



Merge Agr^o, move NegP into SpecAgr, and move the complement of Agr into SpecAgr^Δ

Although the surface order generated by this derivation is identical to what the wide scope universal derivation generates, the universal quantifier phrase in this derivation does not asymmetrically c-command Neg^o from its case position, cf. (163). Neg^o, however, asymmetrically c-commands Nom^o and therefore takes wide scope over the universal quantifier phrase in SpecNom.

4.3.2.3 Quantified object and the wide scope reading of the universal relative to negation

The scope of the universal quantifier phrase is also ambiguous when it is merged as the internal argument which receives accusative case, as shown in (168).

- (168) a. Pola-ka **motun cheyli-lul** mek-ci anh-ass-ta.
 Bora-NOM every cherry-ACC eat-C NEG-PST-DEC
 i. ‘Bora did not eat any cherries.’ (∀ > ¬)
 [Context: Bora ate zero out of five cherries.]
 ii. ‘It is not the case that Bora ate every cherry.’ (¬ > ∀)
 [Context: Bora ate three out of five cherries.]
- b. koyangi-ka **motun cangnankam-ul** kentuli-ci anh-ass-ta.
 cat-NOM every toy-ACC touch-C NEG-PST-DEC
 i. ‘The cat did not touch any toys.’ (∀ > ¬)
 [Context: There were five toys. The cat touched none of them.]
 ii. ‘The cat touched not all toys.’ (¬ > ∀)
 [Context: There were five toys. The cat touched two of them.]

The scope relation between negation and the object universal-quantifier phrase headed by *motun* in (168a–168b) should be determined no differently from the manner in which the scope of the subject universal-quantifier phrase in (155) is determined. If the universal quantifier phrase receives case in SpecAcc outside the *ci*-clause (i.e., raising), it would take scope over negation. On the other hand, it takes scope under negation when it receives case in SpecAcc inside the *ci*-clause (i.e., no raising).

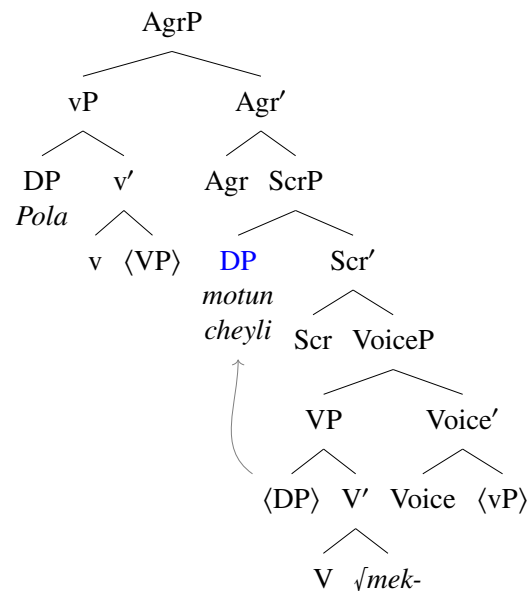
The structure associated with the narrow scope reading of the object universal-quantifier phrase, where Acc° is merged before *-ci* is merged, has been already presented twice above, in the wide scope universal derivation with the quantified subject in (156–163) and in the narrow scope universal derivation with the quantified subject (164–167). In such structure, the universal quantifier phrase does not asymmetrically c-command Neg° from its case position because Acc° is merged inside the *ci*-phrase such that it is merged lower than Neg° . Therefore, the universal quantifier phrase does not take scope over negation.

On the other hand, we have not discussed how to derive the structure connected with the wide scope reading of the object universal-quantifier phrase. The main idea is that the derivation involves the string vacuous scrambling of the internal argument.

For example, the derivation of (168a) with the structure associated with the wide scope universal reading is shown in the following.

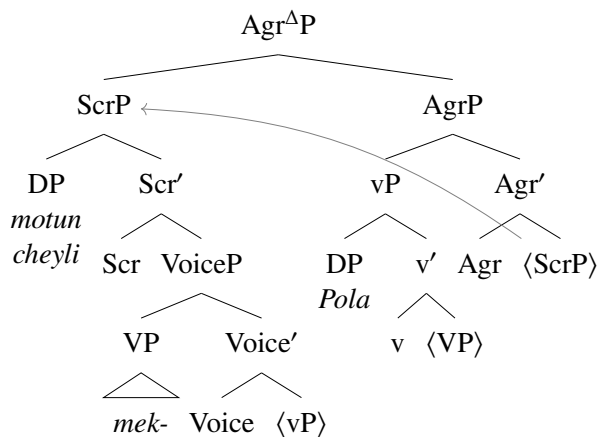
First, the *ci*-clause is built, as shown in (169–171). It is important to note that neither the internal argument nor the external argument receives case inside the *ci*-clause. The internal argument moves into SpecScr and the external argument stays in Specv.

(169)



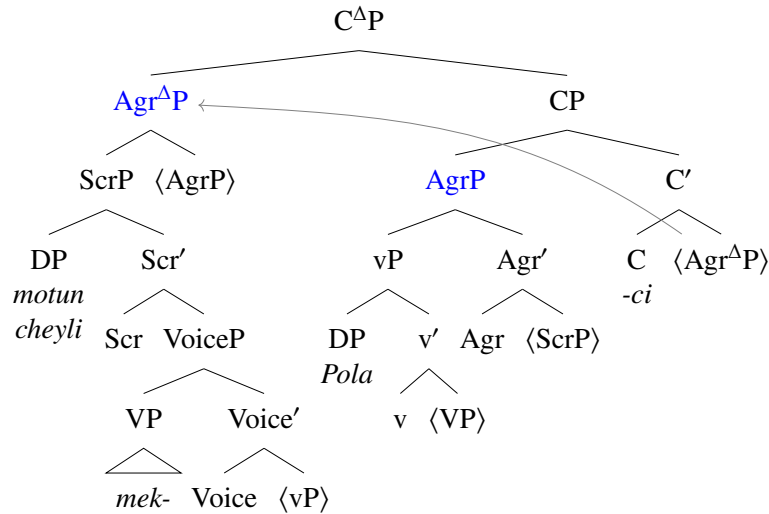
Move the internal argument into SpecScr, merge Agr^o , and move vP into SpecAgr

(170)



Move the complement of Agr into SpecAgr^Δ

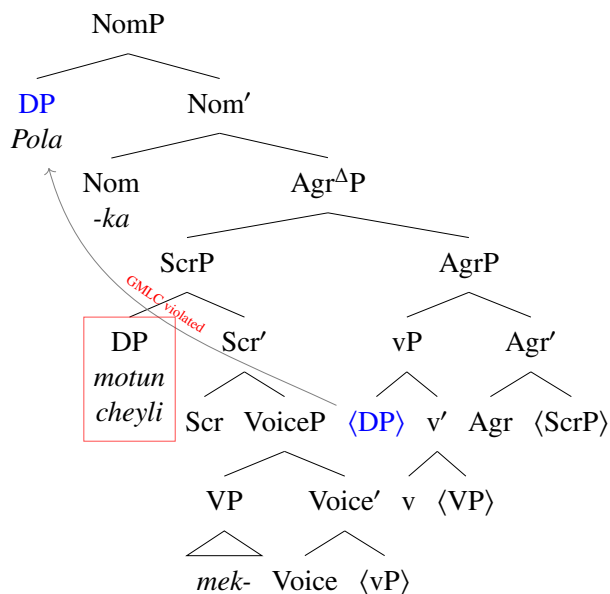
(171)



Merge *-ci*, move AgrP into SpecC, move the complement of *-ci* into SpecC^Δ

This analysis predicts that the external argument cannot receive case within the *ci*-clause when the internal argument is a quantified phrase taking wide scope over negation. This is because the movement of the internal argument into SpecScr, which is not a case position but a scrambling-related position, results in forbidding movement of the external argument across the internal argument if Nom^o were to merge above Agr^ΔP, as shown in (172). To put it simply, the internal argument's movement to a scrambling position, as opposed to a case position, basically “un-smuggles” the internal argument. Such movement would be in violation of GMLC.

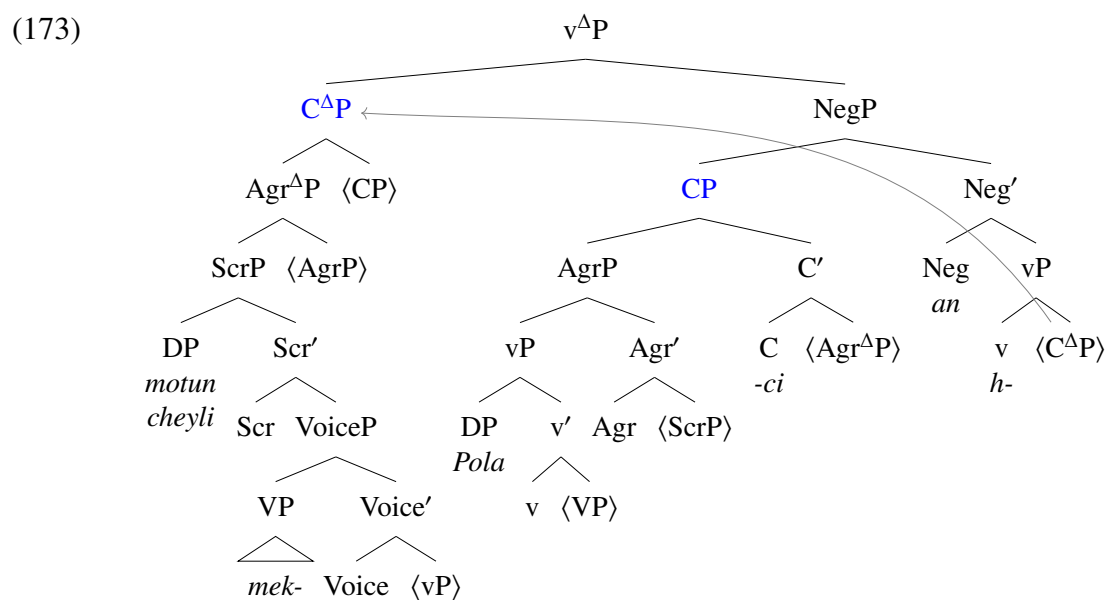
(172)



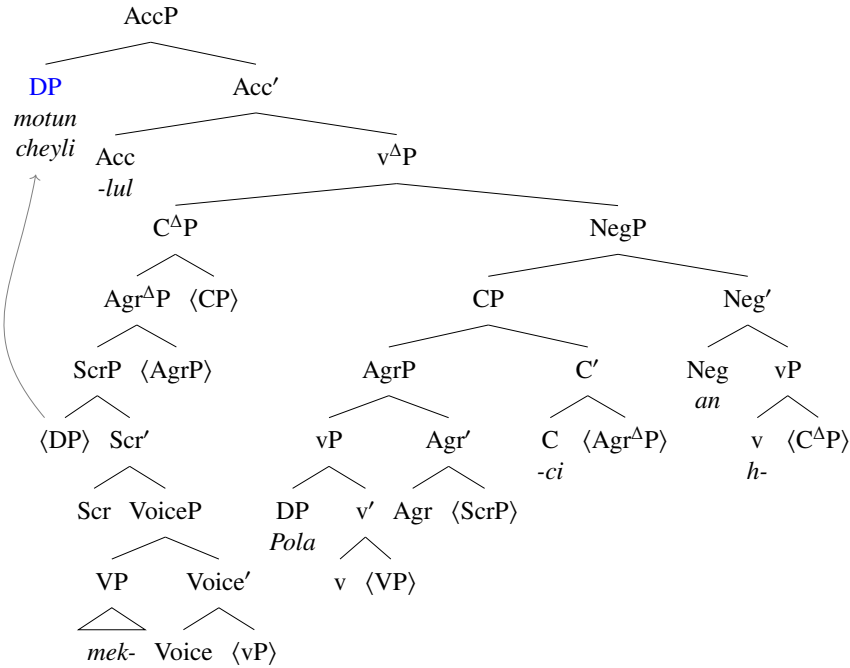
The internal argument is closer to Nom^o

Not only does the merge of Nom° inside the *ci*-clause incur the violation of GMLC, but it would also place the internal argument in a non- Spec^+ position once NomP moves into SpecC^Δ after *-ci* has merged, precluding further movement of the internal argument; for a similar structure, see (165) from the narrow scope universal derivation with the quantified subject, where AccP embedded. Therefore, the wide scope universal derivation of the quantified object requires both the internal and external argument to be assigned case outside the *ci*-clause.

Going back to the derivation, after the step in (171), *h-* and *an* are merged, followed by the merge of Acc° and the movement of the internal argument into SpecAcc , as shown in (173–174).



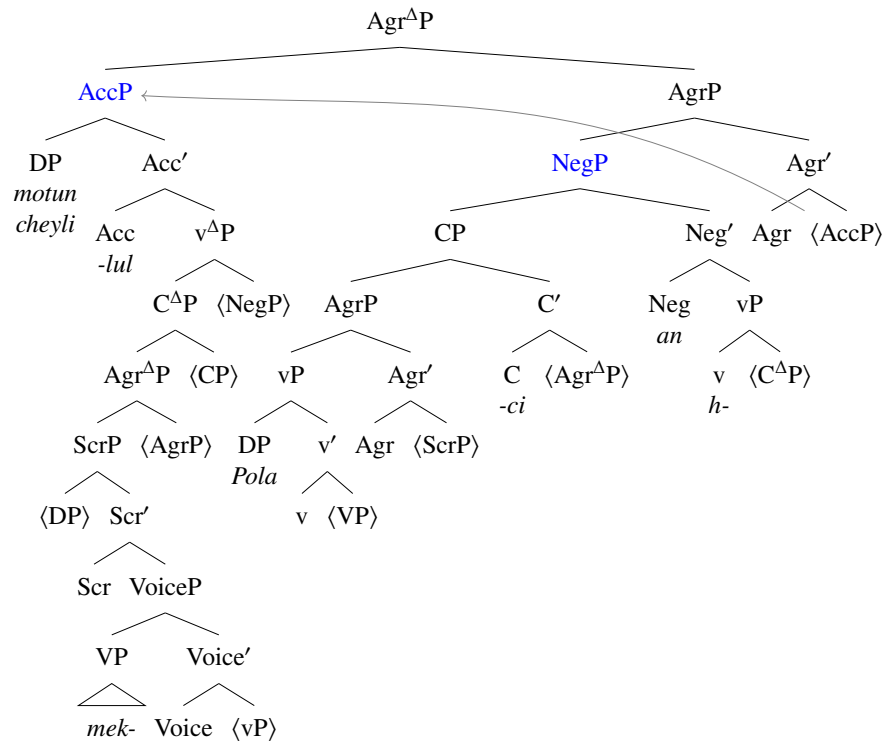
(174)



Merge Acc° and move the internal argument into SpecAcc

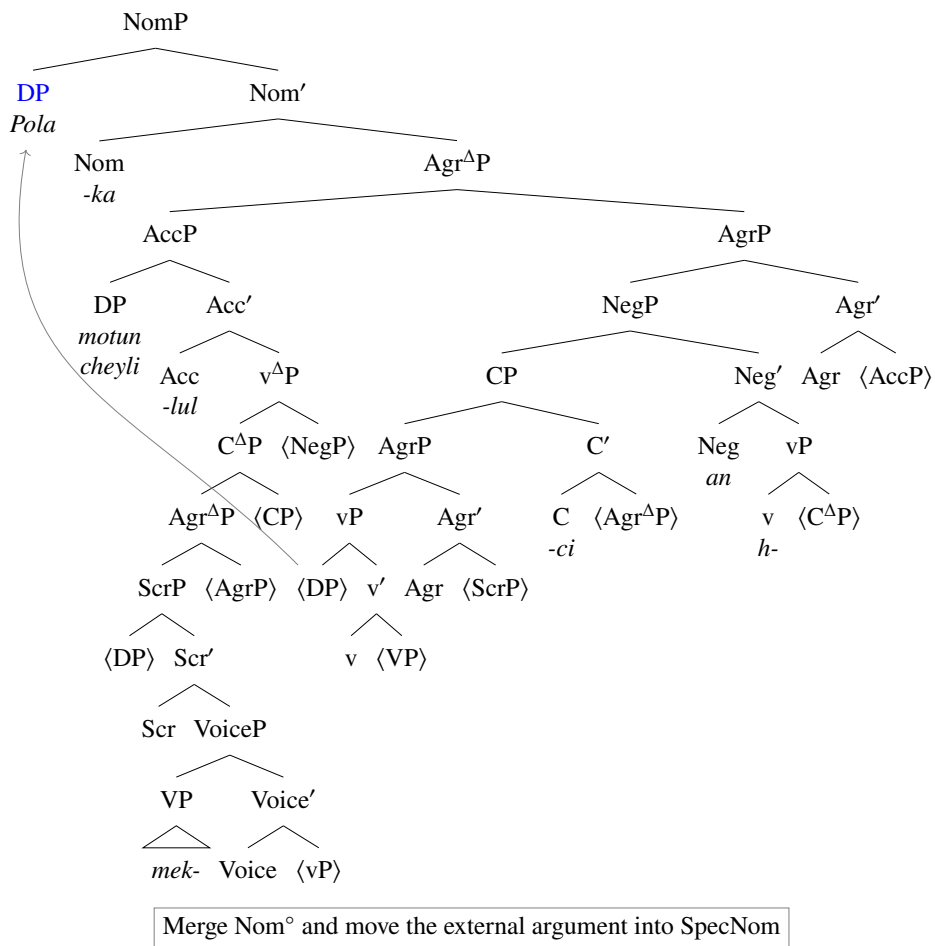
Lastly, Agr° and Nom° are merged, and the external argument is assigned case in SpecNom , as shown in (175–176).

(175)



Merge Agr° and move the complement of Agr into SpecAgr^Δ

(176)



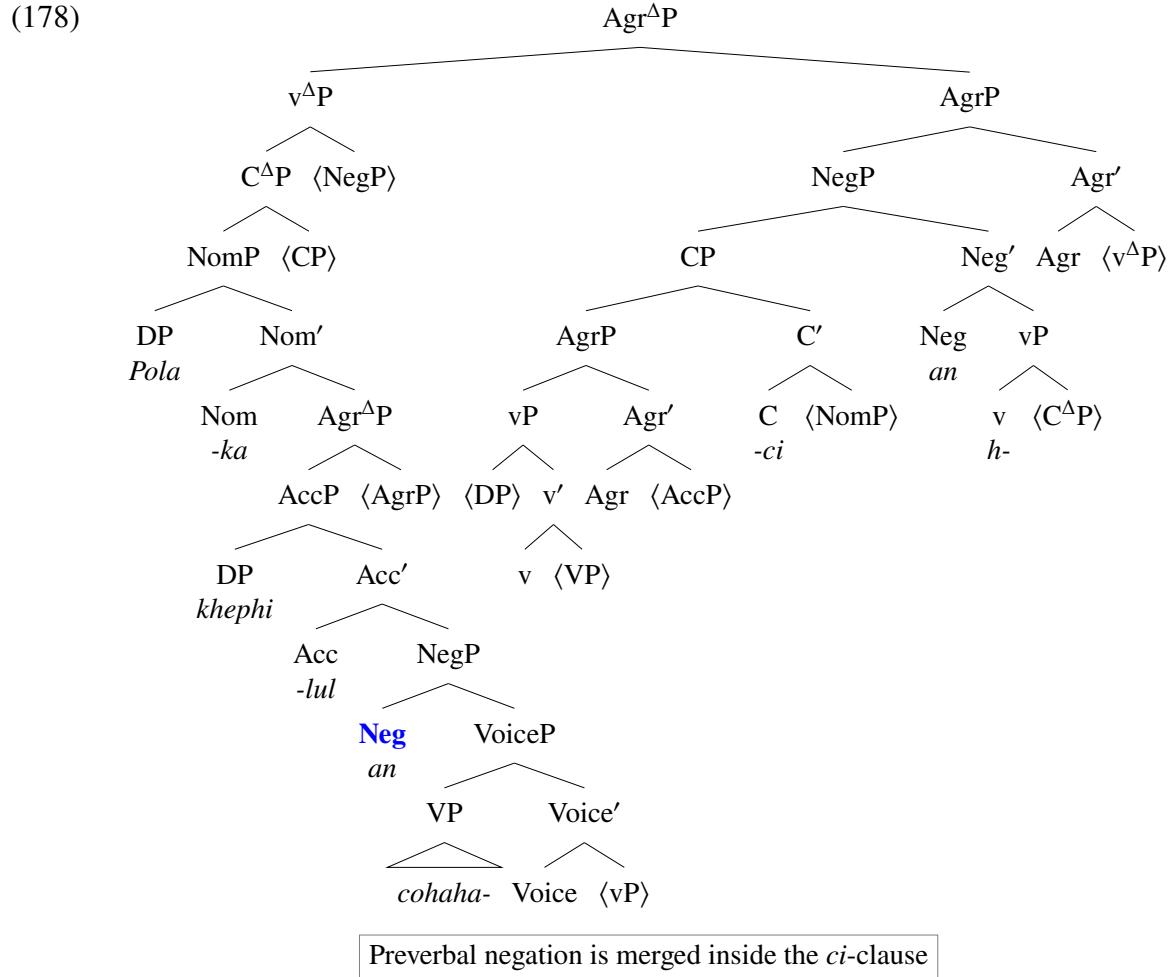
The object universal-quantifier phrase in this derivation asymmetrically c-commands Neg^o from its case position (i.e., SpecAcc) and therefore takes scope over negation. Importantly, the string vacuous scrambling of the internal argument inside the *ci*-clause enables the internal argument to be assigned case outside the *ci*-clause (i.e., the raising of the internal argument), resulting in the wide scope universal reading.

4.3.3 Co-occurrence of preverbal and postverbal negation, and double postverbal negation

Under the proposed analysis, where a reduced clause (i.e., the *ci*-clause) is embedded in the structure of postverbal negation, one would expect that preverbal negation can appear as part of the *ci*-clause, because Neg° (i.e., *an*) should be able to be merged above the VP layer. This expectation is borne out, as shown in (177).

- (177) Pola-ka khephi-lul **an** cohaha-ci anh-nun-ta.
 Bora-NOM coffee-ACC NEG like-C NEG.do-NPST-DEC
 ‘It is not the case that Bora does not like coffee.’
 = ‘Bora does not dislike coffee.’

The derivation (178) for (177) shows Neg^o above VoiceP within the *ci*-clause.

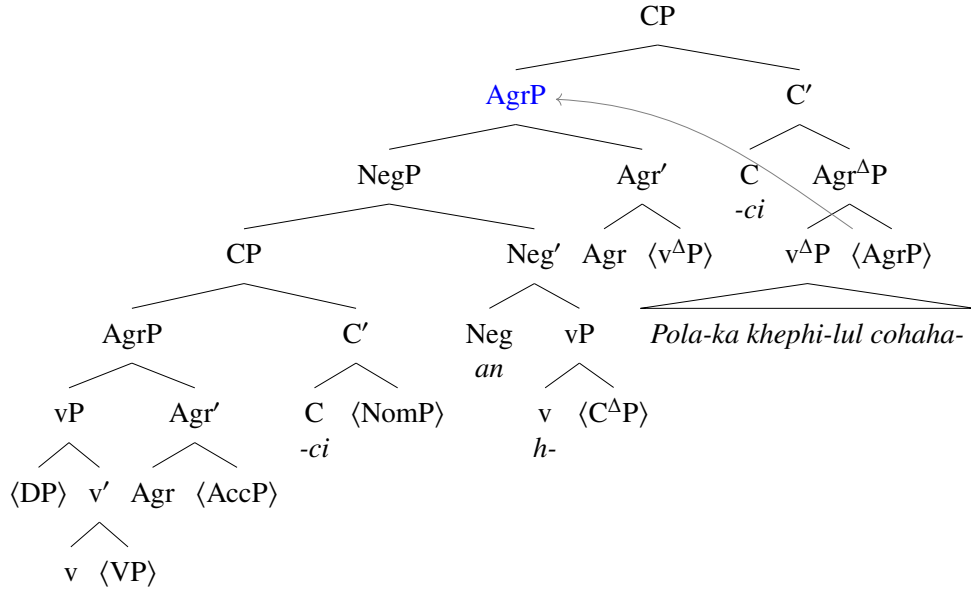


Given that we analyze *h-* of postverbal negation as a verb, which may host functional layers such as TP, MoodP, and CP like other verbs, we expect that it can also be the main verb of a reduced clause headed by, e.g., the complementizer *-ci*. If this happens, that clause can be selected by another *h-* to form a double postverbal negation structure, as shown in (179).

- (179) Pola-ka khephi-lul cohaha-ci anh-**ci** **anh**-nun-ta.
 Bora-NOM coffee-ACC like-C NEG.do-C NEG.do-NPST-DEC
 ‘It is not the case that Bora does not like coffee.’
 = ‘Bora does not dislike coffee.’

The derivation (180) for (179) shows that *-ci* is merged above the postverbal negation structure which contains the functional layer up to AgrP, and triggers movement of AgrP into its Spec as usual.

(180)



Double postverbal negation

After this step, the rest of the usual steps to build a postverbal negation structure should follow: the complement of *-ci* is moved into SpecC^Δ, the restructuring verb *h-* is merged, Neg^o *an* is merged, and the *ci*-clause is moved into SpecNeg.

In theory, this operation can take place infinitely many times, forming a multiple postverbal negation structure. However, the usual processing constraints apply and the acceptability of such sentences is degraded, as shown in (181).

- (181) ? Pola-ka khephi-lul cohaha-ci anh-ci anh-ci anh-nun-ta.
 Bora-NOM coffee-ACC like-C NEG.do-C NEG.do-C NEG.do-NPST-DEC
 ‘It is not the case that it is not the case that Bora does not like coffee.’

An important point worth emphasizing is that our analysis predicts and can derive the complex double negation structures as seen above without any additional stipulations. And the core aspect of the analysis that allows us to do so is that the structure of postverbal negation involves restructuring with an embedded reduced clause.

4.3.4 Exhaustive focus marker *-man* and contrastive marker *-(n)un*

In §3.2.1 and §3.2.3, we saw that preverbal negation takes scope under the exhaustive focus marker *-man* appearing on the subject or the object. We attributed this fact to the position of NegP relative to the case position of the subject or the object (i.e., SpecNom or SpecAcc), combined with the assumption that OnlyP is merged immediately above NomP or AccP. Since NegP is merged lower than AccP or NomP and therefore lower than OnlyP, the narrow scope of negation with respect to *-man* is predicted.

Postverbal negation, on the other hand, freely takes scope over and under the *man*-marked subject or object, as shown in (182) and (183).³³

(182) *In subject position*

- a. **Pola-man** Hwun-ul ttayli-ci anh-ass-ta.
Bora-only Hoon-ACC hit-C NEG.do-PST-DEC
 - i. ‘Bora is the only person who did not hit Hoon.’ (only > ¬)
[Context: There were Earl, Sean, and Bora. Earl and Sean, but not Bora, hit Hoon.]
 - ii. ‘It is not the case that Bora is the only person who hit Hoon.’ (¬ > only)
[Context: There were Earl, Sean, and Bora. All of them hit Hoon.]
- b. **Pola-man** sinmwun-ul ilk-ci anh-ass-ta.
Bora-only newspaper-ACC read-C NEG.do-PST-DEC
 - i. ‘Bora is the only person who did not read the newspaper.’ (only > ¬)
[Context: There were Earl, Sean, and Bora. Earl and Sean, but not Bora, read the newspaper.]
 - ii. ‘It is not the case that Bora is the only person who read the newspaper.’ (¬ > only)
[Context: There were Earl, Sean, and Bora. All of them read the newspaper.]

(183) *In direct object position*

- a. Pola-ka **ppang-man** mek-ci anh-ass-ta.
Bora-NOM bread-only eat-C NEG.do-PST-DEC
 - i. ‘Bread is the only thing that Bora did not eat.’ (only > ¬)
[Context: There were bread, chips, and cookies. Bora had chips and cookies, but not bread.]
 - ii. ‘It is not the case that bread is the only thing that Bora ate.’ (¬ > only)
[Context: There were bread, chips, and cookies. Bora had all of them.]
- b. Pola-ka **khephi-man** masi-ci anh-ass-ta.
Bora-NOM coffee-only drink-C NEG.do-PST-DEC

³³The indirect object marked with *-man* shows the same scope ambiguity with respect to postverbal negation.

- i. ‘Coffee is the only thing that Bora did not drink.’ (only > ¬)
[Context: There were coffee, black tea, and water. Bora had black tea and water, but not coffee.]
- ii. ‘It is not the case that coffee is the only thing that Bora drank.’ (¬ > only)
[Context: There were coffee, black tea, and water. Bora had all of them.]

Given the structure of postverbal negation we established in §4.3.2, the scope ambiguity of *man*-marked phrase with respect to postverbal negation is predicted straightforwardly. The *man*-marked subject in (182) takes scope over negation when it receives case outside the *ci*-clause, while it would take scope under negation if it receives case within the *ci*-clause. Similarly, the object *man*-phrase in (183) takes scope under negation when it is assigned case inside the *ci*-clause, whereas it takes scope over negation when it receives case outside the *ci*-clause via string-vacuous scrambling.

The scope ambiguity found in (182) and (183) disappears, to the exclusion of the wide scope negation reading, when *-man* precedes the contrastive marker *-(n)un* (J. Kim 2018, J. Kim 2010) (the other surface order is unacceptable; i.e., **(n)un-man*), as shown in (184) and (185).³⁴

(184) Pola-man-un Hwun-ul ttayli-ci anh-ass-ta.

Bora-only-FOC Hoon-ACC hit-C NEG.do-PST-DEC

- a. ‘Bora is the only person who did not hit Hoon.’ (only > ¬)
[Context: There were Earl, Sean, and Bora. Earl and Sean, but not Bora, hit Hoon.]
- b. * ‘It is not the case that Bora is the only person who hit Hoon.’ (*¬ > only)
[Context: There were Earl, Sean, and Bora. All of them hit Hoon.]

(185) Pola-ka ppang-man-un mek-ci anh-ass-ta.

Bora-NOM bread-only-FOC eat-C NEG.do-PST-DEC

- a. ‘Bread is the only thing that Bora did not eat.’ (only > ¬)
[Context: There were bread, chips, and cookies. Bora had chips and cookies, but not bread.]
- b. * ‘It is not the case that bread is the only thing that Bora ate.’ (*¬ > only)
[Context: There were bread, chips, and cookies. Bora had all of them.]

Under our framework, this rather puzzling fact can be explained simply: *-un* is the head of FocP, with its relative order in the functional sequence as in (186).

(186) a. Only > Foc > Nom/Acc

³⁴The initial *n* of *-nun* is deleted when the stem it attached to ends in a consonant.

b. Foc > ... > Neg

In other words, Foc^o (i.e., *-un*) is merged immediately below Only^o, which explains the surface order (i.e., *-man-un*, cf. **(n)un-man*), and is merged higher than Neg^o, which accounts for the exclusion of the wide scope negation reading with its appearance.

Using the numeral quantifier phrase and the *(n)un*-marked phrase, we can further confirm that FocP is merged higher than NegP.

The scope of the numeral quantifier phrase which appears with the accusative case marker in (187) is ambiguous with respect to negation. In contrast, the *(n)un*-marked numeral quantifier phrase in (188) takes obligatory wide scope over negation.

- (187) Pola-ka [tases kay-uy cheyli]-lul mek-ci anh-ass-ta.
 Bora-NOM five CL-GEN cherry-ACC eat-C NEG.do-PST-DEC
 i. ‘Bora did not eat any of the five cherries.’ (# > ¬)
 [Context: Bora ate zero out of five cherries.]
 ii. ‘It is not the case that Bora ate five cherries.’ (¬ > #)
 [Context: Bora ate three out of five cherries.]
- (188) Pola-ka [tases kay-uy cheyli]-nun mek-ci anh-ass-ta.
 Bora-NOM five CL-GEN cherry-FOC eat-C NEG.do-PST-DEC
 i. ‘As far as the five cherries are concerned, Bora did not eat any of them.’ (# > ¬)
 [Context: Bora ate zero out of the five cherries.]
 ii. * ‘It is not the case that, as far as the five cherries are concerned, Bora ate five of them.’ (*¬ > #)
 [Context: Bora ate three out of the five cherries.]

For the numeral quantifier phrase to take scope under negation, it has to receive case inside the *ci*-clause meaning that it has to move into SpecAcc within the *ci*-clause. If it does so, however, FocP cannot be merged within the *ci*-clause as that would place FocP in a position lower than NegP, and therefore the *(n)un*-marked numeral quantifier phrase cannot take scope under negation.

4.3.5 Elements that can appear between *-ci* and *anh-*

In §4.2.2, we observed that adverbs or the stranded subject cannot appear between *-ci* and *anh-*. However, there are elements that can. Such elements include focus markers—such as the exhaustive

-man, the contrastive *-(n)un*, and the additive *-to*—and the plural agreement marker *-tul*. These elements can appear alone or together in a row, but when they appear together, they must do so in a specific order.

The main idea is that each of these morphemes is the head of a functional projection (e.g., OnlyP, FocP) ordered with respect to one another in the functional sequence. The ambiguous scope of these morphemes with respect to postverbal negation, as we shall see, will be attributed to such morpheme being able to be merged above or below NegP due to the biclausal base structure of postverbal negation.

We already discussed one of such cases involving *-man* and *-(n)un* marked on the subject or object in §4.3.4, where the surface order *-man-un* is acceptable but not **-(n)un-man*, and attributed this ordering restriction to the relative order of OnlyP and FocP in the functional sequence. Another fact we discussed was the absence of the wide scope negation reading in the presence of *-(n)un* in addition to *-man*. This was accounted for by the functional sequence in which FocP is merged higher than NegP.

4.3.5.1 Exhaustive focus marker *-man*

Just like the scope of the *man*-marked subject and object, the scope of *-man* appearing between *-ci* and *anh-* is ambiguous with respect to negation, as shown in (189).

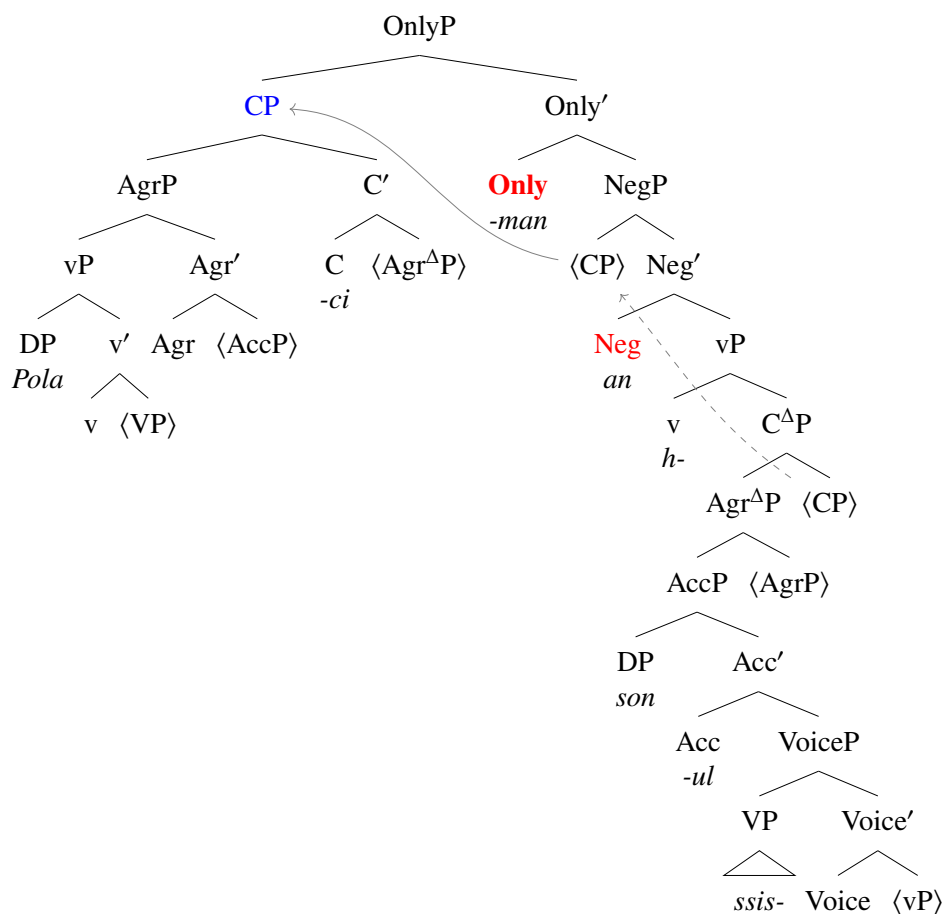
- (189) Pola-ka son-ul ssis-ci-**man** anh-ass-ta.
 Bora-NOM hand-ACC wash-C-only NEG.do-PST-DEC
 a. ‘The only thing that Bora did not do was washing hands.’ (only > ¬)
 [Context: Bora washed everywhere else.]
 b. ‘It’s not the case that the only thing that Bora did was washing hands.’ (¬ > only)
 [Context: Bora also washed her feet.]

The ambiguous scope of *-man* is rooted in the attachment site of Only° in the structure of (189). Only°, at any rate, triggers movement of the *ci*-clause into SpecOnly. The ambiguity arises because Only° is merged above NegP and triggers movement of the *ci*-clause from SpecNeg to SpecOnly, or Only° is merged below NegP, in which case Neg° triggers movement of OnlyP into SpecNeg. In other words, *-man* takes scope over negation when OnlyP is merged above NegP and takes scope

under negation when OnlyP is merged below NegP. In both cases, OnlyP and NegP establish a local relation: a Spec-head relation in the former and a Comp-head relation in the latter.

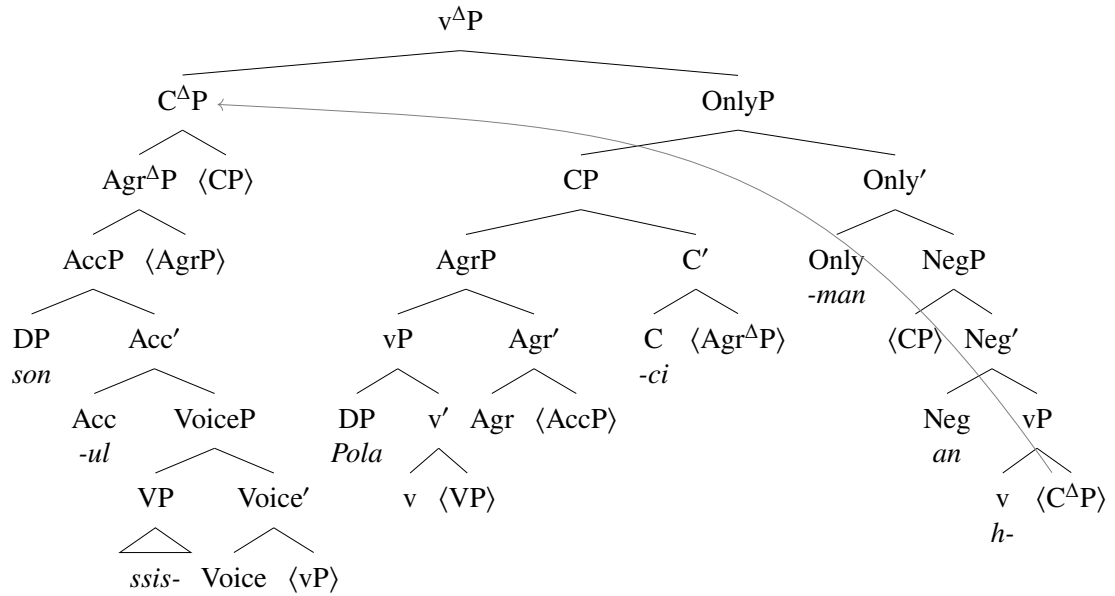
The derivation for the narrow scope negation reading of (189) is shown in (190–193). In this derivation, Only[°] takes NegP as its complement and attracts the *ci*-clause into its Spec. Since Only[°] asymmetrically c-commands Neg[°], *-man* takes scope over negation.

(190)

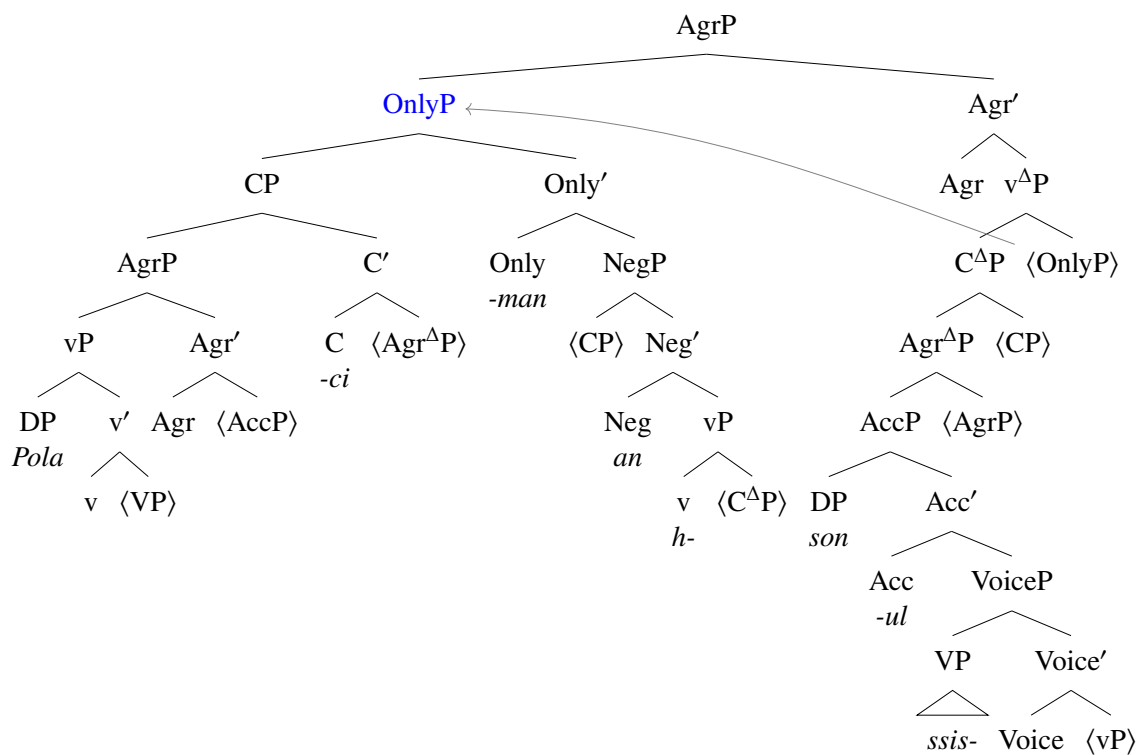


[only > ¬] Step 1-1: Merge Only[°] and move CP into SpecOnly

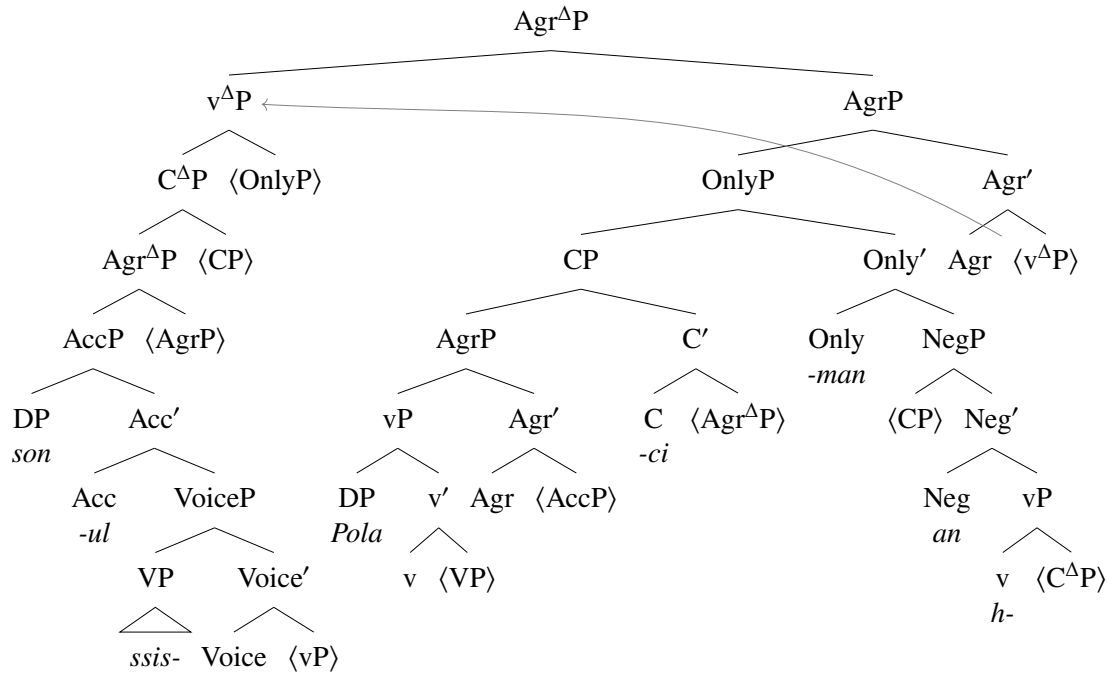
(191)



(192)



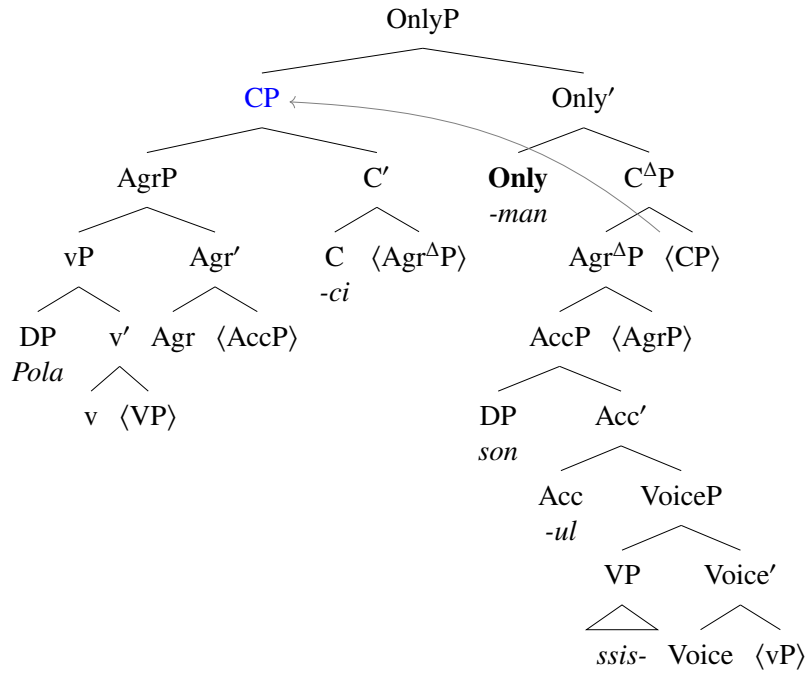
(193)



[only > ¬] Step 2-2: Move the complement of Agr into SpecAgr^Δ

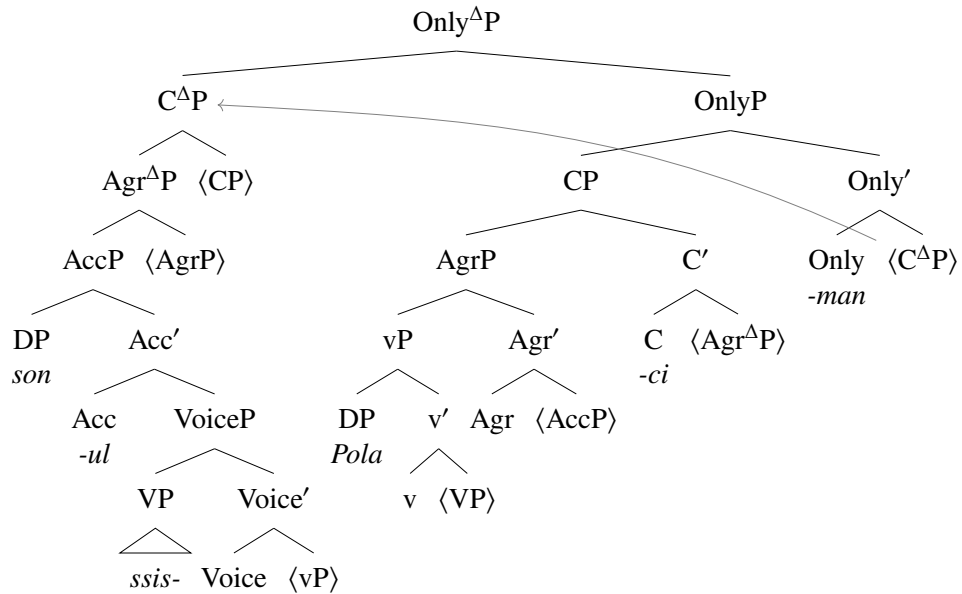
The derivation for the wide scope negation reading of (189), on the other hand, is shown in (194–197). In this derivation, Only[°] is merged above the *ci*-clause and triggers movement of the *ci*-clause into its Spec. Neg[°], in turn, is merged higher than OnlyP and when it is merged, it attracts OnlyP into its Spec. Since Neg[°] asymmetrically c-commands Only[°], negation takes scope over *-man*.

(194)



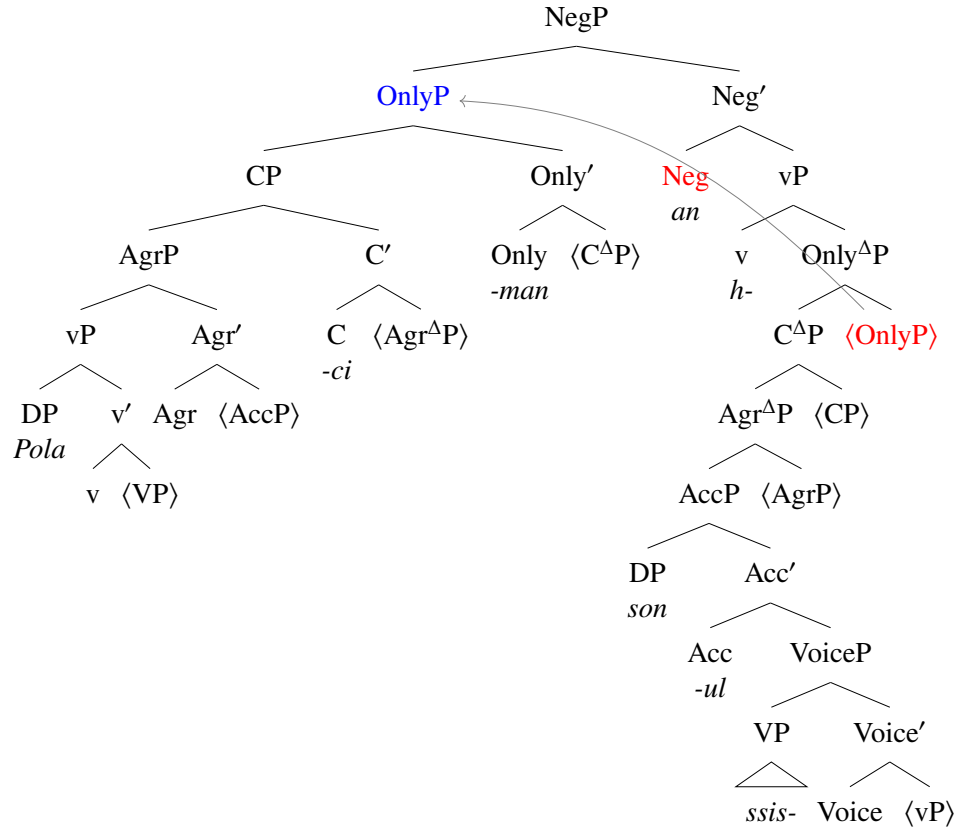
[¬ > only] Step 1-1: Merge Only[°] and move CP into SpecOnly

(195)



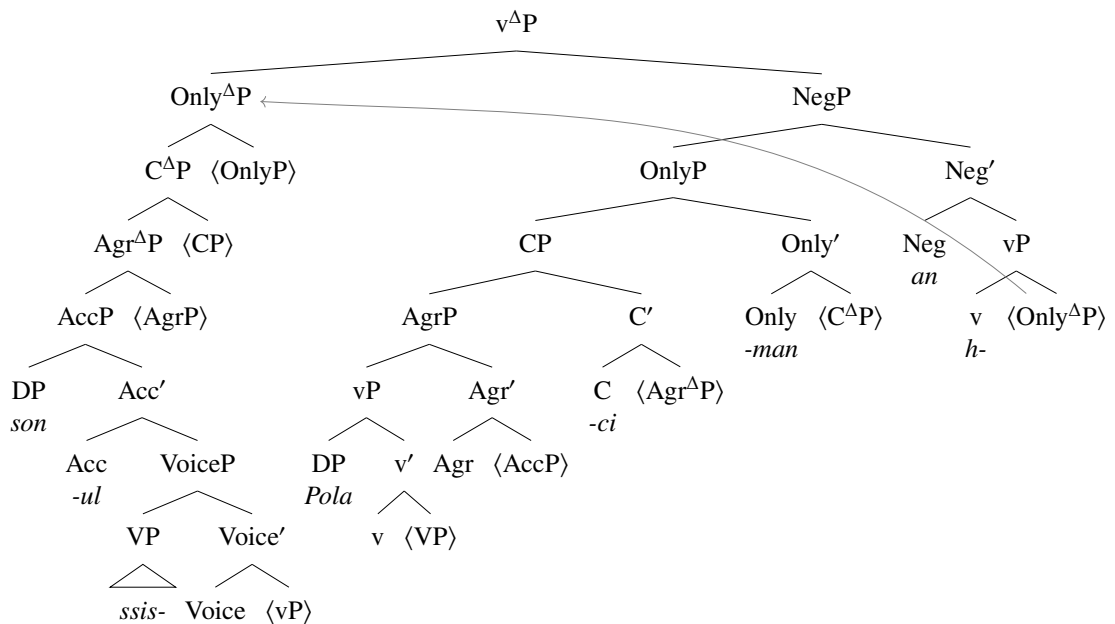
[¬ > only] Step 1-2: Move the complement of Only into SpecOnly^Δ

(196)



[¬ > only] Step 2-1: Merge *h-* and *an*; Neg° triggers movement of OnlyP as opposed to CP

(197)



[¬ > only] Step 2-2: Move the complement of *v* into Specv^Δ

In §4.3.4, we observed that the addition of *-(n)un* to *-man* excluded the narrow scope negation reading when *-man* was marked on the subject or object; see (184–185). We explained this by

assuming that $-(n)un$ (i.e., Foc°) is merged higher than Neg° ; see (186).

When $-(n)un$ appears alone between $-ci$ and $anh-$ of postverbal negation, it does not affect the scope of a quantified subject or object. This is shown in (198), where the scope of the subject universal-quantifier phrase relative to negation is ambiguous.

- (198) [motun sonnim]-i chiku-lul mek-ci-**nun** anh-ass-ta.
 every customer-NOM cheese-ACC eat-C-FOC NEG.do-PST-DEC
- i. (With *chiku-lul mek-ci-nun* forming an Accentual Phrase:)
 ‘For every x , x a customer, x did not EAT CHEESE (but did something else).’ ($\forall > \neg$)
 - ii. (With a prosodic accent on *motun*:)
 ‘Not every customer ate cheese.’ ($\neg > \forall$)

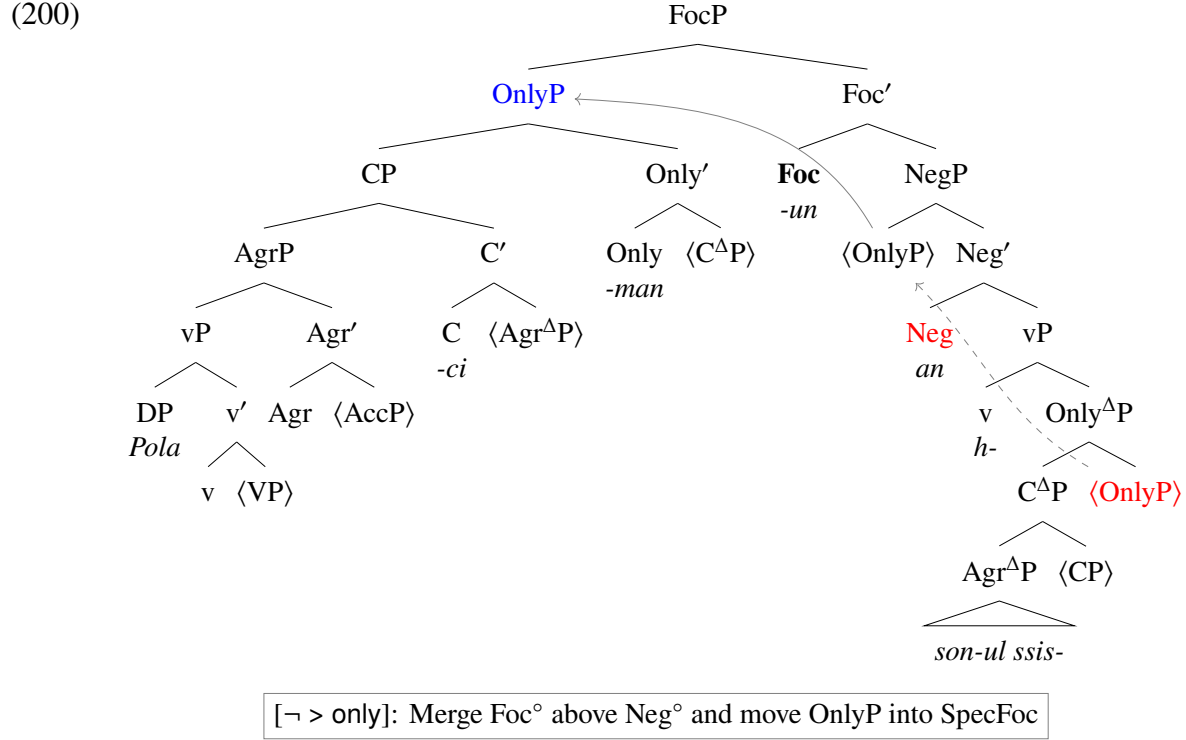
We can explain the scope ambiguity of (198) in the same manner as we accounted for the ambiguity of the similar sentences without $-(n)un$ in (155) from §4.3.2. That is, the wide scope universal reading arises when the subject receives case in SpecNom outside the *ci*-clause, while the narrow scope universal reading results from the subject that receives case inside the *ci*-clause. The presence of $-(n)un$, syntactically speaking, adds a layer of functional projection (i.e., Foc°) on top of NegP in accordance with the functional sequence, and an additional step of movement from SpecNeg to SpecFoc; neither of which affects the scope relation between the universal quantifier phrase and negation.

Going back to the discussion of the exhaustive *-man* in a post-complementizer position, adding $-(n)un$ which follows *-man* excludes the narrow scope negation reading with respect to ‘only’ as shown in (199), cf. (189).

- (199) Pola-ka son-ul ssis-ci-**man-un** anh-ass-ta.
 Bora-NOM hand-ACC wash-C-only-FOC NEG.do-PST-DEC
- i. ?? ‘The only thing that Bora did not do was washing hands.’ (??only $> \neg$)
 [Context: Bora washed everywhere else.]
 - ii. ‘It’s not the case that the only thing that Bora did was washing hands.’ ($\neg > \text{only}$)
 [Context: Bora also washed her feet.]

If our functional sequence in which Foc° (i.e., $-(n)un$) is higher than Neg° is correct, this should also apply to (199). We will discuss how to derive the wide scope negation reading first and then the unavailability of the narrow scope reading.

Given that Foc° is merged higher than Neg° , the only way in which we can derive the wide scope negation reading of (199) is by merging Only° above the *ci*-clause before *h-* is merged, just like in the derivation for the wide scope negation reading of (189) as seen in (194–197). The relevant step in the wide scope negation derivation is shown in (200).

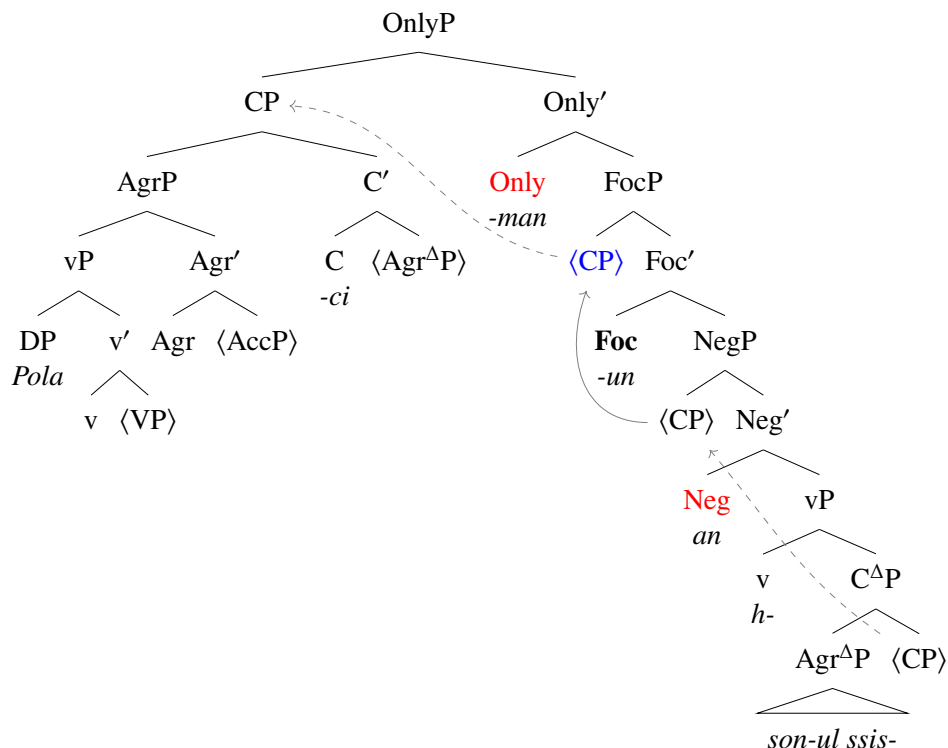


After Neg° triggers movement of OnlyP into SpecNeg , OnlyP successively moves into SpecFoc as soon as Foc° is merged above NegP .

Following the step in (200), v^Δ will be merged and trigger movement of the complement of v . Then, Agr° in this derivation will trigger movement of FocP , as opposed to NegP , into SpecAgr . The rest of the derivation is the same as the derivation for the wide scope negation reading of (189) (i.e., the sentence without the added *-un*).

On the other hand, we can generate the surface order *-man-un* with the narrow scope negation reading by the derivation in which Only° is initially merged above Foc° , as shown in (201).

(201)



In this derivation, the *ci*-clause is moved successively into SpecOnly via SpecFoc. After this step, the derivation would proceed similarly to the one without Foc°, cf. (191–193).

The unavailability of the narrow scope negation reading, however, suggests that this derivation is ruled out due to some other constraint in the grammar. The culprit cannot be the position of Only° because we independently established that Only° can appear above Neg° as in the narrow scope negation derivation for (189) as seen in (190–193). Neither can it be the case that Only° cannot be merged above Foc°, because the functional sequence in which Only° is higher than Foc° is required to account for the obligatory narrow scope negation of (184–185), where the subject or object is followed by *-man-un*. Therefore, there must be a constraint that rules out the derivation (201).

I will come back to this example in §4.3.5.2 and argue that the lack of the narrow scope negation reading of (199) is due to *riterial freezing* (Rizzi 2006, 2007, 2010), which will be discussed in §4.3.5.2.

4.3.5.2 Additive focus marker *-to*

The additive focus particle *-to* is another morpheme that can appear between *-ci* and *anh-* in a sentence with postverbal negation. When *-to* occurs in this environment, it obligatorily takes scope over negation, as shown in (202).

- (202) a. ku namca-nun calsayngki-ci-**to** anh-ass-ta.
 that man-TOP handsome-C-also NEG.do-PST-DEC
 i. ‘That man is also not handsome.’ (also > ¬)
 ii. * ‘That man is not also handsome.’ (*¬ > also)
- b. ku il-un swip-ci-**to** anh-ko, elyep-ci-**to** anh-ta.
 that job-TOP easy-C-also NEG.do-CONJ difficult-C-also NEG.do-DEC
 ‘That job is neither easy nor difficult.’
 ≈ (Lit.) ‘That job is also not easy and also not difficult.’

We can account for the relative scope of *-to* by assuming that the projection headed by *-to*, call it AlsoP, is merged higher than NegP in the functional sequence. I assume that AlsoP belongs to a type of focus-related projections.

Similar to what we observed with the contrastive *-(n)un* in §4.3.5.1, where *-(n)un* can follow *-man* and in that order only (i.e., **(n)un-man*), the additive *-to* can co-occur with *-man* and we find the similar ordering restriction in which *-man* must precede *-to* when they appear in a row, cf. **-to-man*, as shown in (203).

- (203) a. taiethu-ka pwulkanungha-ci-**man-to** anh-ta.
 diet-NOM impossible-C-only-also NEG.do-DEC
 ‘Dieting is also not just impossible.’
- b. * taiethu-ka pwulkanungha-ci-**to-man** anh-ta.
 diet-NOM impossible-C-only-also NEG.do-DEC
- c. ku il-un swip-ci-**man-to** anh-ko, elyep-ci-**man-to** anh-ta.
 that job-TOP easy-C-only-also NEG.do-CONJ difficult-C-only-also NEG.do-DEC
 ‘That job is neither just easy nor just difficult.’
 ≈ (Lit.) ‘That job is also not just easy and also not just difficult.’
- d. * ku il-un swip-ci-**to-man** anh-ko, elyep-ci-**to-man** anh-ta.
 that job-TOP easy-C-also-only NEG.do-CONJ difficult-C-also-only NEG.do-DEC

The interpretations of (203a) and (203c) suggest that Also[°] takes scope over Only[°]. This rules out the derivation in which Only[°] is merged above Also[°]. Then, the only other derivation that generates

the surface order *-man-to* is the one in which Only^o is initially merged above the *ci*-clause before *h-* is merged, in a manner similar to how we derived the wide scope negation reading of (199) with *-man-un* as seen in (200). That is, Also^o is merged above NegP, while Only^o is merged below NegP, and then OnlyP is moved into SpecAlso via SpecNeg.

(204) Also > Neg > Only

What this predicts is that *-man* takes scope under negation, and the meanings of (203a) and (203c) confirm the prediction.

We established above that the surface order **-to-man* is not possible, and this is because Only^o is initially merged below NegP and above the *ci*-clause, forming OnlyP (i.e., ...*-ci-man*), and Also^o triggers movement of OnlyP into SpecAlso, generating the surface order *-man-to*. However, when the contrastive *-(n)un* co-occurs with *-man* and *-to*, the surface order *-to-man-un* becomes possible, and that is the only possible order among the three morphemes, as shown in (205).³⁵

- (205) a. (kkok) kuleh-ci-**to-man-un** anh-ta.
necessarily so-C-also-only-FOC NEG.do-DEC
'It is also not only (necessarily) so.'
- b. * (kkok) kuleh-ci-**man-to-nun** anh-ta.
necessarily so-C-only-also-FOC NEG.do-DEC
- c. * (kkok) kuleh-ci-**man-un-to** anh-ta.
necessarily so-C-only-FOC-also NEG.do-DEC
- d. * (kkok) kuleh-ci-**to-nun-man** anh-ta.
necessarily so-C-also-FOC-only NEG.do-DEC
- e. * (kkok) kuleh-ci-**nun-to-man** anh-ta.
necessarily so-C-FOC-also-only NEG.do-DEC
- f. * (kkok) kuleh-ci-**nun-man-to** anh-ta.
necessarily so-C-FOC-only-also NEG.do-DEC

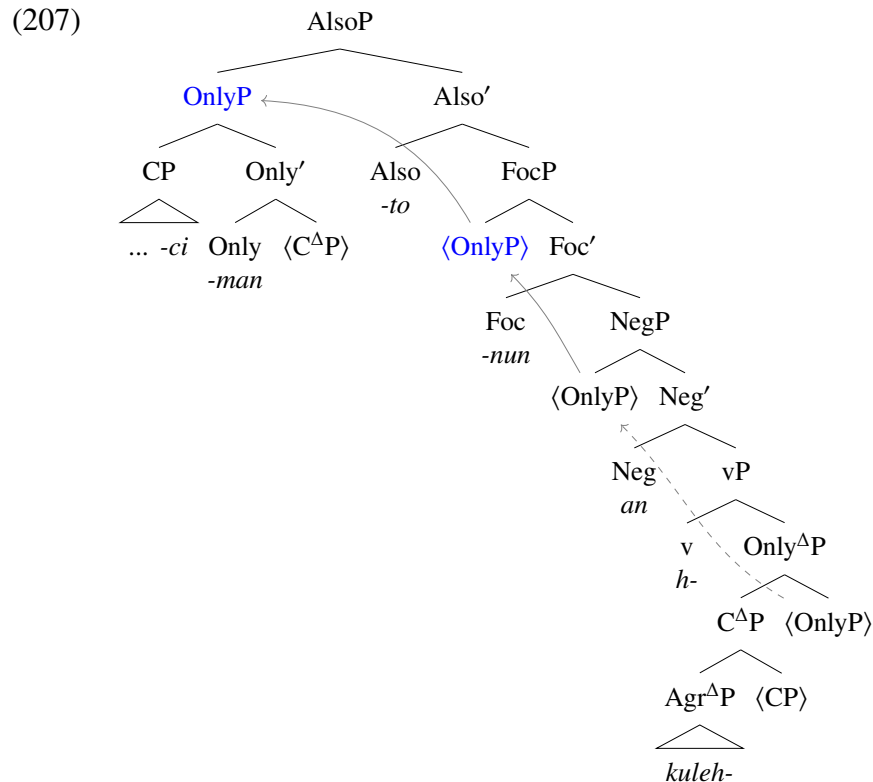
The last three orders (205d–205f) are immediately ruled out because neither *-to* nor *-(n)un* can be merged lower than NegP. We can also exclude the order **-man-un-to* in (205c) assuming that Also^o is merged higher than Foc^o in the functional sequence, given that Also^o takes scope over Foc^o when they co-occur in the acceptable order as in (205a).

So, the discussion so far establishes the following order in the functional sequence:

³⁵It is also instructive to note that *-to-man-un* is marked, compared to, e.g., *-man-to*.

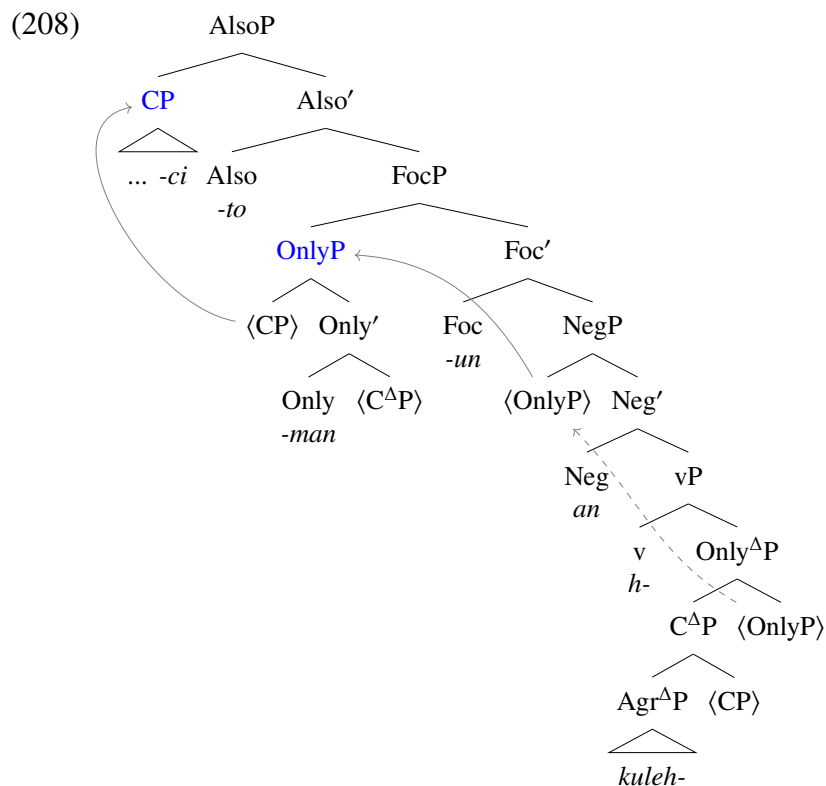
(206) Also > Foc > Neg > Only

And that leaves us with just the remaining two orders (205a–205b) to be explained. Given that Also^o and Foc^o both can trigger movement of OnlyP into their respective Spec, we can assume that the order **-man-to-nun* is derived by the successive movement of OnlyP from SpecFoc to SpecAlso, as shown in (207).



That this order is impossible suggests that some other factor is blocking the movement of OnlyP from SpecFoc to SpecAlso.

On the other hand, moving CP, as opposed to OnlyP, into SpecAlso, after OnlyP has moved into SpecFoc can derive the possible order *-to-man-un* in (205a), as shown in (208).



Derivation for *to-man-un* of (205a)

When viewed under the proposed analysis, the contrast between (205a) and (205b) can be understood in terms of criterial freezing (Rizzi 2006, 2007, 2010) (for further discussion, see, e.g., Rizzi & Shlonsky 2007, Rizzi 2014, 2015, 2017, Shlonsky & Rizzi 2018). Specifically, I argue that the derivation (207) for **-man-to-nun* violates criterial freezing, while the derivation (208) for *-to-man-un* does not.

Criterial freezing, as a principle, stipulates that an element becomes frozen in place when it meets a criterion (e.g., the Question Criterion). For example, in (209a) (Rizzi 2017: 3), the *wh*-phrase *which book* in its scope position of the embedded interrogative, satisfying the Question Criterion, is frozen in the sense that it cannot move further into a higher position, cf. (209b).

- (209) a. Bill wonders [[*which_Q book*]_i Q [John published *t_i* this year]]
 b. * [*Which_Q book*]_i does Bill wonder [*t_i* Q [John published *t_i* this year]]

However, it is not necessarily the case that the frozen phrase is immobilized as a whole, because the constituent within the frozen phrase can undergo movement, e.g., in Italian (Rizzi & Shlonsky 2007, Rizzi 2014, 2015, 2017), as shown in (210) (Rizzi 2014: 21–22).

- (210) a. Maria non sa ancora [[quale libro [di Gianni]] Q sia stato pubblicato]
 Maria not knows yet which book by Gianni is been published
 ‘Maria doesn’t know yet which book by Gianni has been published.’
- b. *E’ [quale libro [di Gianni]] che Maria non sa ancora [t_i Q sia stato pubblicato]
 is which book by Gianni that Maria not knows yet is been published
- c. E’ [di Gianni] che Maria non sa ancora [[quale libro t_i] Q sia stato pubblicato]
 is by Gianni that Maria not knows yet which book is been published
 ‘It is by Gianni that Maria doesn’t know yet which book has been published.’

The wh-phrase *quale libro di Gianni* in (210a) satisfies the Question Criterion in its position inside the indirect question. Although, just like the English example in (209b), the wh-phrase as a whole cannot be moved further as shown in (210b), it is possible to cleft a part of the wh-phrase (i.e., *di Gianni*), which would move *di Gianni* into a higher position, as shown in (210c).

In light of the discussion above, we can re-examine the contrast between *-to-man-un* of (205a) and **-man-to-nun* of (205b). I argue that the derivation (207) for **-man-to-nun* is ruled out in violation of criterial freezing, assuming that the head of a projection that checks the feature of a focus-related head is frozen in place.

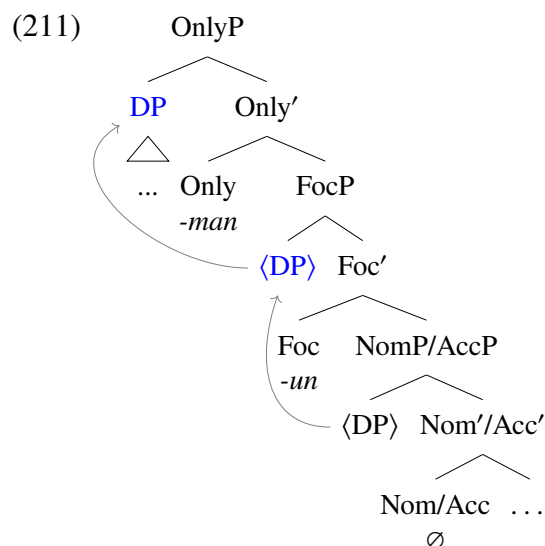
For example, in (207), OnlyP cannot move into SpecAlso from SpecFoc, because Only[°] satisfies the checking requirement of Foc[°] (i.e., a focus-related projection) in SpecFoc and therefore OnlyP is frozen in place. On the other hand, the derivation (208) for *-to-man-un* is available because what moves into SpecAlso is the *ci*-clause, as opposed to OnlyP. The *ci*-clause in this derivation is not frozen and therefore can be moved, because it is only Only[°] and its projection that are frozen, not the other constituents within OnlyP.

In §4.3.5.1, we left unexplained the lack of the narrow scope negation reading of (199) relative to ‘only’. I argue that the narrow scope negation derivation for (199) is ruled out for the same reason that the derivation (207) for **-man-to-nun* is excluded: a criterial freezing violation.

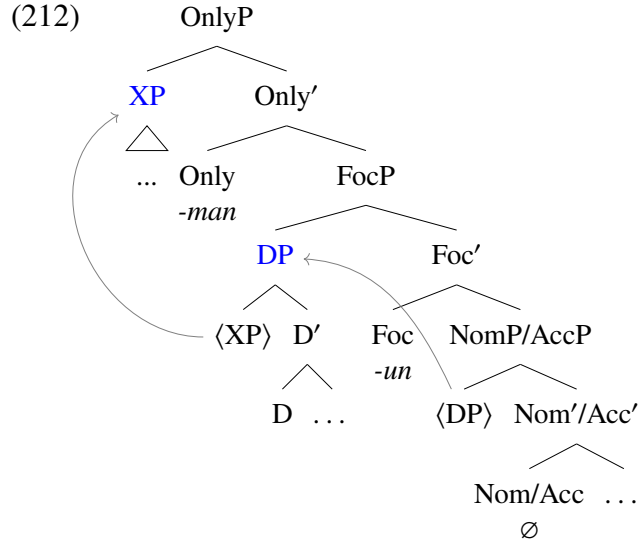
Sentence (199) has *-man-un* appearing in a post-complementizer position. In order to generate the surface order *-man-un* with the narrow scope negation reading, Only[°] has to be merged above Foc[°] and the *ci*-clause has to be moved successively from SpecFoc to SpecOnly, as seen in (201). The lack of the narrow scope reading suggests that this derivation is unavailable. In this derivation, CP (i.e., the *ci*-clause) moves into SpecFoc and satisfies the checking requirement of Foc[°], freezing

CP in place and preventing further movement of CP. Nevertheless, CP is moved again into SpecOnly in violation of criterial freezing, ruling out the derivation (201), and therefore the narrow scope negation reading of (199) is unavailable.

If this line of approach is correct, it also forces us to reanalyze (184–185), where the DP subject or object is followed by *-man-un* (cf. **(n)un-man*), as movement of DP into SpecFoc followed by movement of a subpart of the DP into SpecOnly. We attributed the only possible surface order *-man-un* with the obligatory wide scope ‘only’ reading to the functional sequence Only > Foc > Nom/Acc, combined with Foc > ... > Neg. Against this backdrop, we assumed that the subject or object precedes *-man-un* due to the successive movement of DP from SpecFoc to SpecOnly, after it has moved into SpecNom or SpecAcc to receive case:



However, the DP movement from SpecFoc to SpecOnly would be in violation of criterial freezing, because DP is frozen in place as soon as it is moved into SpecFoc and satisfies the checking requirement of Foc°. Therefore, we have to assume that it is not DP that moves into SpecOnly from SpecFoc, but a constituent inside DP that does so:



If this is right, we will have to explore exactly what projections correspond to XP in (212). The Specifier Impenetrability Condition partly answers this question because it would restrict the elements that are allowed to undergo movement to those in Spec^+ of a head. In (212), for example, only the elements in Spec^+ of Foc° , except for DP itself, can undergo movement due to the Specifier Impenetrability Condition. We will need to investigate the DP structure in order to understand what undergoes movement as part of DP. I leave this to future research.

4.3.5.3 Plural agreement marker *-tul*

The plural agreement marker *-tul* (Park & Sohn 1993, Koopman 2005) is the last morpheme of our discussion that can intervene between *-ci* and *anh-* of postverbal negation, as shown in (213).

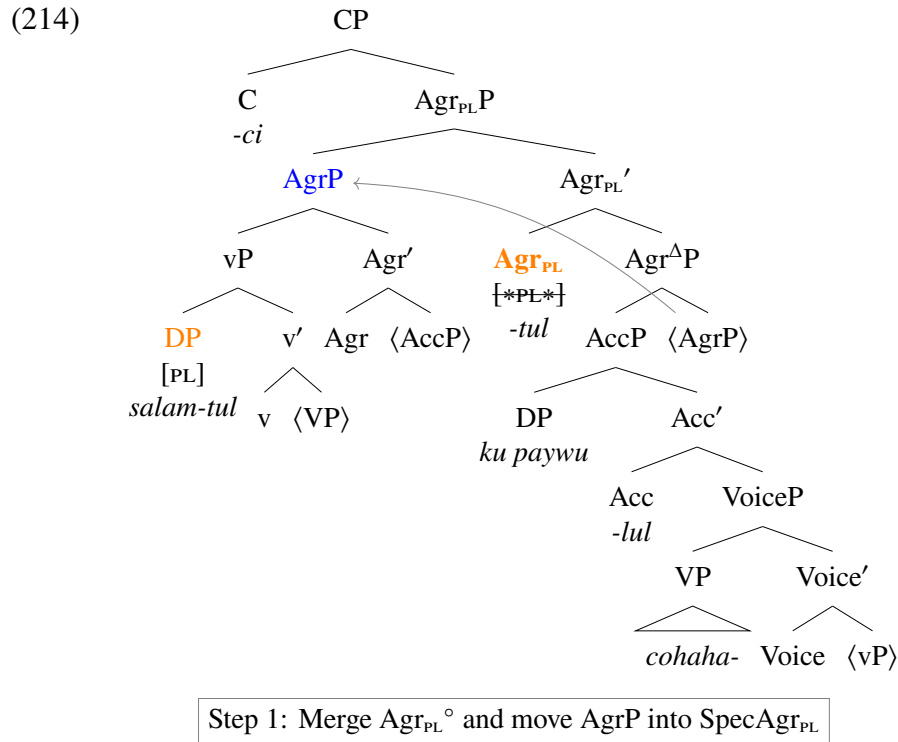
- (213) *salam-tul-i* *ku* *paywu-lul cohaha-ci-tul* *anh-nun-ta*.
 person-PL-NOM that actor-ACC like-C-PL NEG.do-NPST-DEC
 ‘The people do not like that actor.’

Following Koopman (2005: 625–627), I will assume that the plural agreement marker *-tul* in a post-complementizer position is the head of an agreement-related projection merged just below C° , which I will call $\text{Agr}_{\text{PL}}\text{P}$.

Under this assumption, $\text{Agr}_{\text{PL}}^\circ$ with postverbal negation is merged above Agr° (i.e., the projection which can host the honorific agreement morpheme *-si*) and below C° (i.e., *-ci*), as shown in (214),

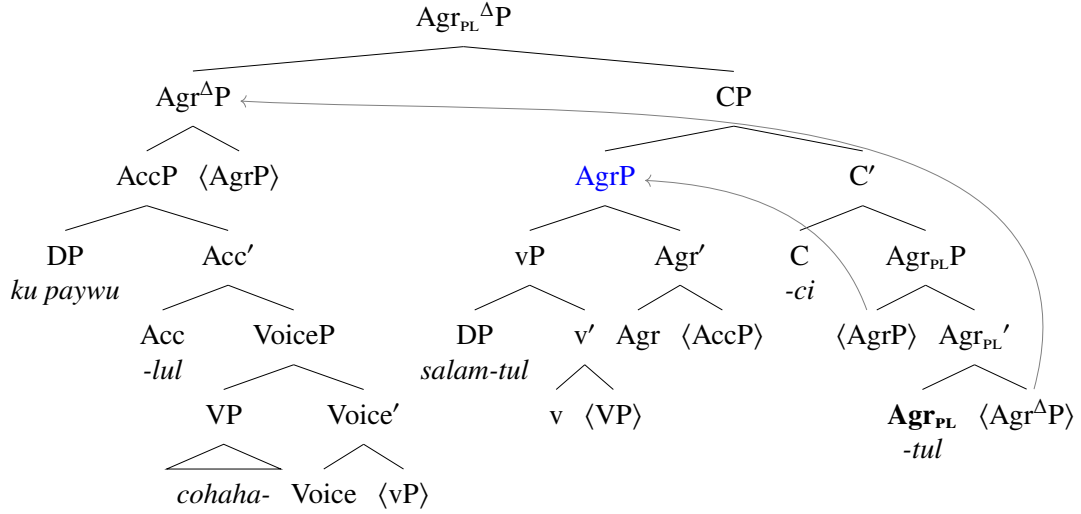
because the *ci*-clause is a reduced clause which lacks TP along with ModP and MoodP.

The relevant steps of the derivation for (213) are shown in (214–215). In (214), AgrP is moved into SpecAgr_{PL} once Agr_{PL}[°] is merged. It is at this point of the derivation that the agreement relation between the external argument and Agr_{PL} can be established, because the external argument is in Spec⁺ of Agr_{PL}. In this position, the plural DP with [PL] can check [*PL*] on Agr_{PL}, whereas the singular DP without [PL] will fail to check [*PL*]. In (214), the DP *salam-tul* in Spec⁺ of Agr_{PL} carries [PL] and therefore checks [*PL*] of Agr_{PL}.



After the step in (214), *-ci* triggers movement of AgrP from SpecAgr_{PL} to SpecC, as shown in (215). This is followed by movement of the complement of Agr_{PL} into SpecAgr_{PL}^Δ, which establishes the correct surface order.

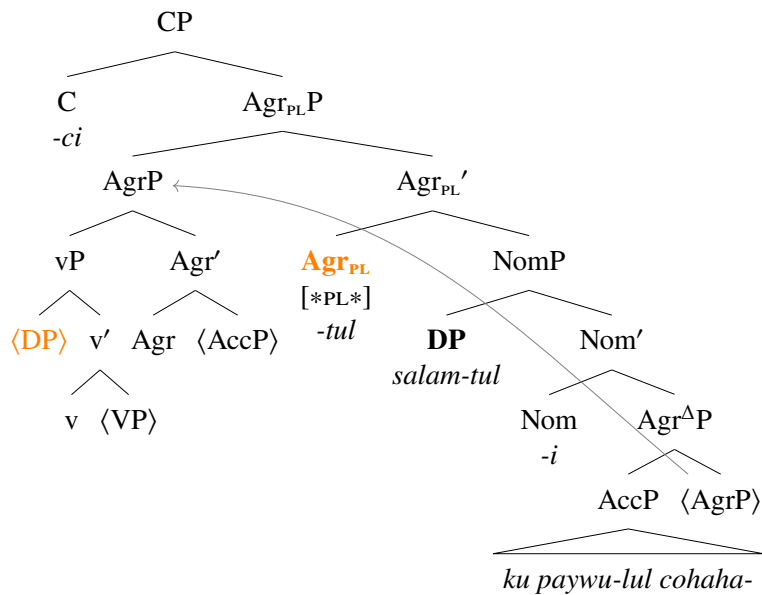
(215)



Step 2: Move AgrP into SpecC and the complement of Agr_{PL} into SpecAgr_{PL}^Δ

This analysis predicts that the plural subject which agrees with Agr_{PL} must take scope over negation, because the position of Agr_{PL} under this analysis forces the subject to receive case outside of the *ci*-clause, higher than NegP, in order for it to agree with Agr_{PL}. When the subject is assigned case within the *ci*-clause, there is no DP in Spec⁺ of Agr_{PL} that can agree with Agr_{PL}^o once AgrP is moved into SpecAgr_{PL}, as shown in (216), cf. (214).

(216)



The subject is assigned case inside CP: Agr_{PL}^o's [*PL*] cannot be checked

This prediction is confirmed by (217), which lacks the wide scope negation reading.

- (217) [motun haksayng-tul]-i hakkyo-lul ka-ci-**tul** anh-ass-ta.
 every student-PL-NOM school-ACC go-C-PL NEG.do-PST-DEC
 i. ‘For every x , x a student, x did not go to school.’ ($\forall > \neg$)
 ii. * ‘It is not the case that every student went to school.’ ($*\neg > \forall$)

It is important to note that the scope of negation is ambiguous with respect to the universal quantifier phrase in the absence of the plural agreement marker *-tul* in (217). In other words, the presence of *-tul* affects the semantic interpretation of the sentence.

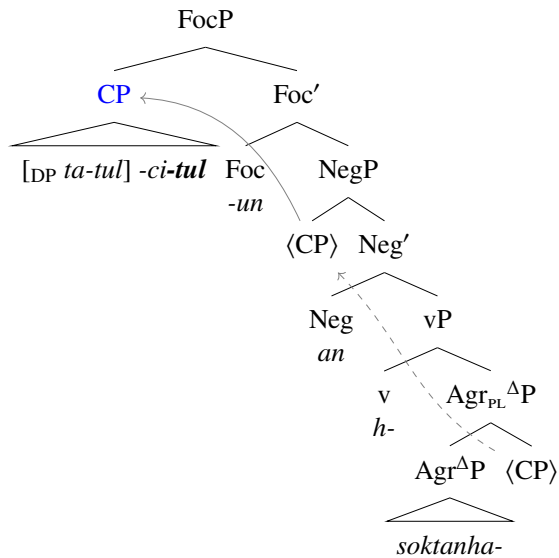
What we find here is analogous to the restricted scope of the universal quantifier phrase with the honorific agreement morpheme *-si* which follows *anh-* in (154), as discussed in §4.2.3. We explained the absence of the narrow scope negation reading of (154) in the same way we explained (217). That is, the honorific Agr° is required to check its $[\ast\text{HON}\ast]$ by DP with $[\text{HON}]$ in Spec^+ of Agr . In (154), the relevant Agr° is the one merged higher than Neg° , because the honorific marker *-si* follows *an* (i.e., Neg°) and *h-*. The narrow scope universal reading is unavailable in (154) because in order to derive this reading the subject has to receive case inside the *ci*-clause and therefore there will be nothing in Spec^+ of the higher Agr° that can check $[\ast\text{HON}\ast]$ of Agr° when NegP is moved into SpecAgr .

The contrastive *-(n)un* can follow *-tul*, and in that order only (i.e., $\ast-(n)un-tul$), as in (218).

- (218) a. ta-tul (kyelsung kyelkwa-ey_tayhay) soktanha-ci-**tul-un**
 everyone-PL finals result-about hastily_conclude-C-PL-FOC
 anh-nun-ta.
 NEG.do-NPST-DEC
 ‘Everyone does not jump to a conclusion (about the result of the finals).’
 b. * ta-tul (kyelsung kyelkwa-ey_tayhay) soktanha-ci-**nun-tul**
 everyone-PL finals result-about hastily_conclude-C-FOC-PL
 anh-nun-ta.
 NEG.do-NPST-DEC

The surface order *-tul-un* is expected to be the only available order because *-(n)un* is Foc° that has to be merged higher than Neg° , and the *ci*-clause containing $\text{Agr}_{\text{PL}}^\circ$ (i.e., *-tul*) moves into SpecFoc via SpecNeg , as shown in (219).

(219)



4.4 Summary

In this chapter, I proposed that postverbal negation involves restructuring. This means that sentences with postverbal negation are structurally more complex than those with preverbal negation, which only adds Neg° into the structure. I showed that the restructuring analysis can explain a wide range of facts that lacked a unified explanation or any explanation, including the scope of quantifiers in sentences with postverbal negation (which shows more scopal possibilities than in sentences with preverbal negation), the restriction of scopal possibilities due to the presence of agreement markers (e.g., the honorific agreement marker *-si* and the plural agreement marker *-tul*), and the elements that can appear between *-ci* and *anh-* such as the exhaustive focus marker *-man*, the contrastive marker *-(n)un*, and the additive focus marker *-to*.

CHAPTER 5

Negative indefinites and polarity items

5.1 Introduction

In §3.2.2, we established that NomP is higher than NegP in sentences with preverbal negation because the quantified case-marked subject must take scope over preverbal negation. In other words, preverbal negation cannot take scope over the subject. This is shown in (220a) with the universal quantifier phrase as the subject and in (220b) with the proportional quantifier phrase as the subject.

- (220) a. **motun ai-ka** Hwun-ul an cohaha-yss-ta.
 every child-NOM Hoon-ACC NEG like-PST-DEC
 i. ‘For every x , x a child, x did not like Hoon.’ ($\forall > \neg$)
 ii. * ‘Not every child liked Hoon.’ ($*\neg > \forall$)
- b. **taypwupwun-uy ai-ka** Hwun-ul an cohaha-yss-ta.
 most-GEN child-NOM Hoon-ACC NEG like-PST-DEC
 i. ‘Most of the children did not like Hoon.’ (most $> \neg$)
 ii. * ‘It is not the case that most of the children liked Hoon.’ ($*\neg > \text{most}$)

If we assume that a negative polarity item (NPI) must be c-commanded by sentential negation (e.g., Linebarger 1987), or be in the scope of negation, we find an apparent mismatch between the scope of negation and the licensing environment of NPIs.

For example, expressions such as *amwu-to* (which refers to an indefinite entity that is a person) typically have been analyzed as NPIs because they require the presence of clause-mate sentential negation (H. Choe 1988). As shown in (221), *amwu-to* can appear as the subject, despite apparently being outside of the scope of negation.

- (221) **amwu-to** kimchi-lul *(an) mek-ess-ta.
 INDf-PRT kimchi-ACC NEG like-PST-DEC
 ‘No one ate kimchi.’

If it is correct that NPIs must be c-commanded by sentential negation, (221) would suggest that preverbal negation can, at least sometimes, c-command the subject. This seems to be contrary to what (220a) and (220b) suggest.

One of the ways to escape from this paradox is to abandon the assumption that an NPI must be c-commanded by sentential negation and, instead, assume that NPIs in Korean and the similar languages are licensed in a different way, as do, e.g., Sells & Kim (2006), Han et al. (2007), and Hwang (2008). Separating the domain of NPI licensing from the c-command domain of negation (i.e., the scope of negation), however, raises not only a question of what the adequate NPI licensing domain/mechanism is but also a question of what the semantics of NPIs (e.g., the indefinite *amwu-to*) would be.

What underlies this type of approaches is taking seriously the implication of (220a–220b): Negation does not c-command the subject and therefore negation does not take scope over the subject. If that is correct, for example, it must be the case that the indefinite subject *amwu-to* in (221) cannot be an existentially quantified expression for the sake of semantics. This is because if it were, it would give a wrong truth condition for (221) as shown in (222a), as opposed to the correct truth condition in (222b).

- (222) a. $\# \exists x[\text{person}(x) \wedge \neg \text{ate}(x, \text{kimchi})]$
 b. $\neg \exists x[\text{person}(x) \wedge \text{ate}(x, \text{kimchi})]$

To account for this problem, Sells & Kim (2006) argue that indefinite expressions such as *amwu-to* (which they take as NPIs) should be analyzed as having the semantics of universal quantifiers (which is also the position taken by Giannakidou (2006) for analyzing, e.g., Greek NPIs such as *kanenas*). Under this analysis, (221) would have the following meaning:

- (223) $\forall x[\text{person}(x) \rightarrow \neg \text{ate}(x, \text{kimchi})]$

Since the truth condition in (223) is logically equivalent to (222b), Sells & Kim’s analysis correctly accounts for (221). If this is correct, (221) would no longer constitute evidence of the subject in

the c-command domain of negation.

However, I will argue that the universal-quantifier analysis of indefinite expressions such as *amwu-to* cannot be correct, on the basis of novel data which show the split scope readings of *amwu-to*, which cannot be accounted for by the universal quantifier analysis.

Instead, I will propose that *amwu-to* and the similar expressions are negative indefinites in the sense of Penka (2011), such that they denote existential quantifiers while they must be licensed by negation in syntax. More precisely, I will argue that *-to* in (221) is the head of NegP which is merged above a case-related projection (e.g., NomP and AccP) and triggers movement of the indefinite DP such as *amwu* into its specifier.

5.2 Properties of *amwu*-series negative indefinites

In this section, we will discuss the properties of *amwu*-series negative indefinites.

5.2.1 Types of *amwu*-series negative indefinites

The *amwu*-series negative indefinites have the following general format:

(224) *amwu*- X *-to*

So, all of the members of the *amwu*-series negative indefinites have the morphemes *amwu*- and *-to* and vary with respect to the element which corresponds to X.

When X is pronominal, its form depends on the ontological category (in the sense adopted in Haspelmath 1997: 21–22), e.g., person, thing, place, etc., as shown below:

- (225) a. person: \emptyset
b. thing: *kes*
c. place: *tey*

If X is null, the resulting negative indefinite (i.e., *amwu-to*) refers to a person.

A simple or compound noun can also take the place of X, as follows:

- (226) a. Simple noun *noin* ‘senior (citizen)’:

amwu noin-to khephi-lul an masy-ess-ta.
 INDF senior-PRT coffee-ACC NEG drink-PST-DEC

‘No senior citizen drank coffee.’

- b. Compound noun *tokke.noin* ‘senior citizen living alone’ (*tokke* ‘living alone’ + *noin* ‘senior (citizen)’):

amwu tokke.noin-to khephi-lul an masy-ess-ta.
 INDF living_alone.senior-PRT coffee-ACC NEG drink-PST-DEC

‘No senior citizen who lives alone drank coffee.’

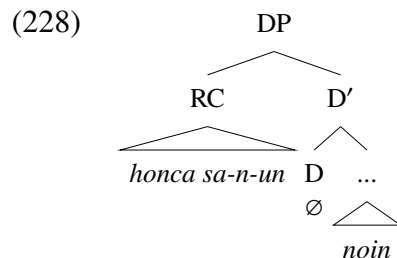
The data we have considered so far can be accounted for by the assumption that the category of X is NP and *amwu* is a determiner that takes an NP as its complement.

However, a complex noun phrase containing a relative clause which modifies the head noun (e.g., *honca sa-n-un noin* ‘the senior citizen who lives alone’) cannot appear as X:

- (227) ?? **amwu honca sa-n-un noin-to** khephi-lul an masy-ess-ta.
 INDF alone live-IPFV-REL senior-PRT coffee-ACC NEG drink-PST-DEC
 (Intended:) ‘No senior citizen who lives alone drank coffee.’

It can be puzzling as to why (227) is unacceptable if we assume that the complex noun phrase with the relative clause is an NP, just like a simple noun or a compound noun, because *amwu* as a D° should be able to be merged with any NP.

If the complex noun phrase *honca sa-n-un noin* is a DP which contains the relative clause *honca sa-n-un* in the specifier of the silent head D (M.-J. Kim 2019), as schematically shown in (228), we can attribute the unacceptability of (227) to the complementary distribution between *amwu* and the silent determiner.



This analysis predicts that if *amwu* (which is D° under our assumptions) is merged in the position of the silent determiner, we would obtain an acceptable sentence. This prediction is confirmed as shown in (229).

- (229) **honca sa-n-un amwu noin-to** khephi-lul an masy-ess-ta.
 alone live-IPFV-REL INDF senior-PRT coffee-ACC NEG drink-PST-DEC
 ‘No senior citizen who lives alone drank coffee.’

5.2.2 Licensing contexts

The *amwu*-series negative indefinites can only appear in two types of context: with clause-mate sentential negation and within a clause headed by ‘before’ (e.g., C. Lee 1999, C. Lee 2003).

Many NPIs, such as polarity sensitive *any* in English, can appear in various contexts including questions, the antecedent of conditionals, the restrictor of universal quantifier phrases, etc. This contrasts with the Korean *amwu*-series negative indefinites because the *amwu*-series negative indefinites cannot appear in such contexts (see, e.g., K.-W. Sohn 1995: 11), as shown in (230).

- (230) a. *Without overt negation:*
 * amwu-to ku nonmwun-ul ilk-ess-ta.
 INDF-PRT that paper-ACC read-PST-DEC
 (Intended:) ‘No one read that paper.’
 b. *In questions:*
 * amwu-to ku nonmwun-ul ilk-ess-ni?
 INDF-PRT that paper-ACC read-PST-DEC
 (Intended:) ‘Did no one/anyone read that paper?’
 c. *In the antecedent of conditionals:*
 * amwu-to ku nonmwun-ul ilk-umyen, na-to (an) ilk-ulke-ta.
 INDF-PRT that paper-ACC read-if, I-also NEG read-FUT-DEC
 (Intended:) ‘If no one/anyone reads that paper, I will also (not) read it.’

It is important to note that polarity sensitivity of the *amwu*-series negative indefinites is due to the morpheme *-to*, not *amwu* (or more precisely, the DP headed by *amwu*) (e.g., Lee et al. 2000a). For example, when the *amwu*-phrase appears with a free-choice morpheme *-(i)na*, as shown in (231), the presence of clause-mate sentential negation is no longer required.

- (231) a. **amwu-na** phathi-ey wa-ss-ta.
 INDF-FC party-to come-PST-DEC
 ‘Just about anyone came to the party.’
 b. Hwun-un **amwu swul-ina** ta masi-n-ta.
 Hoon-TOP INDF alcohol-FC all drink-NPST-DEC

‘Hoon drinks any alcoholic beverages.’

As mentioned above, one of the two contexts in which the *amwu*-series negative indefinites can appear is with clause-mate sentential negation. More specifically, they can appear in sentences with preverbal negation, with postverbal negation, or with one of the three inherently negative verbs including the negative copula *ani*- ‘is/are not’, the negative verb of existence *eps*- ‘not exist’, and the negative factive verb *molu*- ‘not know’:

- (232) a. *With preverbal negation:*
amwu-to kotunge-lul **an** mek-ess-ta.
INDF-PRT mackerel-ACC NEG eat-PST-DEC
‘No one ate mackerel.’
- b. *With postverbal negation:*
amwu-to kotunge-lul mek-**ci an.h**-ass-ta.
INDF-PRT mackerel-ACC eat-C NEG.do-PST-DEC
‘No one ate mackerel.’
- c. *With the negative copula:*
i cwung amwu-kes-to kotunge-ka **ani**-ta.
this among INDF-thing-PRT mackerel-NOM be_not-DEC
‘Among these, nothing is mackerel.’
- d. *With the negative verb of existence:*
kotunge-ka amwu-tey-to **eps**-ta.
mackerel-NOM INDF-place-PRT not_exist-DEC
‘Mackerel exists nowhere. (= it cannot be found anywhere.)’
- e. *With the negative factive verb:*
amwu-to cincca kotunge mas-ul **molu**-n-ta.
INDF-PRT real mackerel taste-ACC not_know-NPST-DEC
‘No one knows the real taste of mackerel.’

The other context in which the *amwu*-series negative indefinites have been known to be able to appear, although it is marginal for some speakers, is within the clause headed by ‘before’ which contains no overt negation (C. Lee 1996, 1999, Nam 1997, Lee et al. 2000b,a, Park et al. 2020), as shown in (233).

- (233) ? swuep-i [amwu-to o-ki cen-ey] kkuthna-ss-ta.
class-NOM INDF-PRT come-NMLZ before-at end-PST-DEC
‘The class ended before anyone came.’

5.2.3 Clause-boundedness

The *amwu*-series negative indefinite and its licensing negation must be in the same clause (H. Choe 1988: 215–216, 251). That is, in order to license the *amwu*-series negative indefinite, it is not sufficient for sentential negation to c-command it from a higher clause (K.-W. Sohn 1995: 9), as shown in (234).

- (234) a. *Pola-nun [Hwun-i **amwu-kes-to** mek-ess-ta-ko] malha-**ci an.h**-ass-ta.
 Bora-TOP Hoon-NOM INDF-thing-PRT eat-PST-DEC-C say-C NEG.do-PST-DEC
 (Intended:) ‘Bora did not say that Hoon ate anything.’
- b. *Pola-nun [Inho-ka [Hwun-i **amwu-kes-to** mek-ess-ta-ko] tul-ess-ta-ko]
 Bora-TOP Inho-NOM HOON-NOM INDF-thing-PRT eat-PST-DEC-C hear-PST-DEC-C
 sayngkakha-**ci an.h**-ass-ta.
 think-C NEG.do-PST-DEC
 (Intended:) ‘Bora did not think that Inho heard that Hoon ate anything.’

The availability of scrambling slightly complicates the picture with respect to the clause-boundedness of licensing by negation (i.e., the clause-mate requirement). Since the *amwu*-series negative indefinites can undergo scrambling, two relevant possibilities arise:

- (235) a. The negative indefinite undergoes scrambling from a negative clause (i.e., α) to a non-negative clause (i.e., β):
 [β ... *amwu-X-to*_i ... [α NEG ... \langle *amwu-X-to* \rangle _i ...]]
- b. The negative indefinite undergoes scrambling from a non-negative clause (i.e., α) to a negative clause (i.e., β):
 [β NEG ... *amwu-X-to*_i ... [α ... \langle *amwu-X-to* \rangle _i ...]]

Under the simplest possible conception of the clause-mate requirement, in which it is a representational requirement and therefore the highest copy of the negative indefinite must be a clause-mate with sentential negation, the first configuration in (235a) is predicted to be unacceptable while the second configuration in (235b) ought to be acceptable. In (235a), this is because *amwu-X-to* is no longer in the same clause with sentential negation once it undergoes scrambling. In contrast, the negative indefinite in (235b) had not occupied the same clause with sentential negation until it underwent scrambling; nevertheless, it now does and therefore satisfies the clause-mate requirement.

However, both of the possible configurations are acceptable in reality. In (236b), which is

an acceptable instantiation of (235a), the embedded negative indefinite object *amwu-kes-to* has undergone movement out of the negative embedded clause and into the non-negative matrix clause.

- (236) a. Pola-nun [Hwun-i **amwu-kes-to** sa-ci **an.h**-ass-ta-ko] sayngkakha-yss-ta.
 Bora-TOP Hoon-NOM INDF-thing-PRT buy-C NEG.do-PST-DEC-C think-PST-DEC
 ‘Bora thought that Hoon bought nothing.’
- b. **amwu-kes-to** Pola-nun [Hwun-i _____ sa-ci **an.h**-ass-ta-ko]
 INDF-thing-PRT Bora-TOP Hoon-NOM buy-C NEG.do-PST-DEC-C
 sayngkakha-yss-ta.
 think-PST-DEC
 (Lit.) ‘Nothing_i, Bora thought that Hoon bought t_i.’

As for the other configuration in (235b), (237b) is an acceptable example where the negative indefinite object which had been initially inside the non-negative embedded clause underwent scrambling into the negative matrix clause.

- (237) a. *Pola-nun [Hwun-i **amwu-kes-to** sa-ss-ta-ko] sayngkakha-ci **an.h**-ass-ta.
 Bora-TOP Hoon-NOM INDF-thing-PRT buy-PST-DEC-C think-C NEG.do-PST-DEC
 (Intended:) ‘Bora did not think that Hoon bought anything.’
- b. **amwu-kes-to** Pola-nun [Hwun-i _____ sa-ss-ta-ko] sayngkakha-ci
 INDF-thing-PRT Bora-TOP Hoon-NOM buy-PST-DEC-C think-C
an.h-ass-ta.
 NEG.do-PST-DEC
 (Lit.) ‘Anything_i, Bora did not think that Hoon bought t_i.’
 (= Bora thought Hoon bought nothing.)

In conclusion, a more adequate generalization regarding the clause-mate requirement of the *amwu*-series negative indefinites would be as follows:

- (238) The *amwu*-series negative indefinite or its copy must be a clause-mate with sentential negation.

5.3 Split scope readings of the *amwu*-series negative indefinites

In this section, I will show examples with the *amwu*-series negative indefinites that show split scope readings.

Accounting for the split scope readings requires that the negative indefinites are semantically

indefinites (e.g., existential quantifiers) as opposed to universal quantifiers.

I will assume that the negative indefinites are non-negative existential quantifiers and the negative semantics is provided by sentential negation.

Under this assumption, (221), repeated below, should be reconsidered as an example which provides evidence for the presence of negation above the subject.

- (221) **amwu-to** kimchi-lul *(an) mek-ess-ta.
 INDF-PRT kimchi-ACC NEG like-PST-DEC
 ‘No one ate kimchi.’

5.3.1 Split scope phenomena in other languages

Negative indefinites in German (*kein*), Dutch (*geen*), English (*no*), and the Scandinavian languages (e.g., *ingen* in Norwegian) are known to show so-called split scope readings (see, e.g., Penka 2012b,a and references therein). The name derives from the observation that some other scope-bearing element can take scope between the negative meaning component and the existential (i.e., indefinite) meaning component of the negative indefinite, resulting in a situation in which each one of the meaning components takes scope independently.

For example, the negative indefinite *kein Professor* is embedded under the deontic modal verb *müssen* ‘must’ in the German sentence in (239) (from Penka 2011: 89 and Penka 2012a: 381), which gives rise to the split scope reading in (239i) in addition to the *de re* reading in (239ii).

- (239) Bei der Prüfung muss kein Professor anwesend sein.
 at the exam must n-DET professor present be
- | | |
|--|--------------------------------------|
| i. ‘It is not required that there be a professor present.’ | ($\neg > \text{must} > \exists$) |
| ii. ‘There is no professor who is required to be present.’ | ($\neg > \exists > \text{must}$) |
| iii. ?? ‘It is required that there be no professor present.’ | (?? $\text{must} > \neg > \exists$) |

In the split reading, negation takes scope over the modal and the indefinite takes scope under the modal. It would be challenging to derive this reading if negative indefinites denote negative quantifiers (e.g., Barwise & Cooper 1981), as shown in (240), whose denotation comprises both negation and the existential quantifier.

- (240) a. $\llbracket \text{no} \rrbracket = \lambda Q \lambda P. \neg \exists x [Q(x) \wedge P(x)]$
 b. $\llbracket \text{no one} \rrbracket = \lambda P. \neg \exists x [\text{person}(x) \wedge P(x)]$

Penka (2011) takes this as the basis for her proposal in which negative indefinites simply denote (non-negative) indefinites (e.g., existential quantifiers) and their negative meaning component comes from overt or covert negation which must syntactically license negative indefinites (see also Zeijlstra 2004).

Under Penka's analysis, accounting for split scope readings becomes an easy task because each one of the two relevant built-in meaning components of the denotation of a negative quantifier (i.e., negation and the existential quantifier) exists as a separate scope-taking lexical item in the grammar.³⁶

5.3.2 Scope-splitting in Korean

In Korean, sentences identical to the German-style split scope sentences as seen in (239) do not exist because overt negation must appear along with negative indefinites. However, we can find analogous sentences which give rise to split scope readings, such as (241).

- (241) **amwu kyoswu-to** sihem kamtok-ul hay-**ya** **ha-ci an.h**-ass-ta.
 INDF professor-PRT exam proctor-ACC do-must do-C NEG.do-PST-DEC
- i. 'It was not required that there be a professor who proctors the exam.' $(\neg > \text{must} > \exists)$
 ii. 'There was no professor who was required to proctor the exam.' $(\neg > \exists > \text{must})$
 iii. * 'It was required that there be no professor who proctors the exam.' $(*\text{must} > \neg > \exists)$

In (241), postverbal negation appears on the deontic necessity modal verb *-ya ha-* 'must', which forms a verbal complex with the light verb and the verbal noun *sihem kamtok* 'proctor'. The negative indefinite *amwu kyoswu-to* receives a thematic role from the verbal noun.

The salient reading of (241) is the split scope reading in (241i), in which negation takes scope over the modal, which takes scope over the indefinite. This reading is a *de dicto* reading of the

³⁶However, for an approach which accounts for split scope readings while maintaining the status of negative indefinites as negative quantifiers, see, e.g., Abels & Martí (2010).

negative indefinite, which is about non-specific professors (i.e., proctoring by a professor was not obligatorily required).

In the non-salient reading in (241ii), negation takes scope over the indefinite and the indefinite in turn takes scope over the modal. This is the *de re* reading of the negative indefinite, which is about particular professors (i.e., it is not the case that there was a particular professor who was obligatorily required to proctor the exam).

The unavailable reading in (241iii), which has the modal taking scope over negation and prescribes the prohibition of proctoring by any professors, is due to the structure in which postverbal negation is higher than the modal.

It is easy to imagine the context in which the split reading in (241i) is true. For example, it would be true in a situation where the exam was open book and proctored by teaching assistants, such that professors were not required to proctor the exam although they could.

However, it requires imagining a slightly more elaborate context to differentiate between the split reading in (241i) and the *de re* reading in (241ii). In a situation where some professor or other was required to proctor the exam but any of the professors could (as opposed to there being a particular professor who had to), the split reading is false (because proctoring by a professor was obligatorily required) while the *de re* reading is true. Therefore, we can see that the distinction between the two readings is real.

The fact that the split scope readings of negative indefinites exist in Korean suggests that the universal quantifier analysis of the *amwu*-series negative indefinites along the lines of Sells & Kim (2006) cannot be maintained.

Under Sells & Kim's account, the *amwu*-series negative indefinites are universal quantifiers which must outscope negation. For (241), it can generate the *de re* reading in (241ii) because $\forall\neg$ and $\neg\exists$ are logically equivalent. However, the split scope reading in (241i) cannot be generated under this account because the denotation for the negative indefinite does not contain an indefinite that can take scope under the modal.

Split readings can be also found in sentences with the negative indefinite embedded under the

verb of intention *-lye ha-* which is negated by postverbal negation, as in (242).³⁷

- (242) Hwun-i **amwu yeca-to** manna-**lye** **ha-ci an.h-nun-ta**.
 Hoon-NOM INDF woman-INDF date-intend_to do-C NEG.do-NPST-DEC
- i. ‘Hoon has no intention of dating a woman.’ $(\neg > \text{intend} > \exists)$
 ii. * ‘Hoon has the intention of not dating a woman.’ $(*\text{intend} > \neg > \exists)$

In (242), the only available reading is the split reading in (242i), in which negation takes scope over the verb of intention, which in turn takes scope over the indefinite. The unavailable reading in (242ii) is in which the verb of intention takes scope over negation, which scopes over the indefinite.

It is possible to distinguish the split reading in (242i) from the unavailable reading in (242ii) by comparing (242) with (243), whose only available reading corresponds to (242ii).³⁸

- (243) Hwun-i **amwu yeca-to** **an** manna-**lye** **ha-n-ta**.
 Hoon-NOM INDF woman-PRT NEG date-intend_to do-NPST-DEC
- i. ?? ‘Hoon has no intention of dating a woman.’ $(??\neg > \text{intend} > \exists)$
 ii. ‘Hoon has the intention of not dating a woman.’ $(\text{intend} > \neg > \exists)$

In a situation where Hoon, a PhD candidate, has been avoiding dating a woman because he wants to focus on finishing his dissertation, but in fact he wants to date a woman, sentence (243) would be a felicitous description of the situation but not (242) (because Hoon still has the intention of dating a woman). On the other hand, in a situation where Hoon does not consider himself ready for marriage so he does not actively seek out to date a woman, it would be felicitous to say (242) but not (243).

³⁷Although I am labeling *-lye ha-* as a verb of intention, the actual morphological composition of *-lye ha-* is likely more complex than I suggest. This is primarily because *-lye* can be optionally followed by the morpheme *-ko*, which is used as a complementizer in other places. H.-M. Sohn (1999) calls *-lye* an intensive suffix and treats it as a contraction of *-lyeko*. Similarly, K. Lee (2009: 138–141) assumes that *-lyeko* is non-decompositional and is a complementizer introducing an intensive complement. On the other hand, Madigan (2008: 181–183) assumes that *-lyeko* is bimorphemic which is composed of an intensive mood marker *-lye* and a complementizer *-ko*. Regardless of the exact morphological composition of *-lyeko*, the important fact is that the subject of the clause headed by *-lyeko* (assuming it or a part of it is a complementizer) is obligatorily controlled by the subject of the matrix clause. For example, in (242) and (243), the subject of the matrix verb *ha-* obligatorily controls the subject of the embedded verb *manna-*. For related discussion, see Madigan (2008) and K. Lee (2009).

³⁸For discussion of German examples analogous to (242) and (243) involving restructuring verbs, see Penka (2011: 94–96).

Again, there would be no straightforward way of generating the split reading in (242i) if negative indefinites in Korean denote universal quantifiers which must take immediate scope over negation without any intervening scope-bearing elements in between, as Sells & Kim (2006) argue.

5.4 Analysis

So far, we have discussed the important properties of the *amwu*-series negative indefinites and their split scope readings. Important generalizations can be summarized as follows:

- *amwu* is D°. (§5.2.1)
- The polarity-sensitivity of the *amwu*-series negative indefinites (e.g., *amwu-to* ‘no one’, *amwu-kes-to* ‘nothing’, *amwu kyoswu-to* ‘no professor’) is due to the morpheme *-to*. (§5.2.2)
- Sentential negation licenses the *amwu*-series negative indefinites. (§5.2.2)
- Specifically, the *amwu*-series negative indefinite or its copy must be a clause-mate with sentential negation. (§5.2.3)
- The existence of split scope readings of the *amwu*-series negative indefinites suggests that the *amwu*-series negative indefinites do not denote universal quantifiers which in turn outscope sentential negation. (§5.3.2)

5.4.1 Introduction

In this section, I will propose the analysis of the *amwu*-series negative indefinites, taking account of the generalizations above. As a starting point, we will briefly go back to the discussion in §5.1 regarding the scope of preverbal negation.

Preverbal negation does not seem to be able to take scope over the subject, as sentences such as (220a) and (244) suggest.

(220a) **motun ai-ka** Hwun-ul an cohaha-yss-ta.
 every child-NOM Hoon-ACC NEG like-PST-DEC

- i. 'For every x , x a child, x did not like Hoon.' ($\forall > \neg$)
 ii. * 'Not every child liked Hoon.' ($*\neg > \forall$)
- (244) **tases myeng-uy ai-ka** Hwun-ul an cohaha-yss-ta.
 five CL[person]-GEN child-NOM Hoon-ACC NEG like-PST-DEC
- i. 'Five children did not like Hoon.' (NUM > \neg)
 ii. * 'Not all five children liked Hoon.' ($*\neg > \text{NUM}$)

The negative indefinite which can appear as the subject in (221) is therefore surprising because it would not be in the scope of negation, as is required for licensing negative indefinites in Korean.

- (221) **amwu-to** kimchi-lul *(an) mek-ess-ta.
 INDf-PRT kimchi-ACC NEG like-PST-DEC
 'No one ate kimchi.'

Sells & Kim (2006) accounts for this problem by assuming that negative indefinites are universal quantifiers. Since they must outscope negation, sentences such as (221) are predicted to be possible because the negative indefinite subject is not in the scope of negation. However, the existence of split scope readings in Korean, as discussed in §5.3.2, makes the universal quantifier analysis of negative indefinites untenable.

Under our framework, in (221), the object would be in SpecAcc and the subject would be in a position at least as high as SpecNom. Assuming that DPs are interpreted in their case position, we do not predict (221) to be acceptable because AccP and NomP are both merged in a position higher than NegP.

Since we assume that negative indefinites are non-negative existential quantifiers, they must be under the scope of negation in order to secure the negative meaning component. The analytic option we will pursue is that there is, in fact, negation in a structural position higher than the subject position.

If we assume that negation, which is different from the preverbal negation *an*, is present in a c-commanding position higher than NomP, the accompanying assumption must be that overt negation (i.e., preverbal negation) in this context is semantically vacuous and therefore does not contribute any negative force.

A particularly relevant example in support of our approach is shown in (245), where the object is the universal quantifier phrase and the subject is the negative indefinite.

- (245) *amwu-to motun kwail-ul an mek-ess-ta.*
 INDF-PRT every fruit-ACC NEG eat-PST-DEC
- | | | |
|------|--|---------------------------------|
| i. | ‘No one ate every fruit.’ | ($\neg > \exists > \forall$) |
| ii. | * ‘It is not the case that for every x , x a fruit, someone ate x .’ | ($*\neg > \forall > \exists$) |
| iii. | * ‘For every x , x a fruit, no one ate x .’ | ($*\forall > \neg > \exists$) |

The only available reading of (245) is (245i), in which negation takes scope over the indefinite and the universal quantifier. This lends support to the assumption that negation is structurally present in a position higher than NomP and c-commands both the subject and the object.

5.4.2 Proposal

I propose that the negation operator above the subject position is brought about by the particle *-to* which appears in negative indefinites. The idea is that the nature of Korean negative indefinites does not deviate from Penka’s (2011) characterization of negative indefinites across languages: Negative indefinites are non-negative indefinites which mark the presence of sentential negation (in a position different from where it is morphologically marked, if it is).

The overview of my proposal is as follows:

- The particle *-to* which appears in negative indefinites (e.g., *amwu-kes-to* ‘nothing’) is the head of Neg_{to}P (i.e., Neg_{to}[°]).
- Neg_{to}P can be merged in different positions higher than NegP, e.g., above NomP or AccP.
 - The indefinite determiner *amwu* in negative indefinites carries [**NEG**] that must be matched with [*NEG*], which Neg_{to}[°] carries along with [*•D•*]. That is, the DP headed by *amwu* must undergo movement into SpecNeg_{to} as a licensing condition.
 - The DP headed by *amwu* in negative indefinites must be reconstructed into their case position for the purpose of interpretation. As a consequence, for example, if the subject

is a negative indefinite, the subject will be interpreted under the scope of negation because $\text{Neg}_{\text{to}}^\circ$ asymmetrically c-commands SpecNom .

- $\text{Neg}_{\text{to}}^\circ$ can only be merged in the clause where Neg° (e.g., preverbal negation) has already merged. This imposes the clause-mate requirement on the licensing of negative indefinites.
- When $\text{Neg}_{\text{to}}^\circ$ and Neg° appear in the same clause, only the former serves as semantic negation and the latter is semantically vacuous. That is, a negation merged higher in the structure is the only semantically active negation when more than one negation is in the same clause.

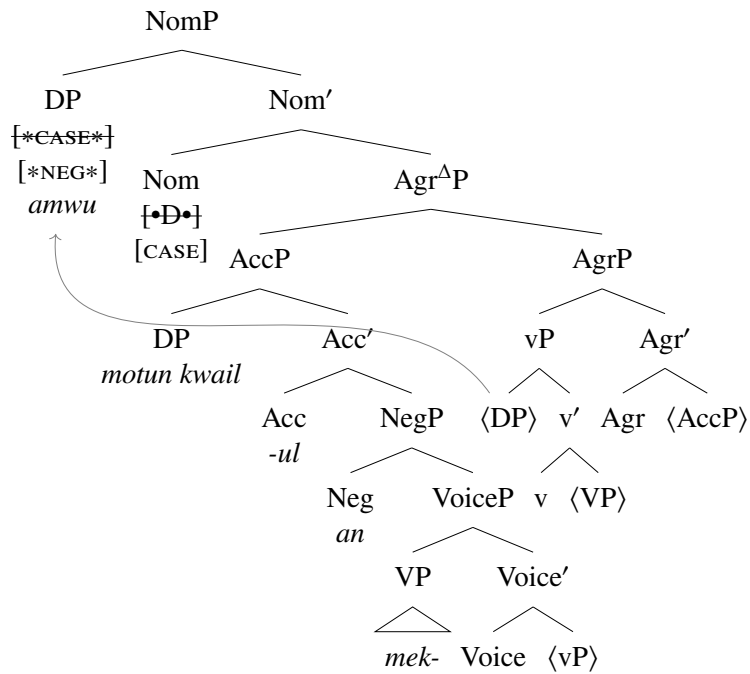
To illustrate how this works, I will show the derivation for (245), which has the negative indefinite subject and the quantified object with the universal quantifier.

(245) *amwu-to motun kwail-ul an mek-ess-ta.*
 INDF-PRT every fruit-ACC NEG eat-PST-DEC

- | | | |
|------|--|-------------------------------|
| i. | ‘No one ate every fruit.’ | $(\neg > \exists > \forall)$ |
| ii. | * ‘It is not the case that for every x , x a fruit, someone ate x .’ | $(*\neg > \forall > \exists)$ |
| iii. | * ‘For every x , x a fruit, no one ate x .’ | $(*\forall > \neg > \exists)$ |

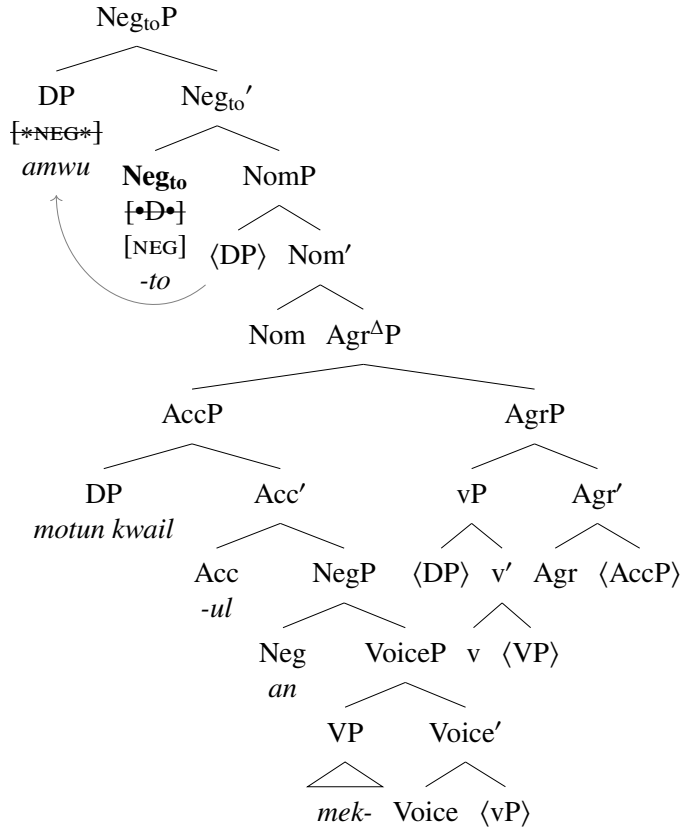
To begin with, as shown in (246), the usual structure-building takes place, with the external argument moving into SpecNom . However, there are two things out of the ordinary. One is that the external argument additionally carries [$*\text{NEG}$] because it is the DP headed by *amwu*, and the other is that Nom° is silent because the nominative and accusative case markers do not appear with *-to*.

(246)



As the next step, the Neg_{to} head (-to) is merged immediately above NomP and triggers movement of the DP headed by *amwu* into SpecNeg_{to}. The *amwu* DP's [*NEG*] is matched and discharged in SpecNeg_{to}.

(247)



As for scope, $\text{Neg}_{\text{to}}^{\circ}$ asymmetrically c-commands both Nom° and Acc° , whose specifier each contains the external argument and the internal argument. Since $\text{Neg}_{\text{to}}^{\circ}$ is a semantically active negation, while Neg° is not, the subject and the object will be interpreted under the scope of negation. It is worth emphasizing that although the subject *amwu* has undergone movement into $\text{SpecNeg}_{\text{to}}$, it will be interpreted in its case position and therefore negation will take scope over it. Therefore, this generates the reading in (245i) which is the only available reading. The other readings in (245ii) and (245iii), which are unavailable, cannot be generated under our framework because LF movement is not an available option.

We will now extend our analysis to negative indefinites that appear with postverbal negation. Under our framework, Neg° in preverbal negation is always merged in the structural position lower than the case positions (i.e., Nom° and Acc°). This contrasts with the structural position of Neg° in postverbal negation, because Neg° in postverbal negation may asymmetrically c-command the case positions or be asymmetrically c-commanded by the case positions depending on the type of derivation:

- (248) a. Nom > ... > **Neg** > ... > Acc
 b. **Neg** > ... > Nom > ... > Acc
 c. Nom > ... > Acc > ... > **Neg**
 d. *Nom > ... > **Neg** > ... > Acc

This raises a question of the position of $\text{Neg}_{\text{to}}^{\circ}$ in sentences with negative indefinites and postverbal negation, specifically when a negative indefinite is the argument that is merged in the specifier of Acc° or Nom° merged lower than Neg° . For example, in the schematic merge order shown in (248b), both Nom° and Acc° are merged lower than Neg° . In this context, if the external argument in SpecNom is a negative indefinite, where would $\text{Neg}_{\text{to}}^{\circ}$ be merged? Could $\text{Neg}_{\text{to}}^{\circ}$ be merged immediately above Nom° as in the derivation for (245)?

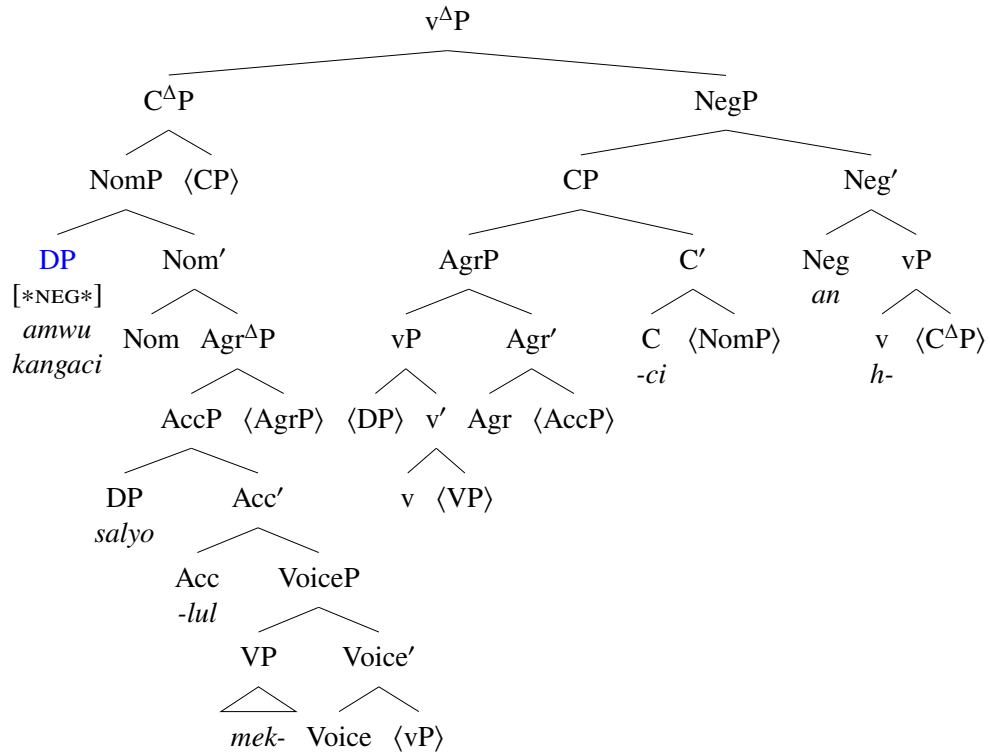
I argue that regardless of the case positions of the arguments, $\text{Neg}_{\text{to}}^{\circ}$ must be merged in a position higher than Neg° in sentences with postverbal negation, just like in sentences with preverbal negation. To illustrate how this works, I will show the derivation for (249) in which Nom° and Acc° are merged lower than Neg° in the clausal spine.³⁹

- (249) amwu kangaci-to salyo-lul mek-ci anh-ass-ta.
 INDF puppy-PRT dog_food-ACC eat-C NEG-PST-DEC
 ‘No puppy ate dog food.’

The initial relevant step in the derivation for (249) is shown in (250), in which the correct word order has been established.

³⁹Sentence (249) is identical to (155b) except that the subject is a negative indefinite, as opposed to the universal quantifier phrase. The derivation for the narrow-scope universal reading of (155b), which requires Nom° and Acc° to be merged lower than Neg° , can be seen in §4.3.2.2.

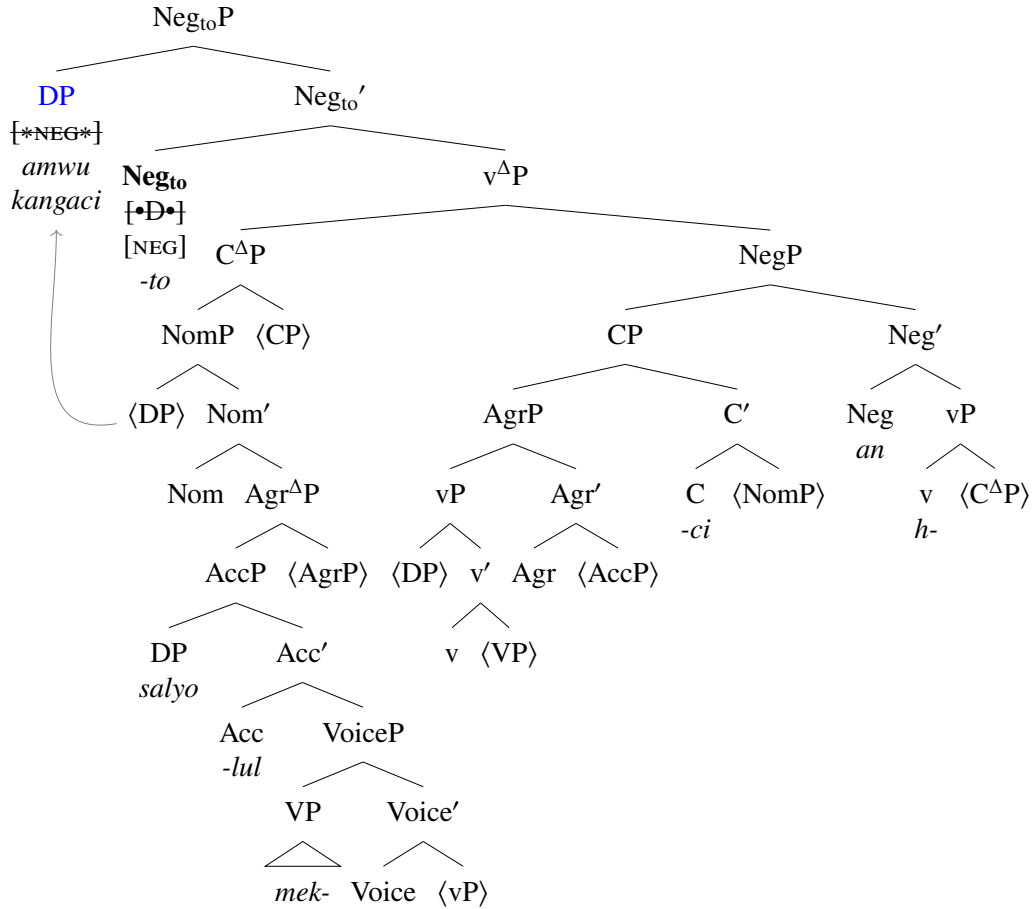
(250)



In (250), $C^{\Delta}P$ has just moved into $Specv^{\Delta}$ as the complement of v° . Importantly, the indefinite DP *amwu kangaci* is in $Spec^{+}$ of v^{Δ} and therefore can undergo further movement.

I argue that in the next step, as shown in (251), Neg_{to}° is merged above $v^{\Delta}P$ and triggers movement of the *amwu* DP into $SpecNeg_{to}$.

(251)



As a consequence, we obtain the structure in which $\text{Neg}_{\text{to}}^{\circ}$ is merged in a position higher than Neg° , and properly license the negative indefinite while generating the correct word order.

5.4.3 Split scope readings

With this analysis, it is possible to account for split scope sentences as seen in (241), repeated below.

(241) **amwu kyoswu-to** sihem kamtok-ul hay-**ya** **ha-ci** **an.h**-ass-ta.

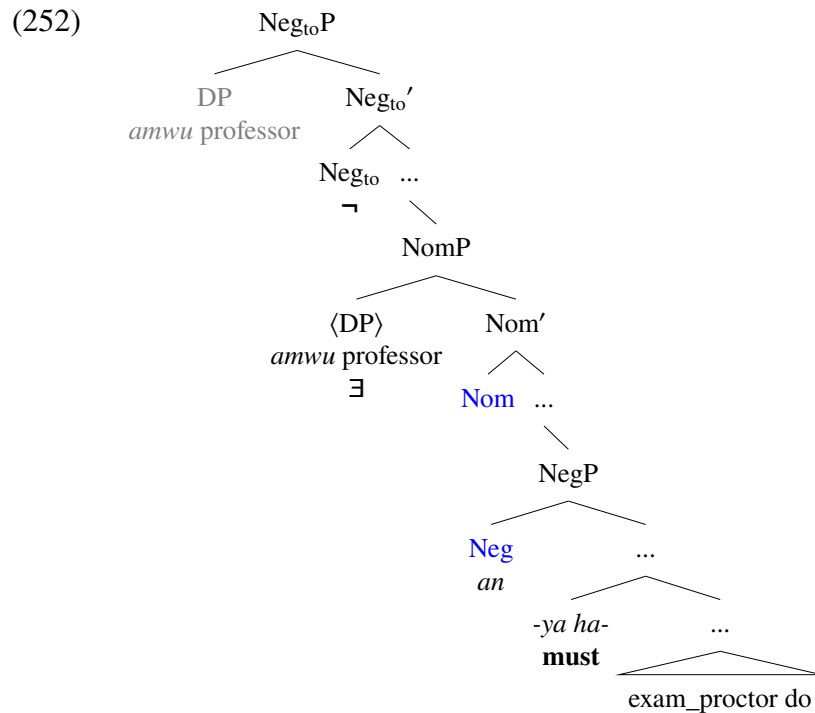
INDF professor-PRT exam proctor-ACC do-must do-C NEG.do-PST-DEC

- i. 'It was not required that there be a professor who proctors the exam.' ($\neg > \text{must} > \exists$)
- ii. 'There was no professor who was required to proctor the exam.' ($\neg > \exists > \text{must}$)
- iii. * 'It was required that there be no professor who proctors the exam.' (* $\text{must} > \neg > \exists$)

To do so, we will exploit the case positions above and below Neg° in the structures made available by postverbal negation, combined with the assumption that the DP headed by *amwu* in negative

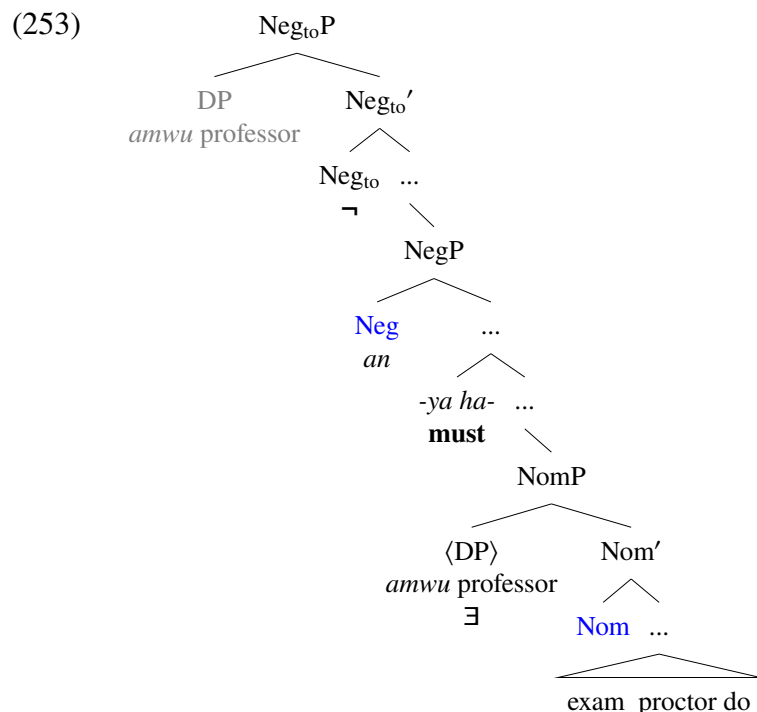
indefinites undergoes obligatory reconstruction into its case position.

As opposed to showing a detailed derivation for each available reading, I will show a schematic structure which focuses on the hierarchical order of merge of the elements merged in the clausal spine. For example, the *de re* reading in (241ii) can be generated if Nom° is merged higher than Neg° , as shown in (252).



In (252), I am assuming that the deontic modal is merged higher than the clause inside which the external argument is assigned a thematic role (i.e., the clause containing the verbal noun *sihem kamtok* ‘exam proctor’ and the light verb *ha-* ‘do’). Since the indefinite DP subject receives case in the specifier of Nom° , which is higher than the modal but lower than Negto° , negation takes scope over the indefinite and the indefinite takes scope over the modal.

On the other hand, as shown in (253), the split scope reading in (241i) is generated when Nom° is merged lower than Neg° and, importantly, therefore lower than the modal.



In (253), the indefinite DP subject receives case in the specifier of Nom° that is merged lower than Neg° and the modal. Since the modal is merged higher than the clause which contains NomP , the modal takes scope over the indefinite DP in SpecNom . The result is the split reading in which negation takes scope over the modal, which in turn takes scope over the indefinite.

As for the unavailable reading in (241iii), there is no way to generate this reading under our framework because the modal cannot be merged higher than $\text{Neg}_{\text{to}}^\circ$.

5.5 Intervention effects

In this section, I will further extend our analysis to account for intervention effects which occur in sentences with negative indefinites.

5.5.1 Only

When the exhaustive focus marker *-man* appears in a sentence with a negative indefinite, the relative word order between the two in which the negative indefinite precedes the focus marker causes the sentence to be unacceptable or blocks certain readings of the sentence.

For example, when the *man*-marked phrase precedes the *amwu*-series negative indefinite, as shown in (254), the sentence is perfectly acceptable.

- (254) **Pola-man** amwu-kes-to an mek-ess-ta.
 Bora-only INDF-thing-PRT NEG eat-PST-DEC
 ‘It is only Bora who ate nothing.’ (only > ¬ > ∃)

On the other hand, sentences in which the order between the two is reversed, such as (255), are judged to be confusing or unacceptable at first sight.

- (255) (?) amwu-to **cheyli-man** an mek-ess-ta.
 INDF-PRT cherry-only NEG eat-PST-DEC
 i. * ‘Cherry is the only thing that no one ate.’ (*only > ¬ > ∃)
 ii. ‘There is no one who only ate cherry.’ (¬ > ∃ > only)
 iii. * ‘It is not the case that cherry is the only thing that someone ate.’ (*¬ > only > ∃)

Such initial judgment is likely due to the general preference for the wide scope interpretation of the exhaustively focused element with respect to negation, as discussed in §3.2.1. However, (255) is judged to be acceptable under the non-salient reading in (255ii) when the right context is provided. For example, in a situation where every kid is eating out of a basket full of variety of fruits and trying every kind of fruits, one may felicitously say (255) to describe the situation.

However, the addition of the accusative case marker on the focused object renders (255) unacceptable, as shown in (256).

- (256) * amwu-to **cheyli-man-ul** an mek-ess-ta.
 INDF-PRT cherry-only-ACC NEG eat-PST-DEC

It is not the objecthood of the focus-marked object in the presence of the negative indefinite subject that gives rise to intervention effects. This becomes evident in sentences such as (257).

- (257) **cheyli-man**(-ul) amwu-to _____ an mek-ess-ta.
 cherry-only-ACC INDF-PRT NEG eat-PST-DEC
 i. ‘Cherry is the only thing that no one ate.’ (only > ¬ > ∃)
 ii. * ‘There is no one who only ate cherry.’ (*¬ > ∃ > only)

The word order of (257) is due to scrambling of the *man*-marked object across the subject from the base order as shown in (255). As long as the focused element precedes the negative indefinite, a

sentence is judged acceptable.

The acceptability of (255) under the reading in (255ii) where ‘only’ takes the lowest scope, as well as the similar cases, cannot be readily accounted for by approaches such as S.-S. Kim (2002b,a) and Beck (2006). Although the exact implementation differs, the main idea of such approaches is that NPIs (i.e., what we call negative indefinites) are focus-related elements (e.g., carrying a focus feature in syntax or inducing focus-alternatives in semantics) (see Lahiri 1998) and therefore another focus-related element such as the exhaustively-focused phrase cannot appear between an NPI and its licenser, as it would interrupt the licensing. It is difficult to evaluate these approaches because their accounts involve the notion such as the licenser which is ultimately theory- and structure-dependent, but the accompanying assumption about, e.g., the syntax and semantics of negation and NPIs lacks depth.

Instead of previous approaches, I will propose a simple and purely syntactic account of intervention effects with negative indefinites in what follows.

5.5.2 Proposal

I will propose that intervention effects with negative indefinites and ‘only’ arise due to the functional sequence:

(258) Only > ... > Neg_{to} > ... > Neg > ... > Only

According to (258), the exhaustive focus head Only can only be merged above Neg_{to}[°] or below Neg[°]. This is conditional, however, and only applies when both Neg[°] and Neg_{to}[°] enter a derivation. This is because when only Neg[°] enters a derivation, the following functional sequence applies:

(259) Only > ... > Neg > ... > Only

In a sense, when more than one negation head is merged in the structure, the functional sequence sees them as the same functional element, such that no scope-bearing element can intervene in between.

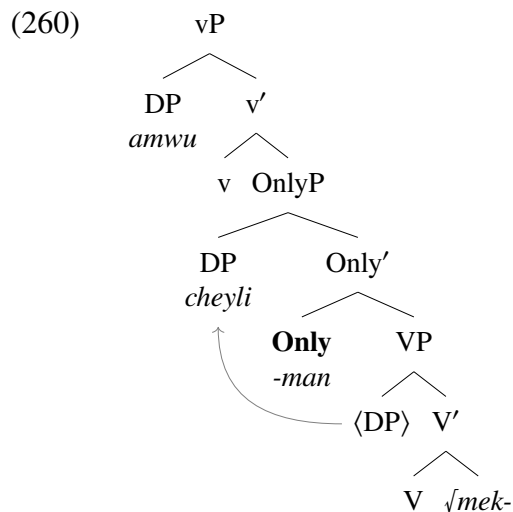
I will show how (255), repeated below, is accounted for under this analysis.

- (255) (?) amwu-to **cheyli-man** an mek-ess-ta.
 INDF-PRT cherry-only NEG eat-PST-DEC
- i. * ‘Cherry is the only thing that no one ate.’ (*only > ¬ > ∃)
 - ii. ‘There is no one who only ate cherry.’ (¬ > ∃ > only)
 - iii. * ‘It is not the case that cherry is the only thing that someone ate.’ (*¬ > only > ∃)

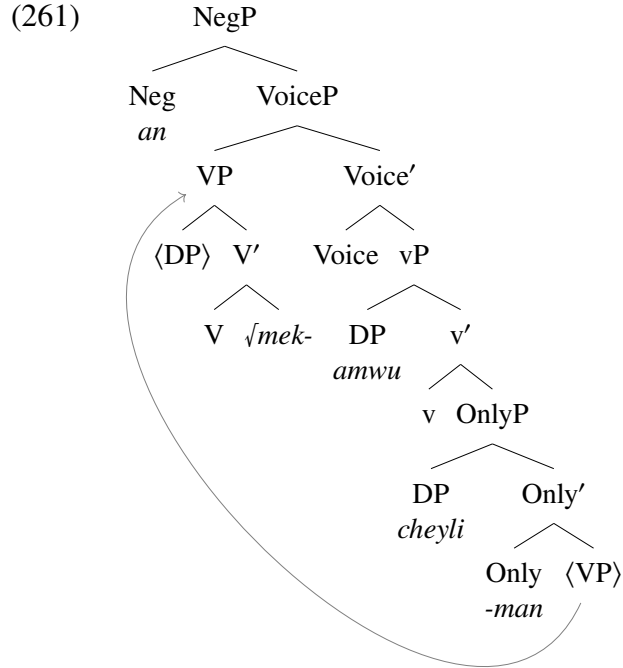
In order to obtain the scope relation for the unavailable reading in (255i), Only^o must be merged in a position higher than Neg_{to}^o. However, that would require generating the word order in which the *man*-marked phrase precedes the negative indefinite, which would be equivalent to the scrambled-order in (257). Therefore, it is impossible to generate the reading in (255i) for (255).

On the other hand, the non-salient reading in (255ii) can be obtained by the derivation in which Only^o is merged very low in the structure, i.e., below v^o. I will show the relevant steps in this derivation as follows.

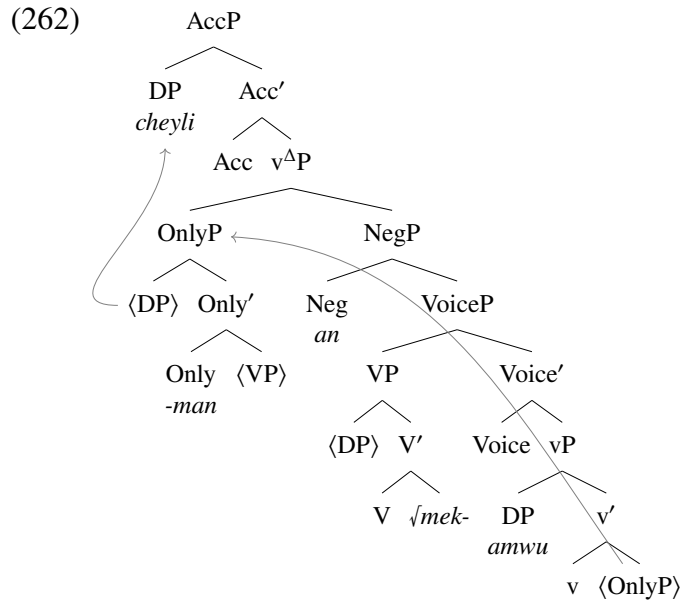
To begin with, in (260), Only^o is merged above VP and triggers movement of the internal argument.



Due to this movement, the internal object, which would have undergone pied-piping due to movement of VP into SpecVoice, remains below v^o after VP is moved, as shown in (261).



Lastly, as shown in (262), when v^Δ is merged above NegP, OnlyP undergoes movement into Spec v^Δ because it is the complement of v° . This movement pied-pipes the internal argument and places it in Spec $^+$ of v^Δ from which it can be further moved. The internal DP argument ends up in SpecAcc and receives case there.



Therefore, in (260–262), we placed Only° low in the structure for scope, while generating the correct word order among the object, the exhaustive focus marker, preverbal negation, and the verb, assuming that Acc° can be silent. At the end of the derivation, in which $\text{Neg}_{\text{to}}^\circ$ will have been

merged and take scope over the indefinite and the focus phrase, the correct scope relation which generates the reading in (255ii) will be established.

The unusual aspects of this derivation include the low merge site of Only° and the Acc head which has to be silent. The general difficulty in accessing the reading associated with this derivation may be attributed to such aspects.

CHAPTER 6

Conclusion

This dissertation investigated in detail the syntax of preverbal negation and postverbal negation under the antisymmetric and cartographic architecture, paying particular attention to the scope relation between negation and other scope-bearing elements such as quantifiers and focus markers.

I proposed that preverbal negation introduces Neg° into a structure, whereas postverbal negation introduces, in addition to Neg° , the restructuring verb *h-* and the reduced complement clause headed by *-ci* it selects for. Under this analysis, we can attribute the broader range of scope relations found in sentences with postverbal negation and the more restricted range of scopal possibilities in sentences with preverbal negation to the difference in structural complexity between preverbal and postverbal negation.

Building on the analysis above, I proposed the analysis of negative indefinites, in which they are non-negative indefinites and therefore they must be associated with a separate morpheme which provides the meaning of negation. Furthermore, I showed that split scope readings can be found in Korean just as in German. I suggested that they can be accounted for by the proposed analysis without any difficulties. Lastly, I proposed that intervention effects with negative indefinites and focus-related elements such as the exhaustive focus marker *-man* arise because of the functional sequence which does not allow the interveners to merge between the negation head projected by *-to* and the other head projected by *an*.

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