ON THE NATURE OF CONCESSIVITY IN PREDICATE FOCUS: A STUDY OF SIGMA IN KOREAN VERB DOUBLING AND ENGLISH VERB PHRASE FOCUS

By

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ABSTRACT

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This thesis studies verb doubling in Korean:

1. It aims to explain why we find implicit concessivity in only one configuration of verb doubling, i.e. contrastive verb doubling.
2. It argues that the features within the Σ Phrase (Laka 1990) trigger the concessivity.

The corollary of this thesis is twofold:

1. It explains the deep syntactic symmetry between contrastive verb doubling and long form negation structures in Korean.
2. It expands on the analysis of VP focus in English.

This thesis is dedicated to my dear loving parents, *Inja So* and *Sangrae Kim*, who always encourage me to be inquiring.

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And finally, hey you, Los Angeles! Wait for me there. I'm coming soon!

Your charms have not gone unnoticed by all the angels.

— From the message inside a fortune cookie on April 12, 2015.

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SECTION 1

INTRODUCTION

We all know that there is a famous book that takes more than one reading to grasp its deep and complex nature. And we all have a friend who is curious about whether you have read that famous book. He asks, "did you read *The Difficult Book*?" But, unfortunately, you only have given it one reading at this point. So you answer, "I READ it" (but I didn't get it).

1.1 Predicate Focus and Concessivity

What you have shown us with your answer above can be labeled under the phenomenon called PREDICATE FOCUS. There are two features to notice in your answer to the question. First, you have put a rising pitch accent on the verb *read*. The specific type of accent used in your answer is often identified with the term B-ACCENT (Bolinger 1968), of which the contour begins with the low tone (L) and ends at the stressed syllable with the high tone (H*) followed by a low phrase tone (L-) and a high boundary tone (H%), i.e. L+H* L-H% in terms of the ToBI transcription (Pierrehumbert 1980).[1]

(1) I READ it.
L+H* L-H%

We will call a phrase that is marked by the rising intonational contour as CONTRASTIVE TOPIC (Jackendoff 1972, Roberts 1996, Büring 1997, 2003, Constant 2014). This relates to the second noticeable feature in your answer: You are probably implying that you do not have a proper understanding of *The Difficult Book*, although you have read it. Anyone who understands what it means to read knows that having read something, at least, implies: (i)

[1]This contour has been associated with a number of terms. See Constant (2012, 2014) for a detailed introduction. Also, Bolinger (1968) does not make distinctions between the L*+H L-H% contour and the L+H* L-H% contour. See Ward & Hirschberg (1985, 1988) for the detailed discussion.

the completion of the event in which something readable was looked at; and (ii) the reader's comprehension of the reading content. Adeptly exploiting this common knowledge, you are *concessively* admitting the truth of only one of the two elements that constitute the event of reading by employing contrastive topic. We will categorize any instance of concessive admission under the broad term CONCESSIVITY (Lee 1999, 2000, 2002, 2003, 2006, 2007).

1.2 Verb Doubling

Many languages choose the option of leaving a morphological reflex of concessivity in addition to its phonetic realization. An on-topic phenomenon is VERB DOUBLING. This cross-linguistically well-attested configuration either serves to *contrast* or to *topicalize* a constituent of a sentence. Whether only one or both of the interpretations is available varies across languages. Crucially, the two possible interpretations suggest that there is a different structural representation associated with each one of the meanings, at least one for contrasting and another for topicalization. This also means that the study of verb doubling must proceed with caution — minimally, an appropriate pragmatic context has to be presented for each possible configuration of verb doubling in a language to see whether a verb doubled sentence in question has a topic or contrastive interpretation. One way to test for the presence of predicate focus in a sentence, a contrastive interpretation, is to see if it can answer a yes-no question while not being able to answer a subject or object question. The examples in (2) from Vata, Yoruba, Korean, Vietnamese, Mandarin Chinese, Russian, Hebrew, and Brazilian Portuguese can only felicitously answer a yes-no question of its kind, and therefore have a contrastive interpretation and shows concessivity.

(2) a. *Vata* (Koopman 1984)

li à **li** saká
eat we eat rice
'We ATE rice.'

b. *Yoruba* (Manfredi 1993)

rí-**rà** ni Ajé **ra** ìwé.
NMLZ-buy COMP Aje buy paper

'Aje {is BUYING/BOUGHT} {a book/books}.'

c. *Korean* (Jo 2004, Nishiyama & Cho 1998)

Chelswu-ka ku chayk-ul **ilk**-ki-nun **ilk**-ess-ta.
Chelswu-NOM the book-ACC read-KI-NUN read-PST-DEC

'Chelswu READ the book.'

d. *Vietnamese* (Tran 2011)

Mina **Đọc** sách thì **Đọc**.
Mina read book TOP read

'Mina READ the book.'

e. *Mandarin Chinese* (Cheng & Vicente 2013)

Chī, wǒ shì **chī** le (kěshì...)
eat I COP eat PERF but

'I ATE it.'

f. *Russian* (Abels 2001)

Čitat' Ivan eë **čitaÎ**.
read.INF Ivan it.FEM.ACC read.PST

'Ivan READ it.'

g. *Hebrew* (Landau 2006)

liknot et ha-praxim, hi **kanta**.
buy.INF ACC the-flowers she bought

'She BOUGHT the flowers.'

h. *Brazilian Portuguese* (Bastos-Gee 2009)

Temperar aquele peixe, o cozinheiro **temperou**.
season.INF that fish the cook seasoned

'The cook SEASONED that fish.'

As the term verb doubling itself suggests, the presence of two morphologically identical main verbs is the prominent feature of this configuration. The higher verb appears either as

a bare or infinitival form, or with a morpheme associated with nominalization as in Yoruba and Korean, and the lower verb realizes, if available, the tense.

1.3 Synopsis

In this thesis, I will focus on verb doubling in Korean as a means to accounting for how concessivity is systematically linked to a structure for predicate focus. Expanding on Song's (1967, 1971) and Hagstrom's (1995) observations that hint at a syntactic and semantic parallelism between the structure of long form negation and that of verb doubling, I will further propose that the Σ (Sigma) Phrase (Laka 1990) mediates this parallelism. This proposal will extend to and corroborate the parallelism between sentential negation, *do*-support, verb phrase focus and verum focus in English. At the end, I will reduce the seemingly disparate formulations of predicate focus in Korean and English to a morphophonological difference between two languages that share a homogenous underlying syntactic structure.

In section 2, I first show that there are two distinct types of verb doubling structures — topical and contrastive verb doubling — using the question-answer congruence test, and that there are two different types of negation — short form and long form negation — in Korean. Then I introduce ΣP (Laka 1990) and propose that contrastive verb doubling and long form negation are nothing but a pair of structures differed only by feature specification within ΣP, thus explaining both *why* we find the syntactic similarity between these two configurations and *how* they are related. At the end of the section, I propose the semantics of contrastive verb doubling and suggest that concessivity comes from the affirmative feature [aff].

In section 3, I extend the proposed analysis of contrastive verb doubling to English VP-focus and argue that the semantic parallelism between the two configurations from two different languages arises because of the identical feature specification, the affirmative feature [aff], within ΣP in both languages. At the end of the section, I further extend the analysis of VP-focus to verum focus in English and suggest that the verum feature [ver] on the head Σ derives verum focus structures and related interpretations in English. Section 4 concludes.

SECTION 2

VERB DOUBLING IN KOREAN

Each possible word-order alternation in verb doubling that answers a different question in a discourse is associated with a different structure and meaning: TOPICAL VERB DOUBLING answers subject and object questions and serves to topicalize a salient constituent, whereas CONTRASTIVE VERB DOUBLING answers a yes-no question and serves to answer concessively. This section proposes an analysis of *contrastive* verb doubling. The big idea of this proposal is that the structure of long form negation (cf. short form negation in §2.2.2) and that of contrastive verb doubling share a deep syntactic similarity and that this similarity is mediated by ΣP, such that any difference between the two is attributed solely to the feature specification within ΣP.

In §2.1, I use the question-answer congruence test to show that there are indeed different types of verb doubling, each associated with a syntactic structure of its own. In §2.2, I first introduce Laka's (1990) ΣP in §2.2.1 and two types of negation in Korean — short form negation in §2.2.2 and long form negation in §2.2.3 — to show that long form negation involves ΣP but short form negation does not. The background laid out in §2.2.1–2.2.5 is an absolute prerequisite for the analysis of contrastive verb doubling that follows in §2.2.6, as I propose that the structure of long form negation is only differed from that of contrastive verb doubling by the feature specification within ΣP. Under this analysis, contrastive verb doubling and long form negation are mirror images of each other, except that contrastive verb doubling appears with the affirmative feature [aff] in ΣP and long form negation with the negative feature [neg]. §2.2.8 suggests that there is a high ΣP as well as a low ΣP in Korean. In §2.3, I present the semantics of contrastive verb doubling.

2.1 Diagnosing Concessivity

We can diagnose predicate focus in a sentence by looking at whether the given sentence can be an answer to a yes-no question, as mentioned in §1.2. Both contrastive verb doubling in (3a) and its English counterpart VP focus in (3b) may felicitously answer a simple yes-no question such as *Did Mina read the book*. When they do so, interestingly, they give rise to an additional meaning that we refer to as concessivity.

(3) a. *Contrastive verb doubling*

Mina-ka chayk-ul ilk-ki-nun ilk-ess-ta.
Mina-NOM book-ACC read-KI-NUN read-PST-DEC

'Mina read the book.' (IMPLIES: *but...*, e.g., she didn't understand it.)

b. *VP focus*

Mina (did) READ the book.
L+H* L-H%

(IMPLIES: *but...*, e.g., she didn't understand it.)

That these two configurations in two different languages share the meaning and the pragmatic function — in spite of their disparate surface differences — because of the identical feature hosted within ΣP is the overarching idea of this thesis. The analysis of English VP-focus will be presented in §3, after laying out the analysis of contrastive verb doubling in §2.

2.1.1 Two Types of Verb Doubling

I propose that there are two types of verb doubling: topical verb doubling and contrastive verb doubling. This section is concerned with making a clear distinction between these two types of verb doubling, each associated with a different meaning and word-order, because not all verb doubling configurations give rise to concessivity. There are more than one way in which two verbs could be ordered in verb doubling sentences. For a simple verb-doubled structure constructed of a transitive verb, the number of sequences without repetition is 6, given that alternations are allowed for everything except for the tense-marked lower (linearly

rightmost) verb. Therefore, it is important to learn how to sort through different word-order alternations in verb doubling and diagnose which alternations are associated with concessivity. Using the question-answer congruence test, we can see that only the particular word-order alternations in (4a) and (4b) can felicitously and concessively answer the yes-no question in (4).

(4) *Yes-no question*

Q: Did Mina read the book?

a. (Mina-ka chayk-ul) ilk-ki-nun ilk-ess-e.
M.-NOM book-ACC read-KI-NUN read-PST-DEC
'Mina READ the book.'

b. chayk-ul Mina-ka ilk-ki-nun ilk-ess-e.
book-ACC M.-NOM read-KI-NUN read-PST-DEC
'Mina READ the BOOK.'

c. # chayk-ul ilk-ki-nun Mina-ka ilk-ess-e.
book-ACC read-KI-NUN M.-NOM read-PST-DEC
'As for reading books, Mina read the book.'

d. # Mina-ka ilk-ki-nun chayk-ul ilk-ess-e.
M.-NOM read-KI-NUN book-ACC read-PST-DEC
'As for what Mina read, she read the book.'

e. # ??ilk-ki-nun Mina-ka chayk-ul ilk-ess-e.
read-KI-NUN M.-NOM book-ACC read-PST-DEC
'As for reading, she read the book.'

f. # ??ilk-ki-nun chayk-ul Mina-ka ilk-ess-e.
read-KI-NUN book-ACC M.-NOM read-PST-DEC
'As for reading, she read the BOOK.'

However, (4a) and (4b) can neither answer the subject question in (5), as in (5c) and (5b), nor the object question in (6), as in (6d) and (6c). What felicitously answers the subject question in (5) is the ordering in (5a) in which the object and the higher verb are preposed.

(5) *Subject question*

Q: Who read the book?

a. (chayk-ul ilk-ki-nun) Mina-ka ilk-ess-e.
book-ACC read-KI-NUN M.-NOM read-PST-DEC
'As for reading books, Mina read it.'

b. ?# chayk-ul Mina-ka ilk-ki-nun ilk-ess-e.
book-ACC M.-NOM read-KI-NUN read-PST-DEC
'Mina READ the BOOK.'

c. ?# Mina-ka chayk-ul ilk-ki-nun ilk-ess-e.
M.-NOM book-ACC read-KI-NUN read-PST-DEC
'Mina READ the book.'

d. # Mina-ka ilk-ki-nun chayk-ul ilk-ess-e.
M.-NOM read-KI-NUN book-ACC read-PST-DEC
'As for what Mina read, she read the book.'

e. # ??ilk-ki-nun Mina-ka chayk-ul ilk-ess-e.
read-KI-NUN M.-NOM book-ACC read-PST-DEC
'As for reading, she read the book.'

f. # ??ilk-ki-nun chayk-ul Mina-ka ilk-ess-e.
read-KI-NUN book-ACC M.-NOM read-PST-DEC
'As for reading, she read the BOOK.'

On the other hand, the ordering in (6a) in which the subject and the higher verb are preposed is the most felicitous answer to the object question in (6).

(6) *Object question*

Q: What did Mina read?

a. (Mina-ka ilk-ki-nun) chayk-ul ilk-ess-e.
M.-NOM read-KI-NUN book-ACC read-PST-DEC
'As for what Mina read, she read the book.'

b. ?# ??ilk-ki-nun chayk-ul Mina-ka ilk-ess-e.
read-KI-NUN book-ACC M.-NOM read-PST-DEC
'As for reading, she read the BOOK.'

c. ?# chayk-ul Mina-ka ilk-ki-nun ilk-ess-e.
book-ACC M.-NOM read-KI-NUN read-PST-DEC
'Mina READ the BOOK.'

d. ?# Mina-ka chayk-ul ilk-ki-nun ilk-ess-e.
M.-NOM book-ACC read-KI-NUN read-PST-DEC
'Mina READ the book.'

e. # chayk-ul ilk-ki-nun Mina-ka ilk-ess-e.
book-ACC read-KI-NUN M.-NOM read-PST-DEC
'As for reading books, Mina read the book.'

f. # ??ilk-ki-nun Mina-ka chayk-ul ilk-ess-e.
read-KI-NUN M.-NOM book-ACC read-PST-DEC
'As for reading, she read the book.'

I will assume that the structures associated with the felicitous answers to the subject and object question in (5) and (6) serve to topicalize, and are different from the structure of predicate focus that serves to contrast, as in (4a). We refer to the former as topical verb doubling and the latter as contrastive verb doubling.

The phrases marked in parentheses within each felicitous answer to the yes-no, subject, and object question are omissible, because Korean allows null subjects and objects when their referents are recoverable from the context. The availability of null arguments means that they may also appear in the vP constituent located at the left periphery, i.e. CP-level projections, under the appropriate context. In fact, that would be the structure for topical verb doubling.

2.1.2 Embedding

Embedding the verb-doubled sentences within the relative clause does not alter the meaning of the root clauses, such that the embedded verb-doubled sentences in (7a), (8a), and (9a) can answer the yes-no question, the subject question, and the object question, respectively.[1]

(7) *Yes-no question*

Q: Did Mina read the book?

a. Inho-ka [**Mina-ka chayk-ul ilk-ki-nun** ilk-ess-ta]-ko kula-yss-e.
I.-NOM M.-NOM book-ACC read-KI-NUN read-PST-DEC-COMP say-PST-DEC
'Inho said Mina READ the book.'

b. %**Mina-ka chayk-ul ilk-ki-nun** Inho-ka [*t* ilk-ess-ta]-ko
M.-NOM book-ACC read-KI-NUN I.-NOM read-PST-DEC-COMP
kula-yss-e.
say-PST-DEC
(Intended: 'Inho said Mina READ the book.')
'As for Mina$_i$'s reading of the book$_j$, Inho said she$_i$ read it$_j$.'

However, the embedded answer to the yes-no question and those to the subject and object question behave differently with respect to the extraction. Extracting the phrases higher than the lower verb from an embedded clause preserves the meaning of the sentence without the extraction for the answers to the subject and object question, as in (8b) and (9b). However, doing so removes the concessivity of the answer to the yes-no question and results in a topic-like interpretation associated to the answers to subject and object questions, as in (7b). This means that only the answer to the yes-no question shows an island effect.

[1] A shift in concessivity with respect to its speaker-orientation in contrastive verb doubling is another notable fact from the embedding examples. The meaning associated with the concessive admission in the contrastive verb doubling root clause is speaker-oriented. Once embedded, however, the concessive admission is no longer speaker-oriented and associated with the subject of the matrix clause, as in (7a).

(8) *Subject question*

Q: Who read the book?

a. Inho-ka [**chayk-ul ilk-ki-nun** Mina-ka *e* ilk-ess-ta]-ko kula-yss-e.
I.-NOM book-ACC read-KI-NUN M.-NOM read-PST-DEC-COMP say-PST-DEC
'Inho said, as for reading books, Mina read it.'

b. **chayk-ul ilk-ki-nun** Inho-ka [*t* Mina-ka *e* ilk-ess-ta]-ko kula-yss-e.
book-ACC read-KI-NUN I.-NOM M.-NOM read-PST-DEC-COMP say-PST-DEC
'Inho said, as for reading books, Mina read it.'

(9) *Object question*

Q: What did Mina read?

a. Inho-ka [**Mina-ka** *e* **ilk-ki-nun** chayk-ul ilk-ess-ta]-ko kula-yss-e.
I.-NOM M.-NOM read-KI-NUN book-ACC read-PST-DEC-COMP say-PST-DEC
'Inho said, as for what Mina read, she read the book.'

b. **Mina-ka** *e* **ilk-ki-nun** Inho-ka [*t* chayk-ul ilk-ess-ta]-ko
M.-NOM read-KI-NUN I.-NOM book-ACC read-PST-DEC-COMP
kula-yss-e.
say-PST-DEC
'Inho said, as for what Mina read, she read the book.'

2.1.3 Adverbs

Using the *v*P adverb *cal* 'well', we can reaffirm that the difference between topical and contrastive verb doubling is in stark. In a contrastive verb doubling structure in which two verbs stay *sufficiently* adjacent, in a sense that they can only be separated by adverbs, the adverb can freely appear on the higher verb, on the lower verb, or on both verbs, as in (10).

(10) *Yes-no question*

Q: Does Minho eat spinach well?

a. Minho-ka sikumchi-lul **cal** mek-ki-nun mek-e.
M.-NOM spinach-ACC well eat-KI-NUN eat-DEC
'Minho EATS spinach well.'

b. Minho-ka sikumchi-lul **cal** mek-ki-nun **cal** mek-e.
M.-NOM spinach-ACC well eat-KI-NUN well eat-DEC
'Minho EATS spinach well.'

c. Minho-ka sikumchi-lul mek-ki-nun **cal** mek-e.
M.-NOM spinach-ACC eat-KI-NUN well eat-DEC
'Minho EATS spinach well.'

However, the adverb has to appear on both verbs in the answer to the subject question. It is *ungrammatical* to leave out the adverb on the lower verb, as in (11a).

(11) *Subject question*

Q: Who eats spinach well?

a. *sikumchi-lul **cal** mek-ki-nun Minho-ka mek-e.
spinach-ACC well eat-KI-NUN M.-NOM eat-DEC
(Intended:) 'As for eating spinach well, Minho eats it.'

b. sikumchi-lul **cal** mek-ki-nun Minho-ka **cal** mek-e.
spinach-ACC well eat-KI-NUN M.-NOM well eat-DEC
'As for eating spinach well, Minho eats it well.'

c. ?# sikumchi-lul mek-ki-nun Minho-ka **cal** mek-e.
spinach-ACC eat-KI-NUN M.-NOM well eat-DEC
'As for eating spinach, Minho eats it well.'

The same effect is found in the object question. If the adverb is left out in the lower verb, the sentence is ungrammatical, as in (12a).

(12) *Object question*

Q: What does Minho eat well?

a. *Minho-ka **cal** mek-ki-nun sikumchi-lul mek-e.
M.-NOM well eat-KI-NUN spinach-ACC eat-DEC
(Intended:) 'As for what Minho eats well, he eats spinach.'

b. Minho-ka **cal** mek-ki-nun sikumchi-lul **cal** mek-e.
M.-NOM well eat-KI-NUN spinach-ACC well eat-DEC
'As for what Minho eats well, he eats spinach well.'

c. ?# Minho-ka mek-ki-nun sikumchi-lul **cal** mek-e.
M.-NOM eat-KI-NUN spinach-ACC well eat-DEC
'As for what Minho eats, he eats spinach well.'

The data above would remain unexplained if topical verb doubling and contrastive verb doubling shared the identical underlying structure. Earlier studies of Korean verb doubling are inadequate in this respect. Hagstrom (1995: 32–33) presents the similar verb doubling examples that differ in the order of arguments and verbs but, erroneously, associates all of them with the meaning of English VP-fronting, such as "Read the book, Mina did". Jo (2004: 98) observes concessivity in verb doubling, but he incorrectly assigns the same concessive interpretation to both topical and contrastive verb doubling constructions. This is because Jo, without the use of question-answer test, only looks at a stative verb for examining the possible ordering of arguments and the two verbs. In turn, he misses the important general syntactic and pragmatic property of verb doubling in Korean.

2.2 Syntax

The main idea of the proposal to be given in this section is that the structure of long form negation and that of contrastive verb doubling mirror each other, and that ΣP mediates the homogeneity between the two. Therefore, building the syntax of contrastive verb doubling under this analysis must begin by adding ΣP in the picture. We do so in §2.2.1.

2.2.1 The Σ Phrase

Since Laka (1990), sentential negation and emphatic affirmation in English and Basque have been associated with a Σ Phrase. I will only focus on English data here, as shown in (13) and (14).

(13) a. *Mary not left.

b. Mary didn't leave.

(14) a. Mary left.

b. Mary DID leave.

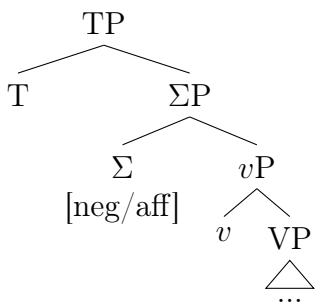
c. *Mary did leave.

The negative sentence in (13b) and the emphatically affirmative sentence in (14b) are ungrammatical without *do*-support. The declarative sentence in (14a) does not realize its tense on *do*, and it is ungrammatical without a pitch accent on *do*, as in (14c).

Laka argues that, just as sentential negation is the projection of the head Neg° (Negation) and triggers *do*-support, there is a functional head Aff° (Affirmation) that projects AffP that sets off *do*-support. She explains the parallelism between negation and affirmation by positing that NegP and AffP are in complementary distribution, such that they are two instantiations of the broader syntactic category called the Σ (Speech Act) Phrase. This suggests that sentential negation and emphatic affirmation are structurally very similar.

We can assume Neg° to be Σ° that hosts the [neg] feature and Aff° to be Σ° with the [aff] feature in more recent terms (Embick & Noyer 2001). In English, ΣP appears between TP and *v*P, as illustrated in (15).

(15)



In the following sections, we will see that the same parallelism between NegP and AffP holds in the structure of long form negation and that of contrastive verb doubling in Korean.

2.2.2 Short Form Negation

Korean has two types of negation: short form negation and long form negation (Song 1967, 1971, 1973, Lee 1970, Oh 1971, Yang 1976). The short form negation *an* is a *v*P adjunct clitic (Han et al. 2007). The evidence comes from the behavior of *v*P-adjoined adverbs such as *cal* 'well', as in (16), which shows that the object raises from a VP-internal position to Spec of a higher functional projection.

(16) a. Tony-ka maykcwu-lul **cal** masi-n-ta.
Tony-NOM beer-ACC well drink-IMP-DEC
'Tony drinks beer well.'

b. *Tony-ka **cal** maykcwu-lul masi-n-ta.
Tony-NOM well beer-ACC drink-IMP-DEC
(Intended:) 'Tony drinks beer well.'

We can observe the same behavior with the short negation *an*, as in (17).

(17) a. Tony-ka maykcwu-lul **an** masi-n-ta.
Tony-NOM beer-ACC NEG drink-IMP-DEC
'Tony doesn't drink beer.'

b. *Tony-ka **an** maykcwu-lul masi-n-ta.
Tony-NOM NEG beer-ACC drink-IMP-DEC
(Intended:) 'Tony doesn't drink beer.'

The interaction between two adjuncts serves as an evidence for the clitic status of the short negation. When both the vP adjuncts *cal* and *an* are present, it is *an* that must precede the verb, as in (18).[2]

(18) a. Tony-ka maykcwu-lul **cal** **an** masi-n-ta.
Tony-NOM beer-ACC well NEG drink-IMP-DEC
'Tony doesn't often drink beer.'

b. *Tony-ka maykcwu-lul **an** **cal** masi-n-ta.
Tony-NOM beer-ACC NEG well drink-IMP-DEC
(Intended:) 'Tony doesn't often drink beer.'

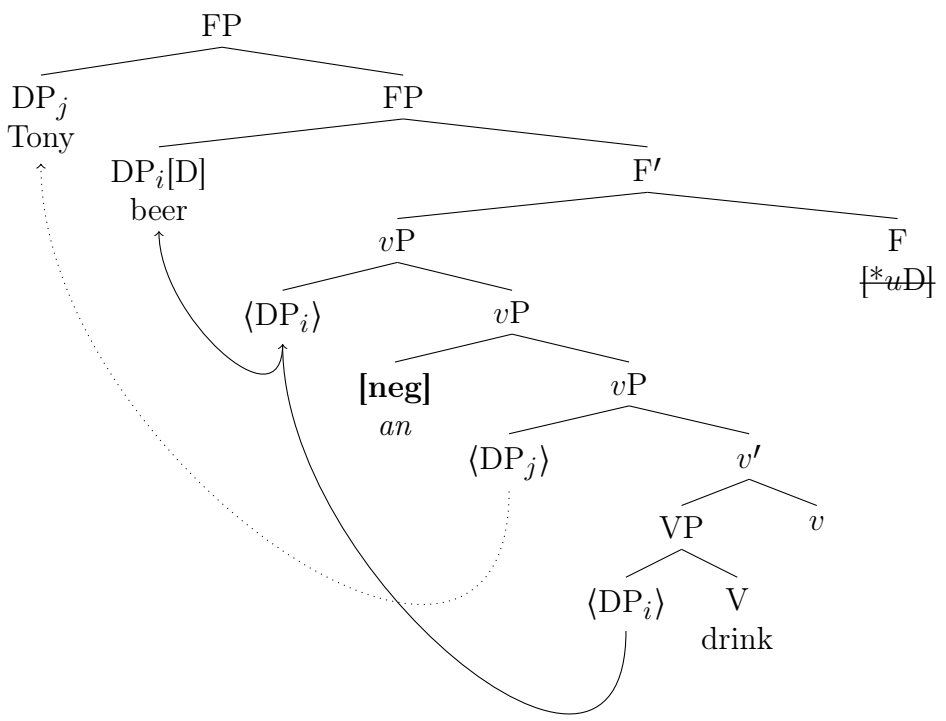
I will assume that the short negation is a head that hosts [neg] adjoined to a vP, realized as *an* at Spell-Out. The following structure in (19) illustrates part of (17a) that involves short negation and raising of the object.

[2]The vP-adverb *cal* no longer means 'well' in the context in (18) and obtains the frequency reading 'often'. Also, *cal* becomes acceptable before the object in this context unlike when it appears alone as we have seen in (16), as shown below:

i. Tony-ka **cal** maykcwu-lul **an** masi-n-ta.
Tony-NOM well NEG beer-ACC drink-IMP-DEC
'Tony doesn't often drink beer.'

Nevertheless, this does not have an adverse effect on judging the clitic status of short negation *an* because the ordering in (18b) in which *cal* appears after *an* is simply ineffable.

(19)



What motivates the object shift is not crucial to the current discussion. The movement could either be triggered by Case or EPP reasons. I will choose the latter option and postulate that the object moves from its base position to Spec of a functional projection FP above vP to check the uninterpretable strong D-feature on F°.

2.2.3 Long Form Negation

In long form negation, the negation marker *ani-* follows the main verb marked with *ci*, as in (20a). The short form and long form negation can appear in a sentence together, as in (20b), in which case results in a positive interpretation. This suggests a structural status of long form negation that is distinct from that of short form negation.

(20) a. Tony-ka maykcwu-lul masi-**ci** **ani**-ha-ss-ta.
Tony-NOM beer-ACC drink-CI NEG-do-PST-DEC
'Tony didn't drink the beer.'

b. Tony-ka maykcwu-lul **an** masi-**ci** **ani**-ha-ss-ta.
Tony-NOM beer-ACC NEG drink-CI NEG-do-PST-DEC
'Tony didn't not drink the beer.' (= Tony drank the beer.)

What remains to be addressed is the question of *ci*'s nature. The morpheme *ci* in long form negation has received a theoretical treatment as a 'nominalizer' that is in complementary distribution with *ki* that appears in contrastive verb doubling since Song (1967, 1971), followed by Kang (1988) and Hagstrom (1995, 1996, 1997, 2002), among others.

(21) a. Tony-ka maykcwu-lul masi-**ci** ani-ha-ss-ta.
Tony-NOM beer-ACC drink-CI NEG-do-PST-DEC
'Tony didn't drink the beer.'

b. Tony-ka maykcwu-lul masi-**ki**-nun masi-ess-ta.
Tony-NOM beer-ACC drink-KI-NUN drink-PST-DEC
'Tony DRANK the beer.'

However, there are a few differences between the negative element *ci* and the contrastive element *ki*. That *ci* can optionally take a morphological case marker, unlike *ki*, is one of the characteristics that distinguishes *ci* from *ki*, as in (22).

(22) a. Tony-ka maykcwu-lul masi-ci-**lul** ani-ha-ss-ta.
Tony-NOM beer-ACC drink-CI-ACC NEG-do-PST-DEC
'Tony DIDN'T drink the beer.'

b. *Tony-ka maykcwu-lul masi-ki-**lul** masi-ess-ta.
Tony-NOM beer-ACC drink-KI-ACC drink-PST-DEC
(Intended:) 'Tony DRANK the beer.'

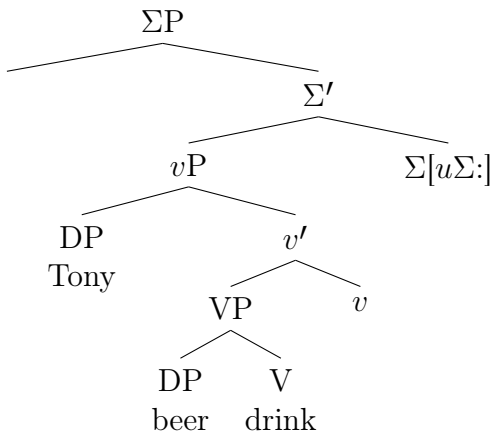
On the other hand, *ki* in contrastive verb doubling must be followed by the focus marker *nun*, whereas *nun*-marking is only optional for *ci*, as in (23).

(23) a. Tony-ka maykcwu-lul masi-ci-**nun** ani-ha-ss-ta.
Tony-NOM beer-ACC drink-CI-NUN NEG-do-PST-DEC
'Tony didn't drink the beer.'

b. Tony-ka maykcwu-lul masi-ki-*(**nun**) masi-ess-ta.
Tony-NOM beer-ACC drink-KI-NUN drink-PST-DEC
'Tony DRANK the beer.'

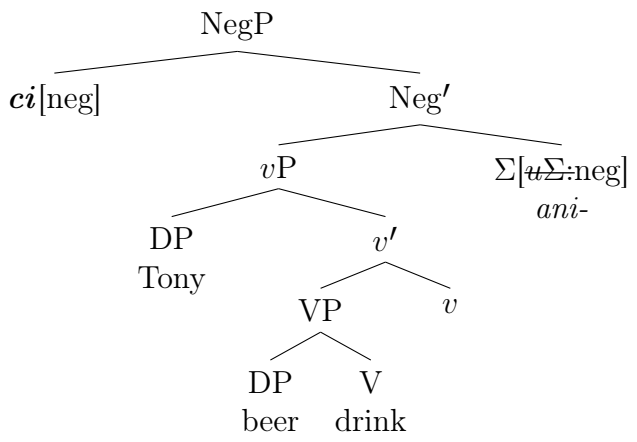
I propose that *ci* is a nominal-like negative scope marker that merges in Spec of NegP, departing from the *ci*-as-nominalizer, *ci*-as-morphological-repair-operation (Choi 2002), and *ci*-as-verb-inflection (Han et al. 2007) approach. The syntactic derivation of long form negation proceeds as follows under this proposal. First, the head Σ° that hosts the unvalued uninterpretable Σ feature $[u\Sigma:]$ projects ΣP directly above vP, as illustrated in (24). The unvalued Σ feature could either be valued as negative or affirmative, as we will see in §2.2.6.

(24)



The scope marker *ci* hosts the negative feature [neg] that values and checks the $[u\Sigma:]$ on Σ°, as shown in (25). At PF, the uninterpretable Σ feature that has been valued as [neg] and checked will be pronounced as *ani-*, the negative marker. We will refer to Σ° with the checked and valued negative uninterpretable Σ feature $[\sout{u\Sigma:}\text{neg}]$ as Neg°, and its projection as NegP.

(25)



That *ci* is a nominal element explains why it can bear a morphological case marking as seen in (22a). We will discuss in detail in §2.2.5 the mechanisms by which accusative case on *ci* in (22a) is licensed. Also, postulating the nominal status of *ci* accounts for the optional focus marking by *nun* seen in (23a) assuming that *ci* could enter the derivation with an interpretable focus feature [foc]. This is independently supported by the fact that focus-marked nominals in Korean mask morphological case marking by *nun*-marking, as in (26).

(26) a. Tony-ka maykcwu-lul masy-ess-ta.
Tony-NOM beer-ACC drink-PST-DEC
'Tony drank the beer.'

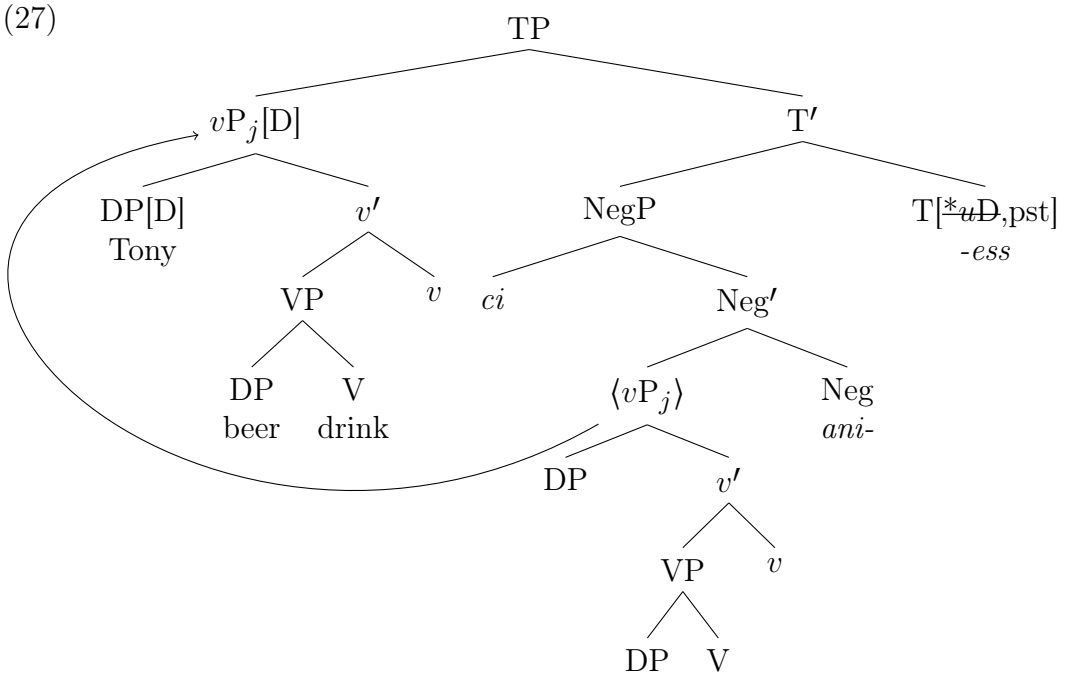
b. Tony-ka maykcwu-**nun** masy-ess-ta.
Tony-NOM beer-NUN drink-PST-DEC
'Tony drank the BEER.'

c. Tony-**nun** maykcwu-lul masy-ess-ta.
Tony-NUN beer-ACC drink-PST-DEC
'TONY drank the beer.'

However, the structure in (25) still leaves the question of word order as it would make erroneous predictions on the placement of the main verb and the materials that appear before *ci*, cf. (20a). This is what we turn to next.

I propose a revised version of the remnant movement analysis along the lines of Hagstrom (2002). Following Biberauer & Richards (2006), I assume that the EPP-feature on T° (strong D-feature) can be satisfied via *v*P-raising and propose that Korean allows this option along with languages like Modern Spoken Afrikaans and Faroese. The *v*P raises to Spec,TP and checks the D-feature on T°, as illustrated in (27). This is an instance in which the subject DP in Spec,*v*P pied-pipes along the maximal projection of the category that immediately contains it — *v*P — when it raises to Spec,TP.[3] Importantly, *ci* cannot raise to Spec,TP and check the D-feature on T° because it lacks the D-feature despite its nominal characteristics. We will see how the lack of D-feature on *ci* impacts the morphological case assignment in §2.2.5.

(27)



This movement derives the correct word order as the phonological material at the lower *v*P will be silenced at PF. However, the question remains with respect to the verbal *ha* that follows the negative marker *ani-*. I assume that *ha* in this context is a light verb, following

[3]Related instances of 'feature percolation' and pied-piping is found in the movements associated with the wh-feature in Quechua (Cole 1982), Basque (Ortiz de Urbina 1986, 1989, 1993), Hungarian (Horvath 1997), and East Asian languages (Cole et al. 1993).

the standard proposals along the lines of Ahn (1991), Park (1992), Hagstrom (1996).[4] The Spell-Out of T°, if phonetically realized, requires a morphological host. However, the main verb in (27) cannot host the morphology of T° because of the intervening Spell-Out of Neg° *ani* that is incapable of hosting the tense morphology. I propose that there is an operation *ha*-support in Korean, in a similar way to *do*-support in English (Embick & Noyer 2001). This operation, defined in (28), merges a v onto T° in syntax and realizes the v on T° with its default Spell-Out *ha*, cf. *do* in English.

(28) ha-*support*

a. At syntax, merge v to T if T does not have a vP complement.

b. At PF, realize v with its default Spell-Out *ha* if T does not have a linearly adjacent morphological host.

The first part of *ha*-support is a syntactic process that takes place when a syntactic locality condition on T° cannot be met. Adapting Embick & Noyer's (2001) analysis of *do*-support for Korean, I assume that there is a locality condition on T° in Korean as defined in (29), just like in English.

(29) *Locality condition on T°* (Embick & Noyer 2001: 586)

T must either have a vP sister or be in a morphosyntactic word with v.

A MORPHOSYNTACTIC WORD is defined in (30).

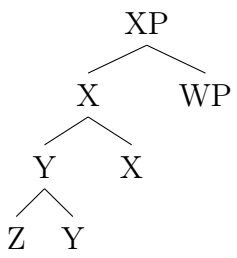
(30) *Morphosyntactic word* (Embick & Noyer 2001: 574)

At the input to Morphology, a node X° is (by definition) a morphosyntactic word (MWd) iff X° is the highest segment of an X° not contained in another X°.

In (31), X° (= Z+Y+X) is a MWd but Y° (= Z+Y) is not, because there is no MWd that dominates X°, whereas Y° is dominated by X°.

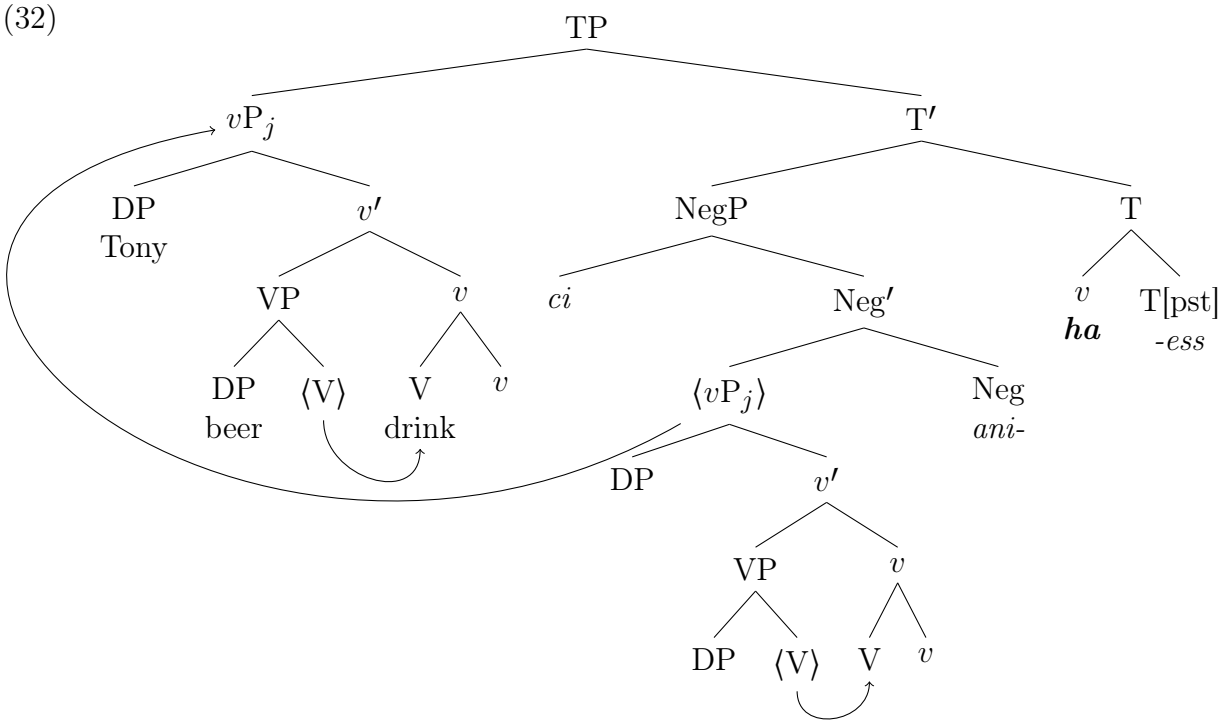
[4]Strictly speaking, *ha* under my analysis is the default Spell-Out of v.

(31)



This means that the first process of *ha*-support, which syntactically merges a v on T°, can satisfy the locality condition on T° by putting T and v together in a MWd. In (32), the locality condition on T° is not met because of the NegP, and therefore a v merges to T° as part of *ha*-support to satisfy T's requirement. At PF, the v on T° is realized with its default Spell-Out *ha* because there is no linearly adjacent phonetic material that can host the tense morphology, cf. the second process of *ha*-support in (28). I assume that Vocabulary Insertion in Korean takes place on terminal nodes under adjacency without complex head formation (Yoon 2012). This means that the Spell-Out of Neg° *ani* blocks the adjacency between the main verb and T° and triggers the default Spell-Out of v° on T° at PF.

(32)



There would be an optionality with respect to the realization of the tense morphology if Σ° did not have a phonetic realization so that there were no intervening material between the main verb and T°: We predict that the phonetic material of the main verb may be recovered to realize tense morphology as an alternative to realizing v at v+T with *ha*. This means that the lower copy of the main verb will appear as is with tense morphology. In §2.2.6, we will see that this is precisely the kind of optionality that we observe in contrastive verb doubling.

2.2.4 Implications

This analysis suggests an alternative explanation to Han et al.'s (2007) experimental results with respect to the ambiguous readings of a universal quantifier in object position of sentences with long form negation. The sentence in (33) is ambiguous between the $\forall$ > NEG (narrow scope negation) reading and the NEG > $\forall$ (wide scope negation) reading.

(33) Tony-ka **[motun** chayk-ul] ilk-ci ani-ha-ss-ta.
Tony-NOM every book-ACC read-CI NEG-do-PST-DEC
i. 'Tony didn't read any books.' ($\forall$ > NEG)
ii. 'Tony didn't read every book.' (NEG > $\forall$)

The participants in Han et al.'s (2007) experiment were divided into two groups with respect to their responses in the truth-value judgment task (Crain & Thornton 1998) for the sentences like (33) that were conditioned for wide scope negation reading, such that nearly every participant either accepted all of such sentences or rejected all of them. Also, those who allowed the wide scope negation reading also allowed the narrow scope negation reading. Han et al. (2007) attribute this split to whether a speaker has a grammar that raises V° to T° or not. This requires making a number of assumptions about the structure of long negation in Korean, including that long negation is a head that is merged lower than the projection to which objects shift, and that *ci* is an 'inflection' of a verb without any semantic functions. Alternatively, under the analysis proposed here, we could ascribe the split judgment to whether the participants allowed scope reconstruction with respect to vP. The syntactic

position of negation in this analysis does not change regardless of whether V° raises to T°, unlike Han et al.'s (2007) analysis. This is because it is the scope marker *ci*, not Neg° *ani*, that hosts the interpretable negative feature [neg]. Instead, what moves to the possible change of scopal relation is *v*P. Therefore, if scope reconstruction with respect to *v*P is possible, we expect wide scope negation reading to be available when *ci* scopes over *v*P that is in its base position. Otherwise, narrow scope negation reading must obtain, and is the only possible interpretation, for those who do not allow scope reconstruction because *v*P in its surface position scopes over *ci*.

2.2.5 Morphological Case Marking on *ci*

We now turn to the optionality of morphological case marking on *ci* as seen in (22a), repeated in (34). In this section, I will first lay out the mechanisms by which the morphological case is licensed and show how they correctly predict the accusative case marking on *ci* in (34). As shown in (35), neither nominative nor dative case marker appears on *ci* with the transitive verb *masi-* 'drink' and the only possible case marking on *ci* is accusative in this context.

(34) Tony-ka maykcwu-lul masi-ci-**lul** ani-ha-ss-ta.
Tony-NOM beer-ACC drink-CI-ACC NEG-do-PST-DEC
'Tony didn't drink the beer.'

(35) a. *Tony-ka maykcwu-lul masi-ci-**ka** ani-ha-ss-ta.
Tony-NOM beer-ACC drink-CI-NOM NEG-do-PST-DEC
(Intended:) 'Tony didn't drink the beer.'

b. *Tony-ka maykcwu-lul masi-ci-**ey** ani-ha-ss-ta.
Tony-NOM beer-ACC drink-CI-DAT NEG-do-PST-DEC
(Intended:) 'Tony didn't drink the beer.'

2.2.5.1 Assumption

To account for this, I will adopt the 'configurational' account of morphological case assignment first proposed in Marantz (1991), expanded on by Bobaljik (2008) and refined by Pre-

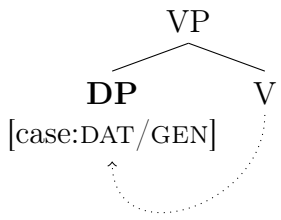
minger (2014), as the alternative to Chomsky's (1995) and Pesetsky & Torrego's (2001, 2004) proposals. Under this account, the syntactic configuration determines whether nominative or accusative case is licensed. This means that the nominative-accusative case morphology does not reflect the source in which nominals are licensed. In other words, any given case is *quirky case*, such that it is irrelevant to the licensing of nominals. Following Preminger (2014), I assume that morphological case assignment is part of syntactic derivation, as opposed to that of post-syntactic morphological derivation (cf. Marantz 1991), and that DPs enter the derivation with unvalued case features. The distinctive feature of this approach is that the assignment of case proceeds following *disjunctive case hierarchy* (Marantz 1991: 247), as defined in (36).

(36) *Disjunctive case hierarchy*

Lexical/oblique case ≺ Dependent case ≺ Unmarked case

Preminger (2014) argues that Marantz's disjunctive case hierarchy can be derived, rather than stipulated, by the nature of the syntactic derivation. The derivation begins by the lexical/oblique case assigner's selection of its argument DP and the lexical/oblique case assignment to this DP. This assignment, as illustrated in (37), occurs under sisterhood, which is the first structural relation into which nominals enter upon first Merge, and it explains why it takes the first place in disjunctive case hierarchy.

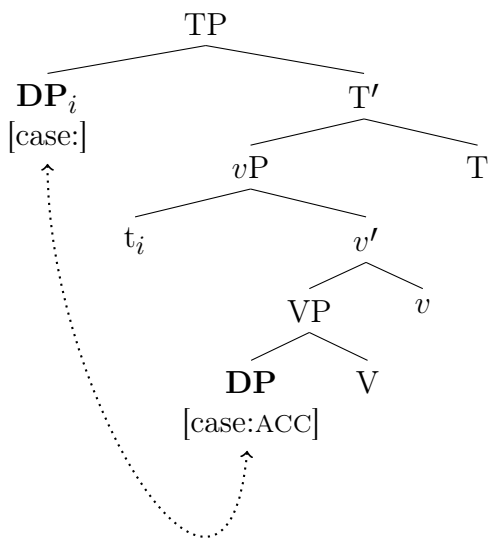
(37)



Next, *case competition* takes place between a pair of DPs with unvalued case features that stand in an asymmetric c-command relation and do not cross any locality boundaries (e.g. a phase or the boundaries of a finite clause). In a nominative-accusative language like Korean,

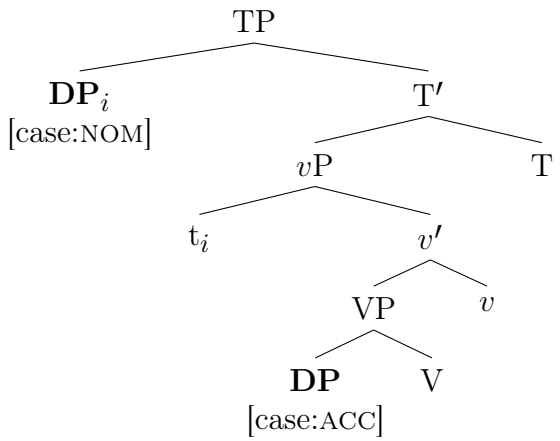
the lower of the two DPs receives the *dependent case*, i.e. accusative case, as illustrated in (38).

(38)



After the case competition in (38), any remaining DPs that failed to value their case features — those that neither received lexical/oblique case nor dependent case — are assigned *unmarked case*, a morphological form that is assigned to an unvalued case feature at the end of the derivation, as shown in (39). For a nominative-accusative language, the unmarked case in the verbal domain is nominative.

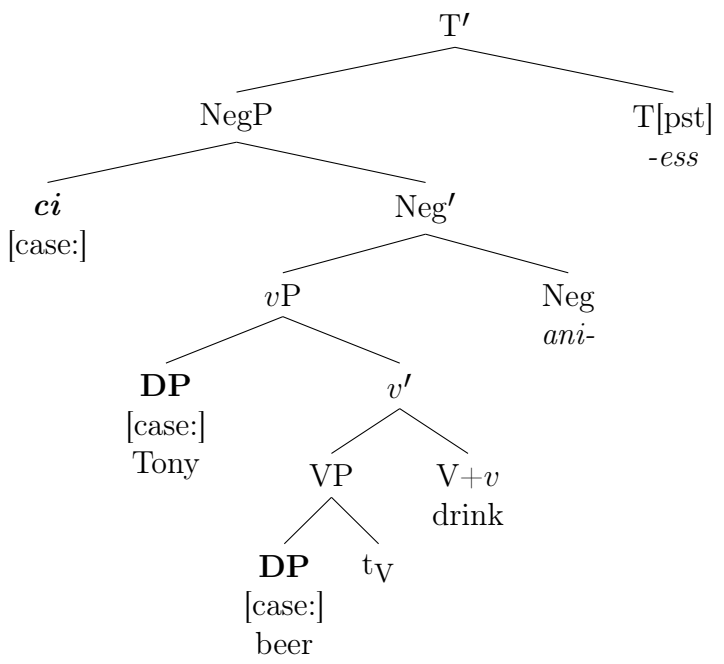
(39)



2.2.5.2 Application

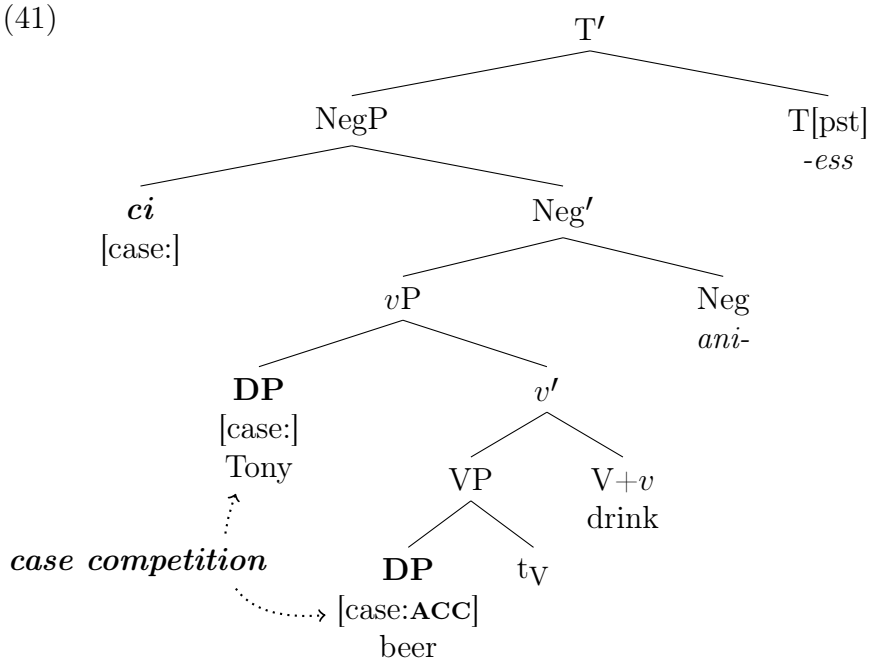
I propose that *ci* hosts an unvalued case feature following the assumption that *ci* is a nominal-like element. Then, there are three nominals with unvalued case feature in (34): the subject DP, the object DP and *ci*. This is illustrated in (40).

(40)



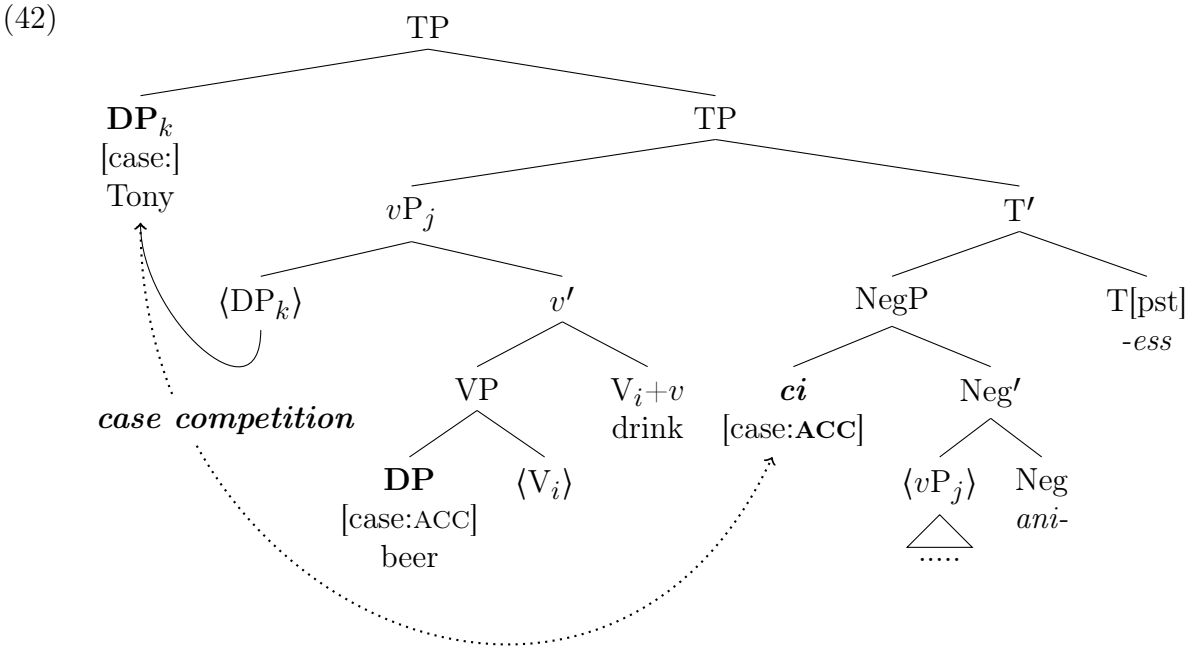
The case assignment of external and internal arguments along with *ci* in long form negation is straightforward with the mechanisms described above. Since none of the three nominals receive lexical/oblique case, all of the nominals have unvalued case features after the first step of the derivation. Then, two nominals that stand in an asymmetric c-command relation among those that did not receive lexical/oblique case will enter into case competition if they are located within a single locality domain. In this case, accusative can be assigned to the object DP through case competition between the subject and object DP, as illustrated in (41).

(41)



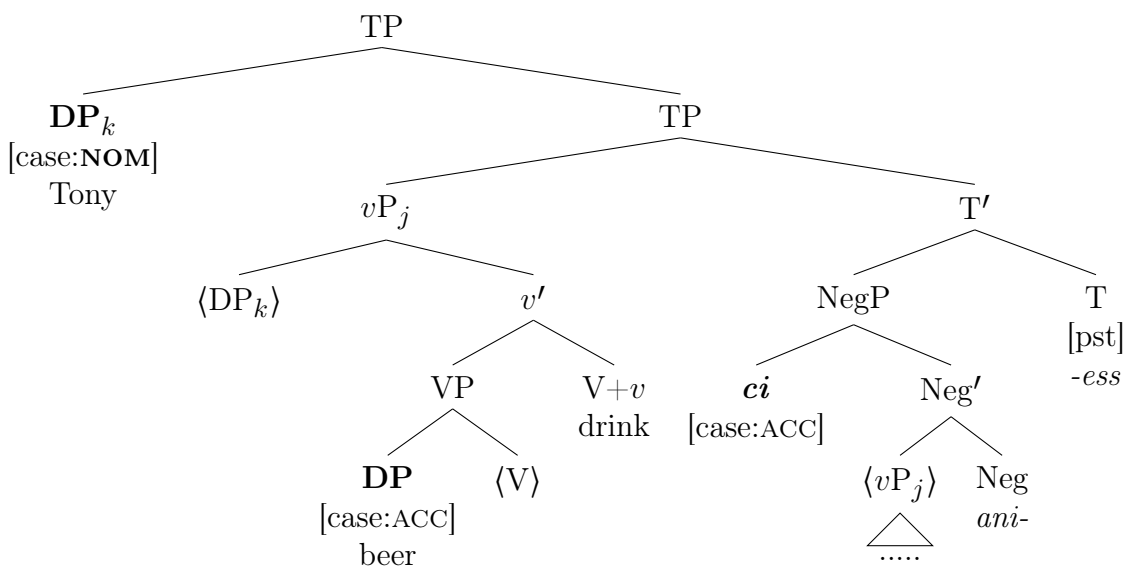
After the raising of vP to Spec,TP, the subject DP adjoins to TP by scrambling and enters into case competition with *ci* as these two nominals stand in an asymmetric c-command relationship within a locality domain and still have unvalued case features. The lower of the two nominals is *ci* and it receives accusative case, as illustrated in (42).

(42)



As a result, the only remaining nominal without valued case feature is the subject DP and it is assigned nominative as unmarked case, as illustrated in (43).

(43)



Then, the remaining question on the optionality of morphological case marking on *ci* comes down to its nominal-like nature. We assumed that *ci* is *nominal-like* to the extent that it has unvalued case feature but lacks D-feature. The lack of D-feature can be attributed to the fact that *ci* is a functional element and that it is not headed by D° unlike lexical DPs. In other words, *ci* lacks the vehicle of case morphology, i.e. D°. I propose that this is precisely why the morphological case marking on *ci* is optional. In other words, *ci* may or may not participate in the process of morphological case assignment. A question that immediately arises is under what circumstances does *ci* participate in this process. I argue that the presence of focus-related features on *ci* triggers its participation. The support for argument comes from the interpretive difference that comes with case marking on *ci*. The long form negated sentence with the case marker on *ci* in (34) has an emphatic reading that resembles exhaustive focus, although it does not have a focus interpretation that obtains with the *nun*-marking. As seen in (33), repeated in (44), a universal quantifier in object position of long form negated sentences has ambiguous readings for those speakers who allow

them.

(44) Tony-ka **[motun** chayk-ul] ilk-ci ani-ha-ss-ta.
Tony-NOM every book-ACC read-CI NEG-do-PST-DEC
i. 'Tony didn't read any books.' (∀ > NEG)
ii. 'Tony didn't read every book.' (NEG > ∀)

However, this ambiguity disappears when the morphological case marker appears after *ci*, as in (45), and the wide scope negation reading becomes unavailable.

(45) Tony-ka motun chayk-ul ilk-ci-**lul** ani-ha-ss-ta.
Tony-NOM every book-ACC read-CI-ACC NEG-do-PST-DEC
i. 'Tony didn't read any books.' (∀ > NEG)
*ii. 'Tony didn't read every book.' (NEG > ∀)

I suggest that some focus-related feature *blocks* the scope reconstruction of vP in the general sense of focus-induced intervention, and that what we observe in (45) is a frozen scope due to an intervention effect. I assume that such focus-related features could force the morphological case marking on *ci*, for yet an unknown reason.

Interestingly, we find the exact opposite direction of scope freezing when *ci* appears with the focus marker *nun*, as in (46).

(46) Tony-ka motun chayk-ul ilk-ci-**nun** ani-ha-ss-ta.
Tony-NOM every book-ACC read-CI-NUN NEG-do-PST-DEC
*i. 'Tony didn't read any books.' (∀ > NEG)
ii. 'Tony didn't read every book.' (NEG > ∀)

I have assumed that *ci* appears with *nun* when it enters the derivation with the interpretable focus feature [foc], because the Spell-Out of [foc] is *nun*. In this case, we could assume that [foc] is forcing an interpretation of vP at its base position as the result of a similar type of intervention effect.

In this section, I discussed and proposed the structure of long form negation in Korean. In the following section, I will suggest that the structure of verb doubling is a mirror image of that of long form negation, differed only by the feature specification of Σ° and its elements.

2.2.6 Verb Doubling

At least three questions must be addressed with respect to contrastive verb doubling:

- What triggers concessivity?
- What does *ki* on the higher verb do?
- Why is *nun*-marking obligatory on *ki*?

I argue that answers to the questions above are associated with features on ΣP. If this is right, it derives the parallelism of long form negation and contrastive verb doubling and reduces it to the difference in feature specifications of Σ°.

As we have seen in §2.1, contrastive verb doubling triggers concessivity, as in (47). That is, (47) could be uttered as an answer to the related yes-no question to imply that there was another description of the event under discussion that was false, although it is declared that the proposition under question is true.

(47) Tony-ka maykcwu-lul masi-ki-nun masi-ess-ta.
Tony-NOM beer-ACC drink-KI-NUN drink-PST-DEC
'Tony DRANK the beer.'

Also, just as *ci* in long form negation, *ki* in contrastive verb doubling is obligatory and appears after the higher verb, as in (48).

(48) Tony-ka maykcwu-lul masi-*(**ki**)-nun masi-ess-ta.
Tony-NOM beer-ACC drink-KI-NUN drink-PST-DEC
'Tony DRANK the beer.'

Another obligatory element is the focus marker *nun* that follows *ki*, as in (49).

(49) a. Tony-ka maykcwu-lul masi-ki-*(**nun**) masi-ess-ta.
Tony-NOM beer-ACC drink-KI-NUN drink-PST-DEC
'Tony DRANK the beer.'

b. *Tony-ka maykcwu-lul masi-ki-**lul** masi-ess-ta.
Tony-NOM beer-ACC drink-KI-ACC drink-PST-DEC
(Intended): 'Tony DRANK the beer.'

Neither omission nor morphological case marking could take place after *ki* instead of *nun*, unlike long form negation in (50) with respect to *ci*.

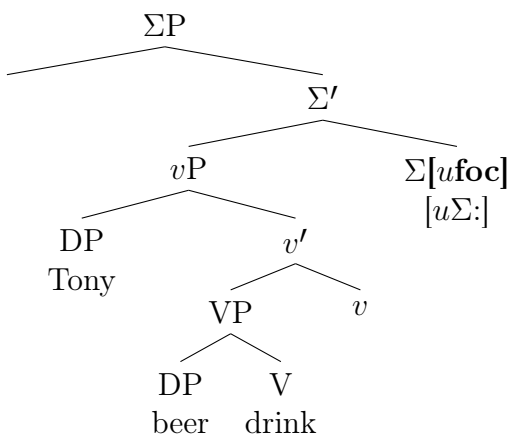
(50) a. Tony-ka maykcwu-lul masi-ci-(**nun**) an ha-ss-ta.
Tony-NOM beer-ACC drink-CI(-NUN) NEG do-PST-DEC
'Tony didn't drink the beer.' ('It's not the case that Tony DRANK the beer.')

b. Tony-ka maykcwu-lul masi-ci-**lul** an ha-ss-ta.
Tony-NOM beer-ACC drink-CI-ACC NEG do-PST-DEC
'Tony DIDN'T drink the beer.'

2.2.6.1 In Syntax: A Mirror Image of Long Form Negation

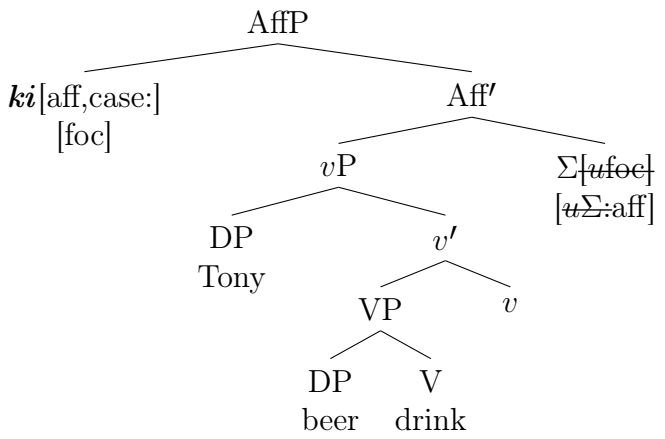
I propose that Σ° with the unvalued uninterpretable Σ feature $[u\Sigma:]$ projects in contrastive verb doubling as it does in long form negation. However, Σ° in contrastive verb doubling hosts the uninterpretable focus feature $[u\text{foc}]$ on top of the Σ feature, as illustrated in (51), unlike the Σ° in long form negation.

(51)



This means that Σ° requires something in the derivation that can check both of its uninterpretable features. I propose that *ki* is a nominal-like functional element that values Σ as affirmative and marks the scope of focus. It therefore hosts an interpretable affirmative feature [aff], the unvalued case feature [case:] and the interpretable focus feature [foc], as illustrated in (52).

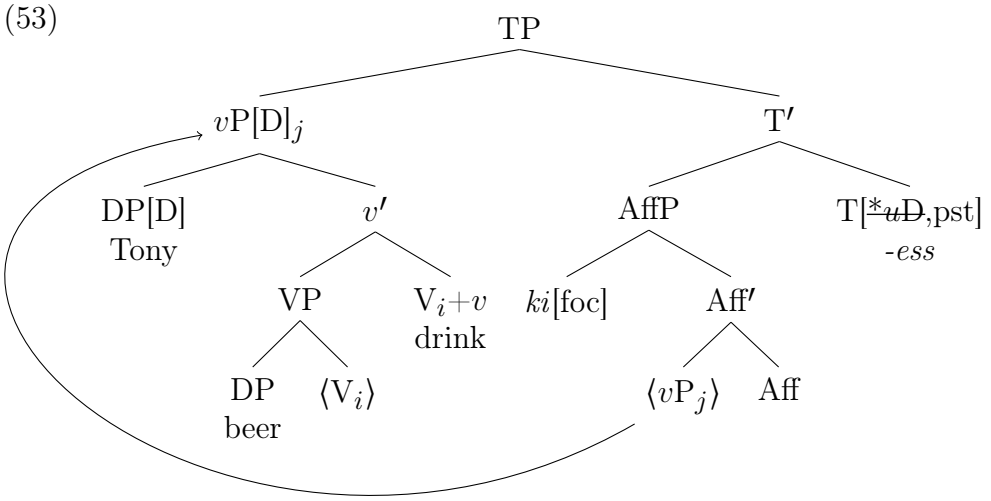
(52)



Merging *ki* in Spec,ΣP values the uninterpretable Σ feature as affirmative and checks it along with the uninterpretable focus feature. We will refer to the maximal projection of Σ° with the Σ feature valued as affirmative as AffP. At PF, [foc] will be realized as *nun* that follows *ki*. As seen in §2.2.5, whether *ci* could participate in case competition seemed to be conditioned by the presence of focus-related feature on *ci*. I assume that *ki* is assigned accusative as the dependent case without being phonetically realized because it enters into case competition only to be masked by the Spell-Out of the focus feature *nun*. This immediately explains the obligatory *nun*-marking on *ki*, such that *nun* cannot be omitted or substituted by the case marker, as seen in (49). The absence of *nun* amounts to the lack of [foc] and the derivation will crash due to the unchecked uninterpretable focus feature [*u*foc] on Σ°. Also, the case marker on *ki* is ineffable because the unvalued case feature on *ki* cannot enter into case competition without the simultaneous presence of focus features on *ki*.

As the next step, illustrated in (53), the vP moves to Spec,TP and checks the uninterpretable strong D-feature on T° just as it does in long form negation, cf. (27) in §2.2.3.

(53)



The support for this movement comes from the scope freezing effect induced by [foc]. As seen in (46), repeated in (54), the presence of *nun* indicating that of the focus feature [foc] forces the wide scope negation reading in long form negation.

(54) Tony-ka motun chayk-ul ilk-ci-**nun** ani-ha-ss-ta.
Tony-NOM every book-ACC read-CI-NUN NEG-do-PST-DEC
*i. 'Tony didn't read any books.' (∀ > NEG)
ii. 'Tony didn't read every book.' (NEG > ∀)

Contrastive verb doubling exhibits the very same behavior due to its obligatory *nun*-marking. The sentence in (55) is unambiguous. It cannot receive an interpretation in which *every book* is contrasted with *some book*. The only available interpretation is the wide scope focus reading in which the event related to the predicate is contrasted with other events.

(55) Tony-ka motun chayk-ul ilk-ki-**nun** ilk-ess-ta.
Tony-NOM every book-ACC read-KI-NUN read-PST-DEC
*i. 'Tony read EVERY book.' (∀ > FOC)
ii. 'Tony READ every book.' (FOC > ∀)

2.2.6.2 At PF: Two Ways of Hosting Tense Morphology

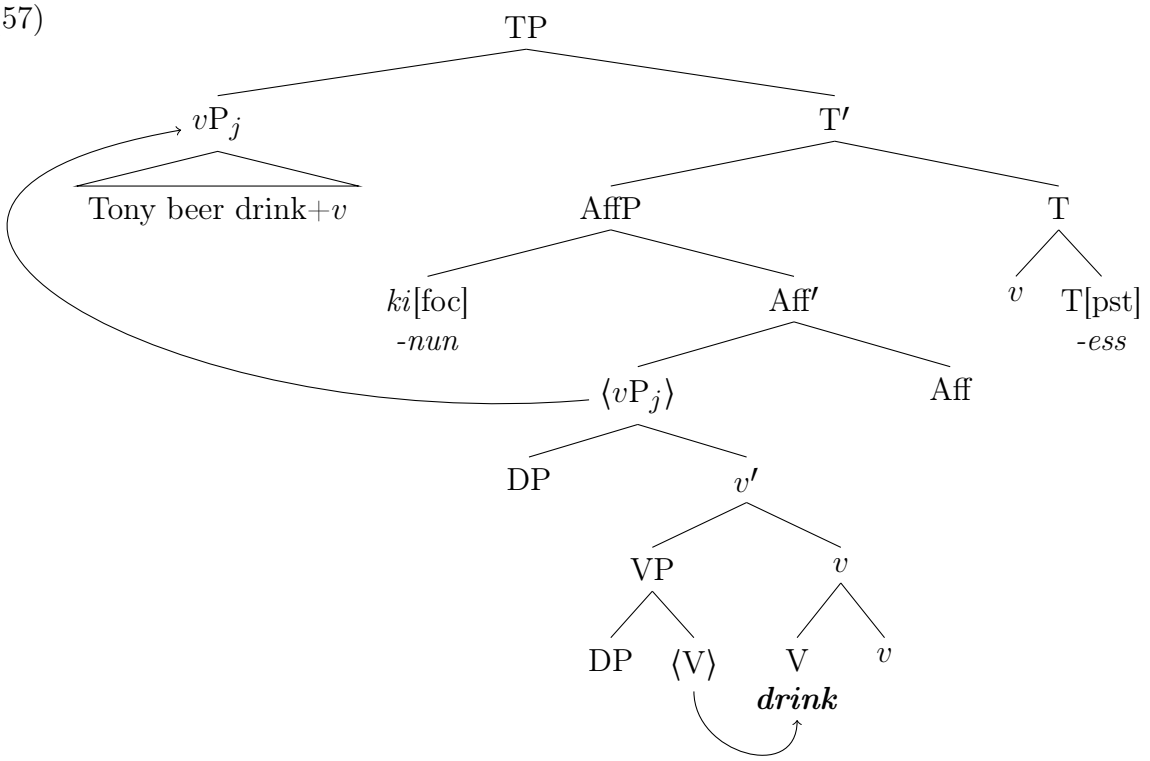
A question remains with respect to the phonetic realization of the lower verb in contrastive verb doubling: the higher and lower verb share the same form. As seen in (32) in §2.2.3, the phonological material in the lower vP is silenced upon the movement of vP to Spec,TP. In long form negation, *ha* must realize the v merged on T° as the default Spell-Out of v because the realization of Neg° *ani* interrupts the adjacency between the main verb and T° (see §2.2.3). As an alternative to realizing v with *ha* to host the morphology of T at PF, I suggested that the realization of the phonetic material in the lower copy of the main verb could host the tense morphology if there were no intervening element with a phonetic realization between the main verb and T°. The syntax of contrastive verb doubling given in §2.2.6.1 predicts that both options must be available in contrastive verb doubling because Aff° lacks phonological material. This is precisely what we find from empirical data in (56).

(56) a. Tony-ka maykcwu-lul masi-ki-nun **masi**-ess-ta.
Tony-NOM beer-ACC drink-KI-NUN drink-PST-DEC
'Tony DRANK the beer.'

b. Tony-ka maykcwu-lul masi-ki-nun **ha**-yss-ta.
Tony-NOM beer-ACC drink-KI-NUN do-PST-DEC
'Tony DRANK the beer.'

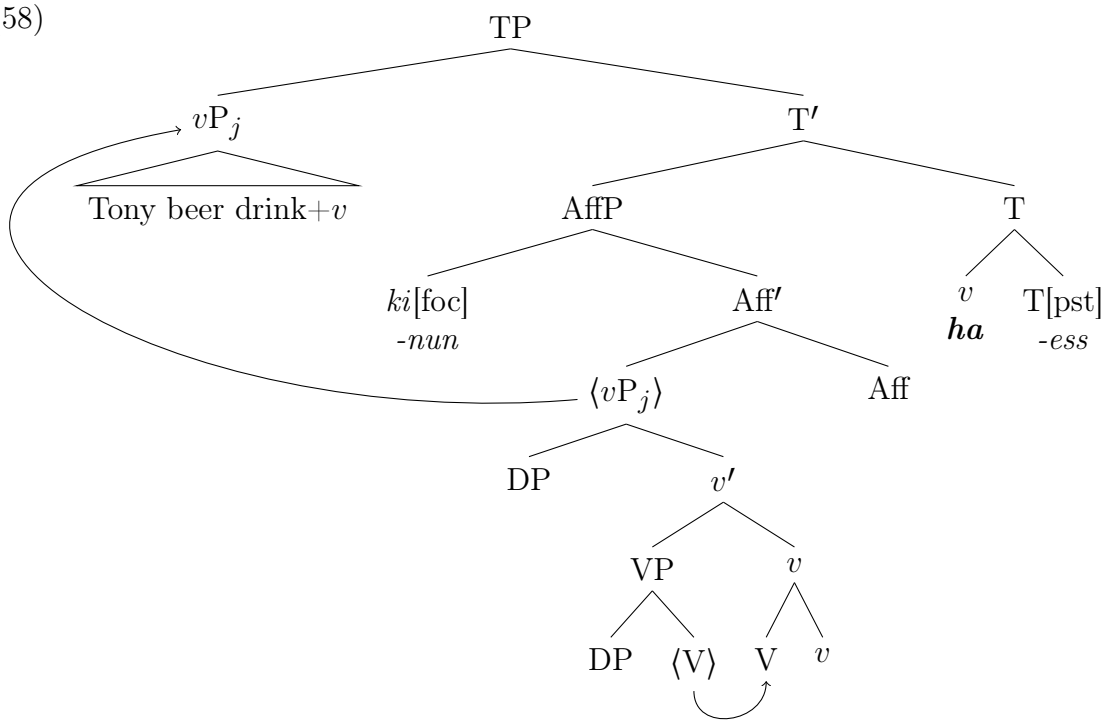
When the lower copy of the main verb is realized and hosts the tense morphology as illustrated in (57), we obtain (56a) with two identical copies of the main verb.

(57)



In comparison, we obtain (56b) when v at v+T is realized with *ha*, as illustrated in (58).

(58)



2.2.6.3 Restrictions on Realizing *v* on T with *ha*

There seem to be restrictions on configurations in which v at v+T could be realized with *ha*, however. As seen in (10) in §2.1, adverbs may appear on the higher verb, on the lower verb, or on both verbs when the two verbs share the same form as in (59a). On the other hand, adverbs cannot appear on the light verb when *ha* appears, as shown in (59b).

(59) a. Mina-ka nolay-lul (**cal**) pwulu-ki-nun (**cal**) pwull-ess-ta.
M.-NOM song-ACC well sing-KI-NUN well sing-PST-DEC
'Mina SANG the song well.'

b. %Mina-ka nolay-lul **cal** pwulu-ki-nun **cal** ***ha***-yss-ta.
M.-NOM song-ACC well sing-KI-NUN well do-PST-DEC
(Intended: 'Mina SANG the song well.')
'Mina did a good job of singing the song well (among the things she had to do).'

c. Mina-ka nolay-lul **cal** pwulu-ki-nun ***ha***-yss-ta.
M.-NOM song-ACC well sing-KI-NUN do-PST-DEC
'Mina SANG the song well.'

We can make a similar observation with short negation *an*. It must appear on both verbs in contrastive verb doubling as in (60a), and dropping *an* either on the higher verb or on the lower verb results in ungrammaticality. If *ha* must be realized, *an* cannot appear before *ha* as in (60b), cf. (60c).

(60) a. Mina-ka nolay-lul *(**an**) pwulu-ki-nun *(**an**) pwull-ess-ta.
M.-NOM song-ACC NEG sing-KI-NUN NEG sing-PST-DEC
'It is not the case that Mina SANG the song.'

b. %Mina-ka nolay-lul **an** pwulu-ki-nun **an** ***ha***-yss-ta.
M.-NOM song-ACC NEG sing-KI-NUN NEG do-PST-DEC
(Intended: 'It is not the case that Mina SANG the song.')
'Not singing the song is what Mina didn't do (among the things she had to do).'

c. Mina-ka nolay-lul **an** pwulu-ki-nun ***ha***-yss-ta.
M.-NOM song-ACC NEG sing-KI-NUN do-PST-DEC
'It is not the case that Mina SANG the song.'

Moreover, it is possible to replicate the exact same effect using both the *v*P-adverb *cal* and short negation, as in (61).[5] Just as in (59) and (60), nothing can appear before the light verb when *ha* appears. Omitting either *cal* or *mos* from (61b) does not obtain the intended reading and simply results in another among-the-things-list-like reading associated with the obtained reading.

(61) a. Mina-ka nolay-lul (**cal**) *(**mos**) pwulu-ki-nun (**cal**) *(**mos**) pwull-ess-ta.
M.-NOM song-ACC well NEG sing-KI-NUN NEG well sing-PST-DEC
'It is not the case that Mina SANG the song well.'

b. %Mina-ka nolay-lul **cal mos** pwulu-ki-nun **cal mos** ***ha***-yss-ta.
M.-NOM song-ACC well NEG sing-KI-NUN well NEG do-PST-DEC
(Intended: 'It is not the case that Mina SANG the song well.')
'Not singing the song well is what Mina couldn't do well (among the things she could do).'

c. Mina-ka nolay-lul **cal mos** pwulu-ki-nun ***ha***-yss-ta.
M.-NOM song-ACC well NEG sing-KI-NUN do-PST-DEC
'It is not the case that Mina SANG the song well.'

Based on these observations, I propose that the phonetic realization of *v* on T° with *ha*, preconditioned by the first process of *ha*-support (see (28) in §2.2.3), occurs only under the condition defined in (62).

(62) *Condition on the realization of v on T*
All phonological material within *v*P must be silenced.

This condition explains why pronouncing any materials that linearly precede *ha* after *nun* is unacceptable as an alternative to keeping the form and (all or part of) related materials of higher and lower verbs the same.

[5]For semantic reasons, I will use *mos*, the negative marker with the meaning of inability (roughly, *cannot*) that appears in the position of *an(i)* (both long and short negation) and shares the exact same distribution with *an(i)* (see Hagstrom 2002). I assume that *mos* is the Spell-Out of some modal-related feature on Σ° along with the uninterpretable Σ feature valued as negative in long form negation. In short form negation, I suggest that it is the Spell-Out of the same modal-related feature with the negative feature [neg].

2.2.7 Interim Summary

- The features within ΣP derive either long form negation or contrastive verb doubling.
- *ci* and *ki* are nominal-like functional elements in complementary distribution: *ci* checks and values [*u*Σ:] as negative, and *ki* does so as affirmative.
- [foc] is realized with *nun*, and such focus features give rise to intervention effects.

2.2.8 High Σ: Double Long Form Negation and Tensed Doubling

There are evidences that suggest that there is a high Σ projection in Korean just as there is one in Basque, possibly so in English, and across languages (Laka 1990, Ladusaw 1992, Zanuttini 1997, Holmberg 2003). I propose that DOUBLE LONG FORM NEGATION (Double LFN) in (63a) and TENSED CONTRASTIVE VERB DOUBLING (Tensed CVD) in (64) point to the existence of a high ΣP.

(63) a. *Double long form negation*

Tony-ka maykcwu-lul masi-ci ani-ha-ci ani-ha-ss-ta.
Tony-NOM beer-ACC drink-CI NEG-do-CI NEG-do-PST-DEC
'Tony didn't not drink the beer.' (= Tony drank the beer)

b. *Short negation + Long negation*

Tony-ka maykcwu-lul an masi-ci ani-ha-ss-ta.
Tony-NOM beer-ACC NEG drink-CI NEG-do-PST-DEC
'Tony didn't not drink the beer.' (= Tony drank the beer.)

c. *Short negation + Double long negation*

Tony-ka maykcwu-lul an masi-ci ani-ha-ci ani-ha-ss-ta.
Tony-NOM beer-ACC NEG drink-CI NEG-do-CI NEG-do-PST-DEC
'Tony didn't not not drink the beer.' (= Tony didn't drink the beer.)

(64) *Tensed contrastive verb doubling*

?Tony-ka maykcwu-lul masi-ess-ki-nun masi-ess-ta.
Tony-NOM beer-ACC drink-PST-KI-NUN drink-PST-DEC

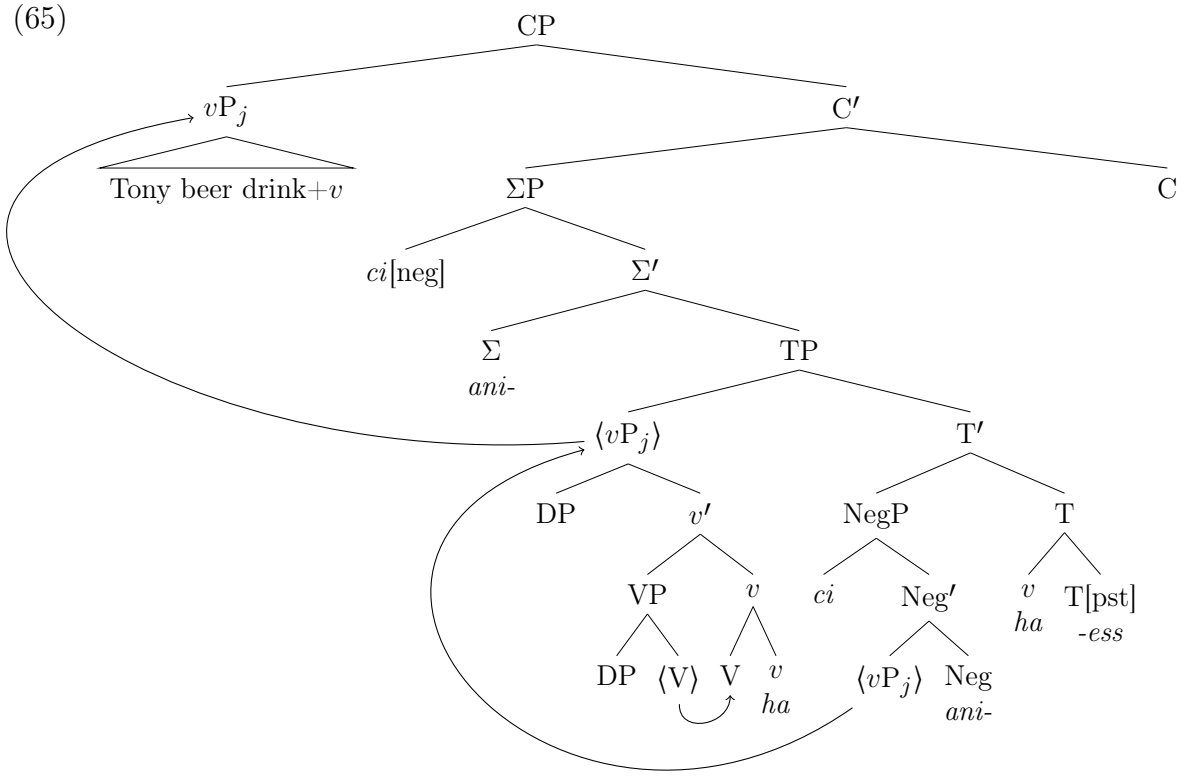
'Tony DRANK the beer.'

The sentence in (63a) with Double LFN, as the name suggests, has *ani* and *ci* that appear twice each, indicating the presence of two projections associated with long form negation in syntax. It has a positive interpretation that is identical to the combination of short and long form negation as in (63b). Also, it is possible to mix the use of short form negation and Double LFN, as in (63c). As for Tensed CVD in (64), the higher verb appears with tense marking just as the lower verb does, as opposed to the ordinary contrastive verb doubling configuration in which the higher verb is free of tense marking. Although it is a bit degraded compared to its ordinary counterpart with respect to its grammaticality, it still seems to share the meaning with ordinary contrastive verb doubling.

I propose that there is a high ΣP between TP and CP that shares all of its feature specification and semantics with its low counterpart except that the features are associated with the higher position. Crucially, high ΣP in Korean is head-initial just as it is in Basque, as we will see momentarily.

Under this proposal, the structure of Double LFN in (63a) is derived by raising vP across both low and high ΣP up to Spec,CP via Spec,TP, as illustrated in (65). The important point to be made is that the v contained in the vP in Spec,TP must be realized as *ha* at PF in order to host the Spell-Out of high Σ° *ani*. Assuming the availability of high ΣP in Korean predicts that configurations like Double LFN should be a natural consequence of successive vP movement without any further stipulation.

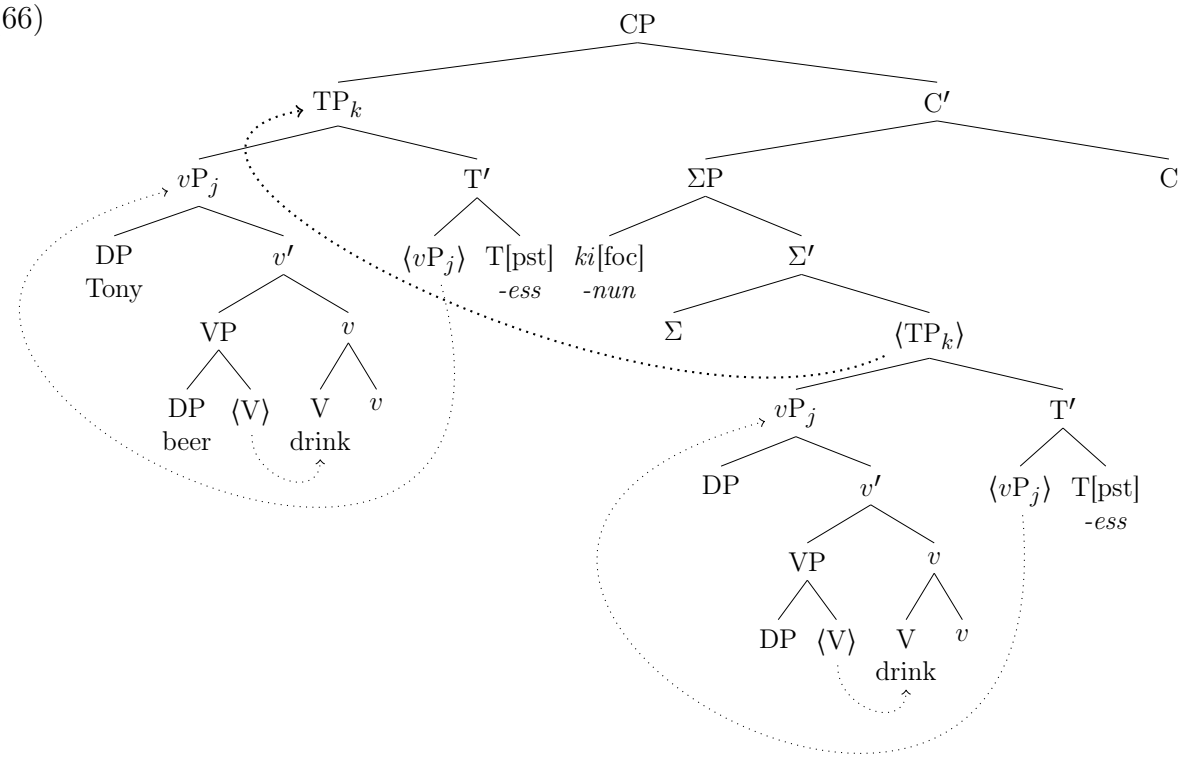
(65)



As for (63c) with both short form negation and Double LFN, I assume that the object-shift-related functional projection FP (see §2.2.2) that contains the vP-adjoined short negation head [neg] (realized as *an* at PF) is what raises successively to Spec,CP via Spec,TP across both low and high ΣP. In comparison, the FP containing short negation raises across low ΣP to Spec,TP in the derivation of (63b) that involves short and long form negation.

On the other hand, Tensed CVD in (64) is derived by raising TP across high ΣP to Spec,CP, as illustrated in (66), cf. raising vP across low ΣP to Spec,TP in ordinary contrastive verb doubling. The derivation from the bottom up proceeds as follows. As soon as the vP is built, it raises to Spec,TP and checks the EPP-feature on T°. Then, the TP raises to Spec,CP across high ΣP. At PF, the lower copy of the main verb is phonetically realized to host the morphology of T°.

(66)



2.3 Semantics

We turn to the semantics of concessivity in contrastive verb doubling in this section. I propose that concessivity in contrastive verb doubling comes from the affirmative feature [aff]. The affirmative feature [aff] triggers a presupposition, which says that there is a salient event/state of which the reverse is true in the context, that interacts with focus-marking under Kratzer's (1991) formulation of Rooth's (1985) analysis of focus.

2.3.1 Focus

The alternative semantics analysis of Focus (Rooth 1985, 1992, 1996) assumes two semantic values: (i) an ORDINARY SEMANTIC VALUE $[\![.]\!]^o$; and (ii) a FOCUS SEMANTIC VALUE $[\![.]\!]^f$. Under this system, Focus evokes alternatives that are propositions with 'congruent' substitutions in the position of the F-MARKED (Focus-marked) constituent. The congruent substitutions are limited to those elements in the context set C determined based on the

question-answer congruence. For instance, (67) can be a congruent answer to the subject question such as *Who likes Mina* but not to the object question such as *Who does Tony like*, and vice versa with (68). This is because the position of F-marking in an answer amounts to what is being questioned in a wh-question. That is, the focus semantic value of *Tony likes Mina* in (67b) is equal to the meaning of the subject question *Who likes Tony*, and (68b) to that of the object question *Who does Tony like*.

(67) *Answer to the subject question*

a. $[\![[\text{Tony}]_F \text{ likes Mina}]\!]^o$ = Tony likes Mina

b. $[\![[\text{Tony}]_F \text{ likes Mina}]\!]^f$ = the set of propositions of the form *x likes Mina*

(68) *Answer to the object question*

a. $[\![\text{Tony likes } [\text{Mina}]_F]\!]^o$ = Tony likes Mina

b. $[\![\text{Tony likes } [\text{Mina}]_F]\!]^f$ = the set of propositions of the form *Tony likes y*

When the entire VP or its related projection receives F-marking, we call it predicate focus. VP-focus sentences in English such as (69) amount to predicate focus.

(69) Tony [DRANK the beer]$_F$. (IMPLIES: *but...*, *e.g.* he didn't get drunk.)

Given that the meaning of question is the set of possible answers (Hamblin 1973), it seems that predicate focus gives rise to a set of propositions related to the possible answers to the question. This is because sentences with predicate focus such as (69) can answer yes-no questions like (70), cf. §2.1.

(70) $[\![\text{Did Tony drink the beer?}]\!] = \left\{ \begin{array}{l} \text{Tony drank the beer,} \\ \text{Tony did not drink the beer.} \end{array} \right\}$

We can represent the meaning of (69) in alternative semantics as in (71). The focus semantic value of (69) is the set of propositions of the form *Tony z* as in (71b). Importantly, the

ordinary semantic value of sentence with F-marked constituents must be a member of its focus semantic value along with one other element.[6]

(71) a. $[\![\text{Tony [DRANK the beer]}_F]\!]^o$ = Tony drank the beer

b. $[\![\text{Tony [DRANK the beer]}_F]\!]^f = \left\{ \begin{array}{l} \text{Tony drank the beer,} \\ \text{Tony enjoyed the beer,} \\ \text{Tony got drunk,} \\ \text{Tony got hungry, ...} \end{array} \right\}$

= the set of propositions of the form *Tony z*

2.3.2 Concessivity

I argue that concessivity can be construed as a presupposed version of contrastive conjunction *but*. For instance, there are felicitous and infelicitous continuations to predicate-focused sentences in answering yes-no questions like (70), as in (72).

(72) He [DRANK the beer]$_F$, but $\left\{ \begin{array}{l} \checkmark\text{he didn't like the beer} \\ \#\text{he liked the beer} \\ ^{??}\text{he didn't like the fries} \\ \#\text{he liked the fries} \\ \checkmark\text{he didn't get drunk} \\ \#\text{he got drunk} \end{array} \right\}$

The general restriction is that a felicitous continuation must be the negation of the proposition from the set of possible answers to the question under discussion.

[6] Rooth (1992) formulates this restriction as the following:

i. Where ϕ is a syntactic phrase and C is a syntactically covert semantic variable, $\phi \sim C$ introduces the presupposition that C is a subset of $[\![\phi]\!]^f$ containing $[\![\phi]\!]^o$ and at least one other element. (Rooth 1996: 7)

I propose that the affirmative feature [aff] on *ki* is the source of concessivity in contrastive verb doubling. A small number of assumptions need to be made in order to implement this idea. First, I adopt Kratzer's (1991) formulation of Rooth's (1985) theory of focus. This version of theory assumes that a F-marked sentence obtains two translations because it has a PRESUPPOSITION SKELETON that is computed just like ordinary translations except that F-marked constituents are translated as DESIGNATED VARIABLES. In addition, every F-marked constituent bears a unique F-INDEX n.

(73) For every natural number n and type τ:

a. *Ordinary variables*

$v_{\tau,n}$ is an ordinary variable of type τ.

b. *Designated variables*

$\mathbf{V}_{\tau,n}$ is a designated variable of type τ.

To interpret designated variables, an additional type of variable assignments is needed on top of ordinary variable assignments.

(74) For all natural numbers n, all types τ, and all ordinary assignments g and distinguished assignments h:

a. $[\![v_{\tau,n}]\!]^{g,h} = g(v_{\tau,n})$

b. $[\![\mathbf{V}_{\tau,n}]\!]^{g,h} = h(\mathbf{V}_{\tau,n})$

Then, we can get the PRESUPPOSITION SET (P-set; roughly the same as the focus semantic value) of an expression α as in (75). I explicitly added the contextually-supplied assignment function c to the denotation so that the assignment function h is contextually-restricted at each evaluation, such that $c \in C$ where C is a contextually restricted domain, as this will be important to my analysis.

(75) $[\![\alpha]\!]^{g,c} = \{p \in D_\tau : \exists h \in c[p = [\![\alpha]\!]^{g,h}]\}$

Basically, evaluating the presupposition skeleton of an F-marked expression both at ordinary and distinguished assignment functions obtains a set of propositions that amounts to the presupposition set. For example, the predicate-focused sentence with F-marking in (76a) will have the presupposition skeleton in (76b) and the presupposition set in (76c).

(76) a. Tony [DRANK the stout]$_F$. (F-marked expression)

b. Tony **V**. (Presupposition skeleton)

c. $\left\{ \begin{array}{l} \text{Tony drank the stout,} \\ \text{Tony enjoyed the stout,} \\ \text{Tony got drunk,} \\ \text{Tony got hungry, ...} \end{array} \right\}$ (Presupposition set)

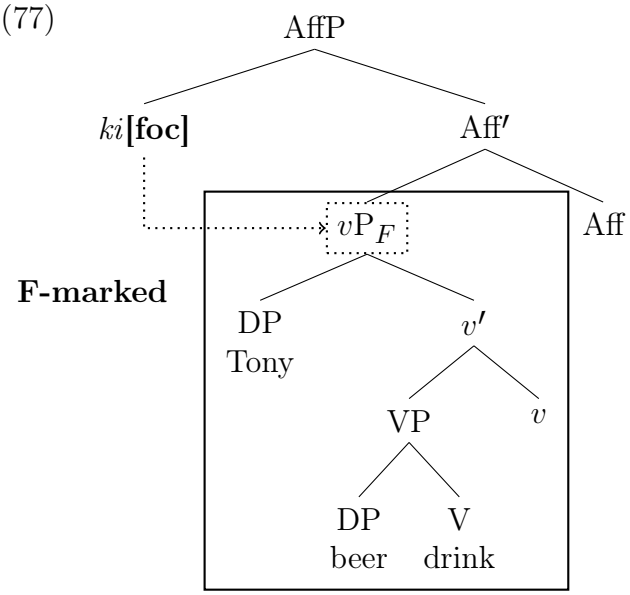
Now I turn to the question of F-marking: How does an F-marked constituent receive its F-marking? There are two ways to approach this. Following the standard assumption since Jackendoff (1972), one may assume that focus is an interpretable syntactic feature F visible at LF for interpretation, so that we refer to constituents that enter the derivation with F as 'F-marked'.

Another approach, which I will adopt here, is to assume that F-marking is determined by the asymmetric c-command relationship between a [foc]-marked element and a constituent that is to be F-marked. That is, a constituent is F-marked if an element that hosts [foc] c-commands it and it is a maximal projection. Crucially, F-marking under this approach is an index-assignment, rather than a feature specification via Agree, that assigns an F-index to a relevant constituent. These F-indices will be visible to distinguished assignments such that they can be interpreted as designated variables.

We have discussed in §2.2.6.1 that *nun*-marking on *ki* is obligatory because [foc] on *ki* checks the uninterpretable focus feature [*u*foc] on Σ° in contrastive verb doubling and later realized as *nun* at PF. However, we have not discussed the semantic contribution of [foc].

I propose that the function of [foc] is F-marking, such that it assigns an F-index to the maximal projection it c-commands, as illustrated in (77).

(77)



We can define the F-marking property of [foc] as in (78).

(78) F-mark (Assign an F-index to) the maximal projection XP if α[foc] c-commands XP.

This suggests an explanation to why *nun*-marking gives rise to the scope freezing effect in (55) in §2.2.6.1. Because [foc] assigns an F-index to the phrase it c-commands, we expect that the lower copy of vP is subject to the semantic interpretation as opposed to the higher copy of vP.

Based on the assumptions above, we can formulate the denotation for [aff] as in (79), where e is a variable name for events that are of type v. The asserted meaning of [aff] is vacuous and [aff] only contributes the presuppositional meaning to semantics.

(79) $[\![[\text{aff}]]\!]^c = \lambda f_{\langle v,t\rangle}.\lambda e.\ f(e)$

PRESUPP: $\exists u_{\langle v,t\rangle}[u \in c \wedge \neg u(e) \wedge u \neq f]$

In prose, the presupposition in (79) says that there is a salient event/state (description) in the context, of which the reverse is true. Adding a bit more detail, concessivity under this

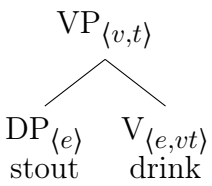
proposal arises as ⟦[aff]⟧ presupposes that there is one other event description at the context of evaluation and its reverse is true in the event under discussion. For instance, (80a), assuming part of the elements in the contextually restricted domain C as in (80b), will be felicitous iff the reverse of one of the event descriptions in (80b) is true and not identical to the event description f in the event e, such that *Tony didn't enjoy the stout in e, Tony didn't get drunk in e, Tony didn't get hungry in e* and so forth. In a word, the presupposition from [aff] in (80a), roughly, says that there is something salient that Tony didn't do in the given context.

(80) a. Tony-ka hukmaykcwu-lul masi-ki-nun masi-ess-ta.
Tony-NOM stout-ACC drink-KI-NUN drink-PST-DEC
'Tony DRANK the stout.' (IMPLIES: *but...*, *e.g.* he didn't get drunk.)

b. $C = \left\{ \begin{array}{l} \lambda e.\ \text{Tony drank the stout in } e, \\ \lambda e.\ \text{Tony enjoyed the stout in } e, \\ \lambda e.\ \text{Tony got drunk in } e, \\ \lambda e.\ \text{Tony got hungry in } e, \\ \lambda e.\ \ldots \end{array} \right\}$

I illustrate the composition of (80a) as an example from (81) to (84).

(81) a.

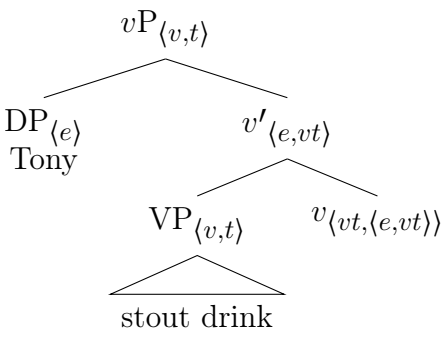


b. i. ⟦stout⟧ = stout

ii. ⟦drink⟧ = $\lambda x \lambda e.$ drink$(x)(e)$

iii. ⟦drink⟧(⟦beer⟧) = $\lambda e.$ drink(stout)(e)

(82) a.



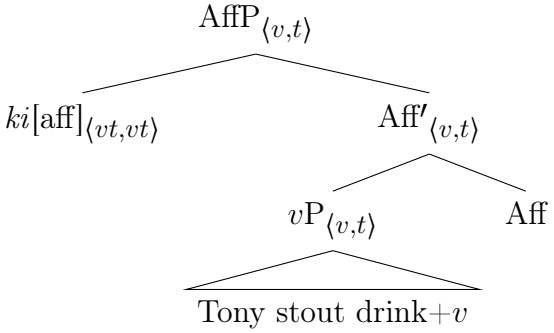
b. i. $[\![v^\circ]\!] = \lambda f_{\langle v,t\rangle}.\lambda x.\lambda e.\ f(e) \wedge \mathbf{Ag}(e) = x$

ii. $[\![v^\circ]\!]([\![\text{VP}]\!]) = [\![v']\!] = \lambda x.\lambda e.\ \text{drink}(\text{stout})(e) \wedge \mathbf{Ag}(e) = x$

iii. $[\![\text{Tony}]\!] = \text{Tony}$

iv. $[\![v']\!]([\![\text{Tony}]\!]) = [\![v\text{P}]\!] = \lambda e.\ \text{drink}(\text{stout})(e) \wedge \mathbf{Ag}(e) = \text{Tony}$

(83) a.



b. $[\![[\text{aff}]]\!]^c([\![\text{Aff}']\!]) = [\![\text{AffP}]\!]^c = \lambda e.\ \text{drink}(\text{stout})(e) \wedge \mathbf{Ag}(e) = \text{Tony}$

PRESUPP: $\exists u_{\langle v,t\rangle}[u \in c \wedge \neg u(e) \wedge u \neq [\![v\text{P}]\!]]$

(84) a. $[\![\text{TP}]\!]^c = \exists e.\ \text{drink}(\text{stout})(e) \wedge \mathbf{Ag}(e) = \text{Tony}$

PRESUPP: $\exists u_{\langle v,t\rangle}[u \in c \wedge \neg u(e) \wedge u \neq [\![v\text{P}]\!]]$

b. (80a) = (84a) $\rightsquigarrow$ felicitous

If: $u = (\lambda e'.\ \text{enjoy}(\text{stout})(e') \wedge \mathbf{Ag}(e') = \text{Tony})$ and $\neg u(e) = 1$

Given that: $C = \left\{ \begin{array}{l} \lambda e.\ \text{drink}(\text{stout})(e) \wedge \mathbf{Ag}(e) = \text{Tony}, \\ \lambda e.\ \text{enjoy}(\text{stout})(e) \wedge \mathbf{Ag}(e) = \text{Tony}, \ldots \end{array} \right\}$

The proposed semantic analysis of contrastive verb doubling attributes why and how concessivity arises in this particular configuration of verb doubling to the presuppositional meaning of the affirmative feature [aff] hosted within the ΣP. In doing so, this proposal makes the connection between the syntax and semantics/pragmatics of contrastive verb doubling explicit by allowing for an unobscured compositional semantics.

SECTION 3

VP FOCUS IN ENGLISH

In this section, I propose that English VP-focus and Korean contrastive verb doubling are semantically and pragmatically equivalent because both configurations involve the affirmative feature [aff] — the concessive presupposition trigger — within ΣP that immediately dominates vP in both languages. The analysis of VP-focus in this proposal suggests that the connection between VP-focus and contrastive verb doubling exists not only at the level of syntax but further extends to the variation at PF with respect to the realization of v on T after the syntactic process of *do*- and *ha*-support has taken place (see §2.2.6.2 for Korean).

3.1 Data

In VP-focus, the rising accent is placed on the inflected verb *drank* as in (85a). In addition, *do* may appear inflected but unaccented before the verb, so that the rising accent falls on the uninflected verb *drink*, as in (85b). Both (85a) and (85b) trigger a concessive interpretation such that they imply that there is a discourse-salient event or state that Tony is not involved. For example, (85a) or (85b) may imply that Tony drank the beer but he did not like it.

(85) Did Tony drink the beer?

a. Tony DRANK the beer.
L+H* L-H%
(He DRANK it.)

b. ?Tony did DRINK the beer.
L+H* L-H%
(?He did DRINK it.)

c. #Tony DID drink the beer.
(#He DID drink it.)

Although accented DRANK in (85a) seems to be always preferred to unaccented *did* with accented DRINK in (85b) under the same context, there is no observable difference in meaning between (85a) and (85b). On the other hand, the emphatic affirmative, or verum focused (Höhle 1988, 1992), sentence with accented DID in (85c) is odd as an answer to the question given here without an elaborated context.

I will argue that the examples in (85) are derived from the same base structure, but with the different operations after syntax: specifically, (85a) by two instances of Lowering (Embick & Noyer 2001), (85b) by one instance of Lowering along with realizing v with *do* at PF after it has merged on T in syntax.

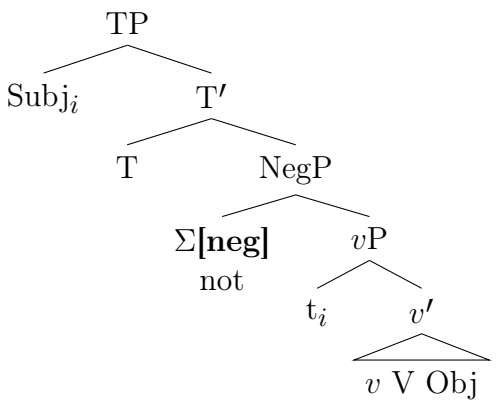
3.2 Analysis

Lowering, a modernized adaptation of Affix Hopping, is a movement operation in Morphology at the PF derivation that is responsible for the positioning of tense morphology on the verb in English (Embick & Noyer 2001). T lowers to v when there is no intervening head between T and v and tense is realized on the verb in English, and this is referred to as T-Lowering. I propose that there is another Lowering operation in English, Aff-Lowering, that is responsible for deriving VP-focus examples like (85a). The head Aff refers to an affirmative feature [aff] on the head Σ (Laka 1990, Embick & Noyer 2001), and therefore it will be informative to start my proposal by briefly revisiting Laka's (1990) ΣP.

3.2.1 The Σ Phrase

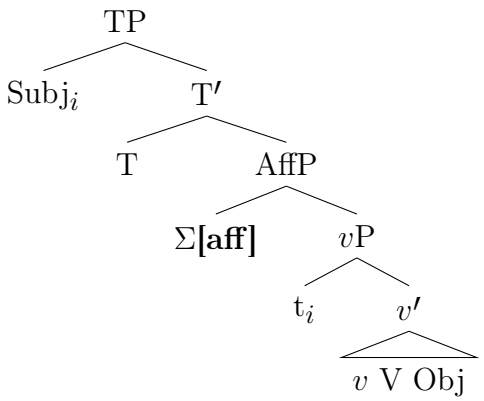
Since Laka (1990), sentential negation and emphatic affirmation in English and Basque have been associated with a Σ Phrase. First, ΣP in English appears between TP and vP, i.e. T° immediately dominates ΣP. Whether we obtain sentential negation or emphatic affirmation depends on the feature on Σ°. If Σ° hosts the negative feature [neg], sentential negation obtains, as in (86). At PF, [neg] will be realized as *not*.

(86)



On the other hand, the affirmative feature [aff] on Σ° amounts to a configuration associated with emphatic affirmation, as in (87). The morphological form is absent with [aff], unlike [neg]. However, as we will see momentarily, I argue that [aff] is still realized at PF as a pitch accent. For notational convenience, I will refer to the projection of Σ° that appears with [neg] as NegP, and that of Σ° with [aff] as AffP.

(87)



In the next section, we will turn to the analysis of the structure of (85a).

3.2.2 Syntax

That accented DRANK appears is the noticeable feature of the VP-focus example in (85a), repeated in (88).

(88) Tony DRANK the beer.
(He DRANK it.)

I assume that the concessive interpretation related to VP-focus is associated with the affirmative feature [aff] on Σ. This suggests that the base structure of (88) involves AffP. However, such a base structure with AffP as has been illustrated in (87) per se predicts that *do*-support would take place. Embick & Noyer (2001) argue that *do*-support is a two-part operation that involves a syntactic process that merges v° to T° and a PF process that realizes v° merged on T° with *do* (with appropriate tense) as its default Spell-Out. If (87) is a structure for (88) without further assumptions, it would never generate (88) and we would predict that (85b), repeated in (89), is the only possible outcome of the derivation.

(89) Tony did DRINK the beer.
(He did DRINK it.)

I propose that we can obtain (88) because there is an additional Lowering operation that preconditions T-Lowering to apply and preempts the realization of v with *do* at PF by evacuating the intervening head Aff° between T° and v°. We will see why this is so by looking at a few comparable theoretical alternatives that, however, fail at the end. The details of this account require the discussion of Embick & Noyer's (2001) theory of *do*-support.

The operation *do*-support is triggered when a syntactic locality condition that governs the relationship between T° and v° is violated. This locality condition is defined in (90) (Embick & Noyer 2001: 586).

(90) *Locality condition on T°*
T must be in an immediately local relationship with v.

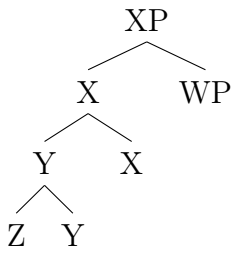
This condition is violated in (87). In concrete terms, T° in (87) is not in an *immediately local* relationship with v°, in a sense that neither vP is a sister of T° nor is T° in a MORPHOSYNTACTIC WORD with v°, as T° immediately dominates AffP, not vP. To derive (88), we will exploit the notion of morphosyntactic word, which is defined in (91).

(91) *Morphosyntactic word* (Embick & Noyer 2001: 574)

At the input to Morphology, a node X° is (by definition) a morphosyntactic word (MWd) iff X° is the highest segment of an X° not contained in another X°.

To illustrate an example of a MWd, we will look at the structure in (92), a typical configuration found in head movement, where Z° is adjoined to Y, and Z+Y (= Y°, upon adjunction) is adjoined to X.

(92)



In (92), X° (= Z+Y+X) is a MWd, but Y° (= Z+Y) is not. This is because there is no MWd that dominates X°, whereas X° dominates Y°.

The morphological requirement on T° from the base structure in (87) can be satisfied in a number of ways. The first process of *do*-support that merges v on T° would satisfy the locality condition on T°. However, at this moment, we do not have a way to prevent realizing v° with *do* on T°, and this would lead to the surface form that amounts to (89).

Another theoretical option is to move the complex head V+v via Aff° up to T°, which will place v° with T° in an MWd to satisfaction of T's requirement. However, this does not amount to the empirical fact because V-to-T movement does not take place in English.

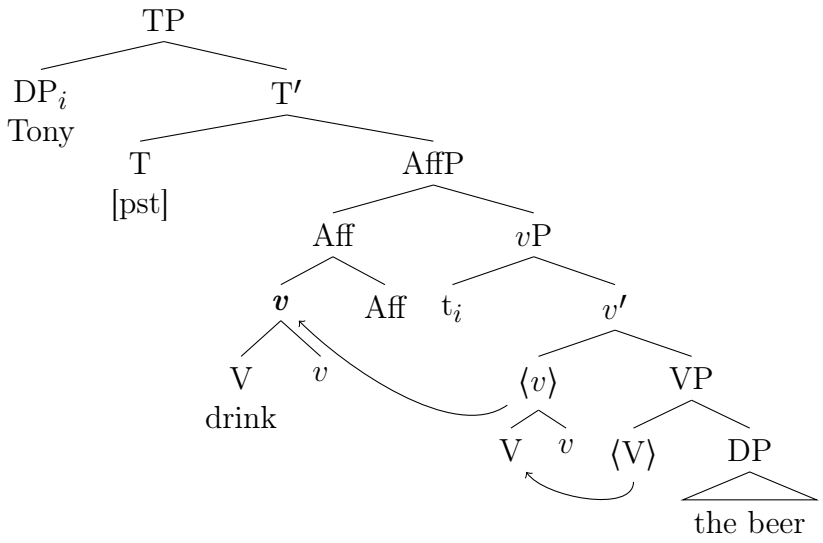
However, we have a third option: LOWERING. A post-syntactic movement operation Lowering, a kind of merger, establishes a relationship between a head and the head of its complement (Embick & Noyer 2001). Instead of raising v° to T°, T° in English *lowers* to v° when there is no intervening head between T° and v°. This is called T-LOWERING, which is defined in (93).

(93) *T-Lowering*

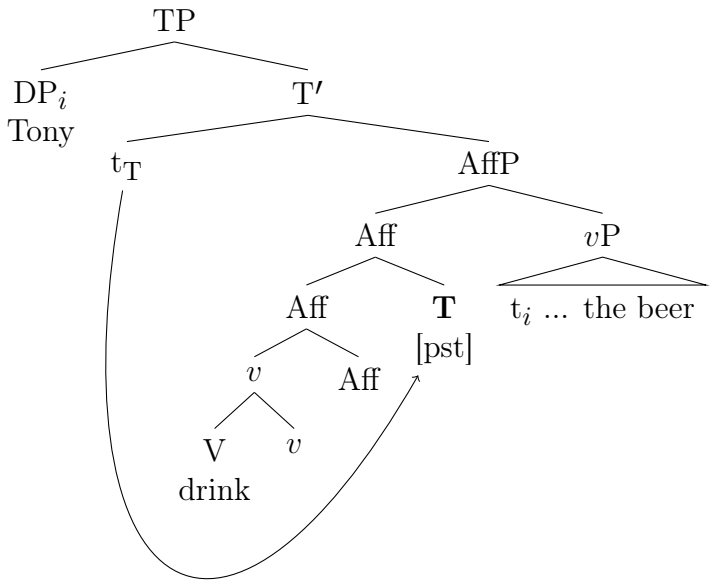
T lowers to v if no head intervenes between T and v.

Now, as a way to satisfying the locality condition on T° in a structure that involves AffP as in (87), we could attempt to adjoin the complex head V+v to Aff° and lower T° to V+v+Aff, as illustrated in (94) and (95). Once V+v adjoins to Aff°, there is no longer an intervening head between T° and v°. This adjunction satisfies a precondition for T-Lowering and the subsequent application of T-lowering satisfies the locality condition on T°.

(94)



(95)



Although we will see momentarily that this option has a problem, the immediate question that nevertheless demands an answer is what motivates the movement of the complex V+v to Aff°. I propose that there is a morphophonological requirement on Aff° that drives the movement. Unlike the negative feature [neg] on Σ°, which is realized as the free form *not* when Vocabulary Insertion applies at Spell-Out, the affirmative feature [aff] lacks a morphological form; that is, it is phonologically null. Rather, I propose that, the realization of affirmative feature on Σ° is a pitch accent at Spell-Out, and this is why Aff° requires a host that can carry the accent, as defined in (96) and (97).

(96) *Spell-Out of Aff*

The Spell-Out of [aff] is a pitch accent on its morphological host.

(97) *Locality condition on the Spell-Out of Aff*

A segment X with morphological form must be in an MWd with Aff°.

In (95), the locality condition on T° and the Spell-Out condition on Aff° are both satisfied. As the result, the pitch accent of Aff° can be realized on *drank* as accented DRANK. However, this approach faces a problem with respect to the placement of manner adverbs. The relevant examples are shown in (98).

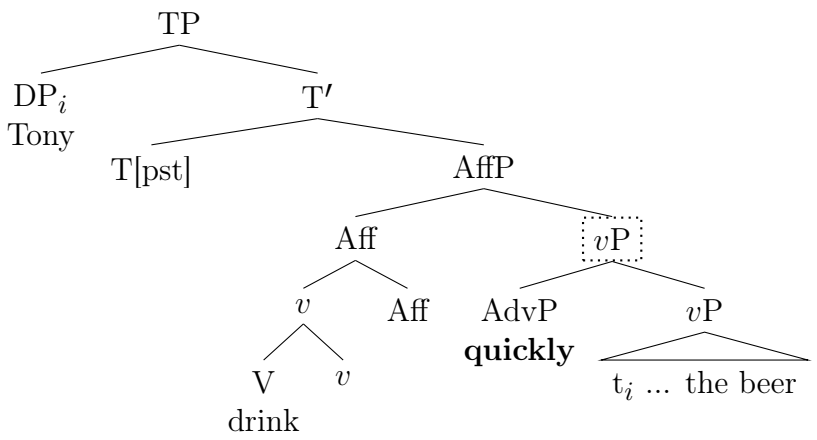
(98) a. *Tony DRANK {quickly/easily} the beer.

b. ?Tony {quickly/easily} DRANK the beer.

c. ?Tony DRANK the beer {quickly/easily}.

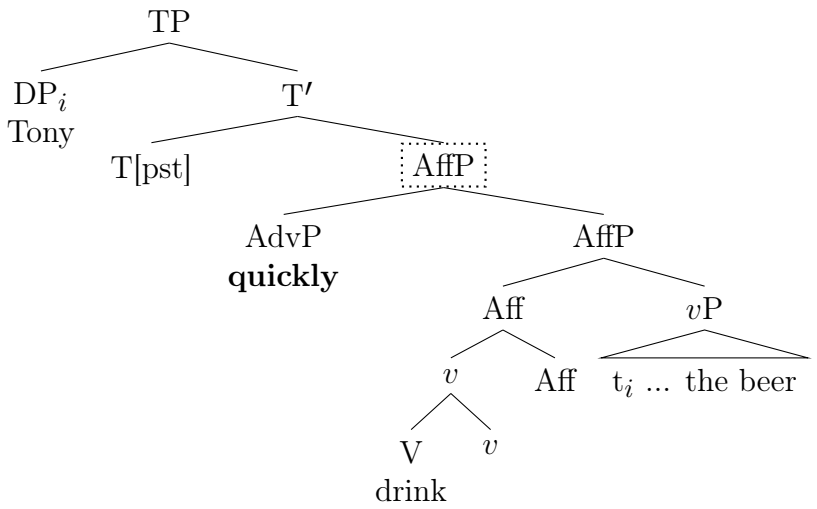
The standard analysis on the structural position of manner adverbs like *quickly* and *easily* is that they are either left- or right-adjoined to vP. If the complex head V+v adjoins to Aff° as in (94) and such manner adverbs adjoin to vP as illustrated in (99), we expect the word order in (98a) to be well-formed. However, (98a) is far from being grammatical.

(99)



One could postulate that *quickly* must left-adjoin to AffP as opposed to vP in the presence of Aff° to patch this problem, as illustrated in (100). Doing so would rule out (98a) and would not create any problems in semantics: ⟦AffP⟧ is a function from eventualities to truth-values, which is of type $\langle v, t\rangle$, and adverbs can combine intersectively with it since they are of the same semantic type.

(100)



However, this solution is ad hoc at best and faces a bigger problem. Recall that Aff° is merely a notation that describes the head Σ that hosts the affirmative feature. Then, we would expect to observe the same restriction on the adjunction of manner adverbs when Σ° hosts the negative feature because the adjunction site of adverbs is syntactically defined.

However, this is not the case, as in (101), because *quickly* cannot appear between T and NegP.

(101) a. *Tony did {quickly/easily} [$_{\text{NegP}}$ not [$_{v\text{P}}$ pass the exam]].

b. Tony did not {quickly/easily} pass the exam.

It seems very difficult to claim that there is a restriction on adjunction that varies with respect to the feature of a head. On the face of the facts above, such an analysis seems no longer tenable. I will abandon this approach and lay out the details of the analysis that I suggested at the beginning of this section.

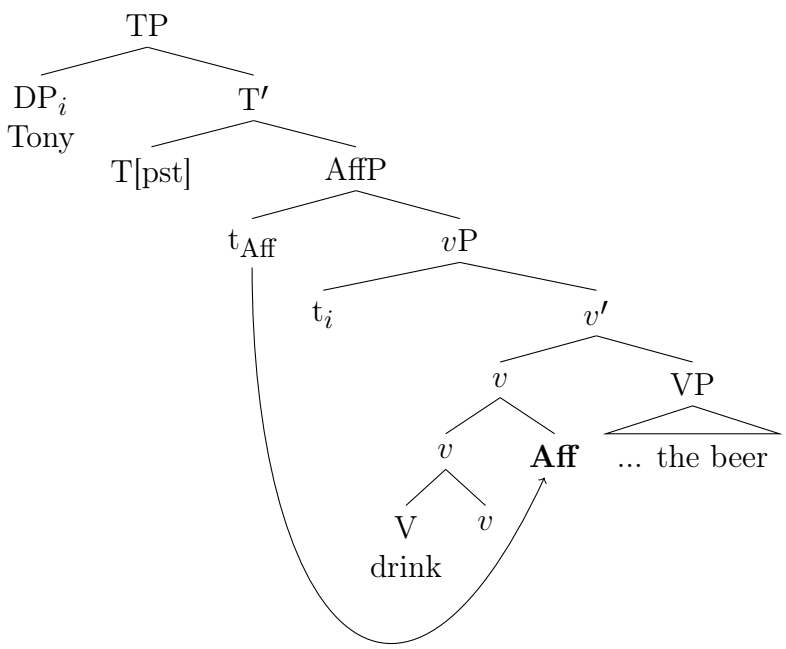
I propose that (88) is derived from lowering Aff° *and* T° to the complex head V+v. Lowering is a species of the most basic recursive operation of the grammar — merger, and it establishes a relationship between a head and the head of its complement when it applies. Therefore, by definition, we may expect to find more than one instantiation of Lowering in a language, although T-Lowering is the only discovered application of Lowering in English so far. I suggest that there is another Lowering operation that lowers Aff° to v° in English.

(102) *Aff-Lowering*

Σ[aff] lowers to v.

Aff-Lowering applies to satisfy the locality condition on the Spell-Out of Aff° that requires a morphological host that can carry the pitch accent. And it does so by adjoining Aff° to the complex head V+v, as illustrated in (103).

(103)



However, there is a step that is missing from the illustration in (103). Because *do*-support is a twofold operation, as defined in (104), we expect that a v must have been already merged on T° before Aff-Lowering would take place because T° does not have a vP complement.

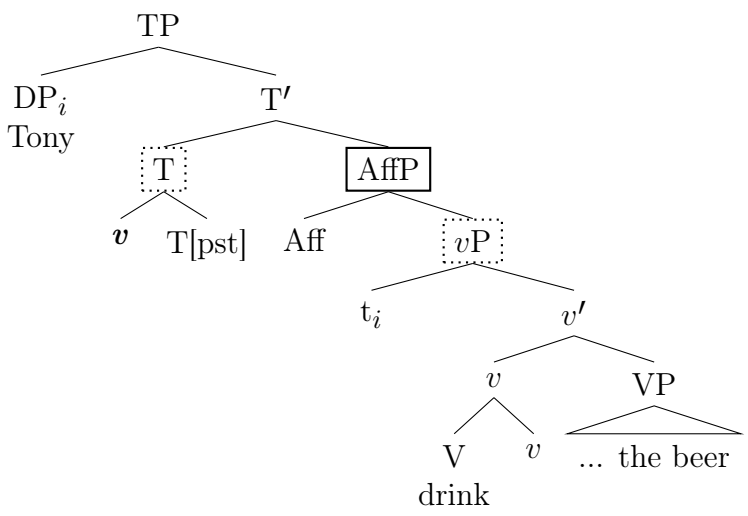
(104) do-*support*

a. At syntax, merge v to T if T does not have a vP complement.

b. At PF, realize v with its default Spell-Out *do*.

We expect the first part of *do*-support, the merger of v, to always apply before T-Lowering because the v-merger is a syntactic operation whereas Lowering is post-syntactic operation: A v° will merge to T° if T° has merged to AffP and lacks a vP complement, as illustrated in (105). This part of *do*-support, the merger of v° on T°, takes place *in syntax*, therefore before any Lowering operations that will apply in *Morphology*.

(105)



I propose that there is more than one way of satisfying the morphological requirement on T°, and therefore the 'competition' takes place between (i) pronouncing *do* as the default Spell-Out of v° on T° such that *do* is inflected ("default Spell-Out of v"); and (ii) Lowering T° to the complex head v such that the main verb is inflected, *after* a v is merged onto T° as in (105). Also, this gives us a corroborating evidence that *do*-support is a two-part operation as assumed in Embick & Noyer (2001). As we have seen in (85), repeated in (106), using accented DRANK as in (106a) is always preferred to using unaccented *do* with accented DRINK as in (106b) as an answer to the yes-no question in (106).

(106) Did Tony drink the beer?

a. Tony DRANK the beer.

b. ?Tony did DRINK the beer.

We may assume that T-Lowering wins the competition because applying T-Lowering in Morphology would save PF one application of Vocabulary Insertion that would otherwise be required for realizing v on T with *do*. This could be construed as a competition between two operations for an optimal output based on economy, as illustrated in (107).

(107)

	T-Lowering	Vocabulary Insertion
a. ☞ Tony DRANK the beer.		*
b. Tony did DRINK the beer.	*!	

However, it is possible to explain why (106b) is degraded and dispreferred to (106a) without appealing to a competition-based account. I suggest that we make an amendment to the PF condition on *do*-support, such that default Spell-Out of v is conditioned by whether T-Lowering has applied. Therefore, we will have a definition of *do*-support as in (108).

(108) do-*support* (revised)

a. At syntax, merge v to T if T does not have a vP complement.

b. At PF, realize v with its default Spell-Out *do* **if T-Lowering cannot apply**.

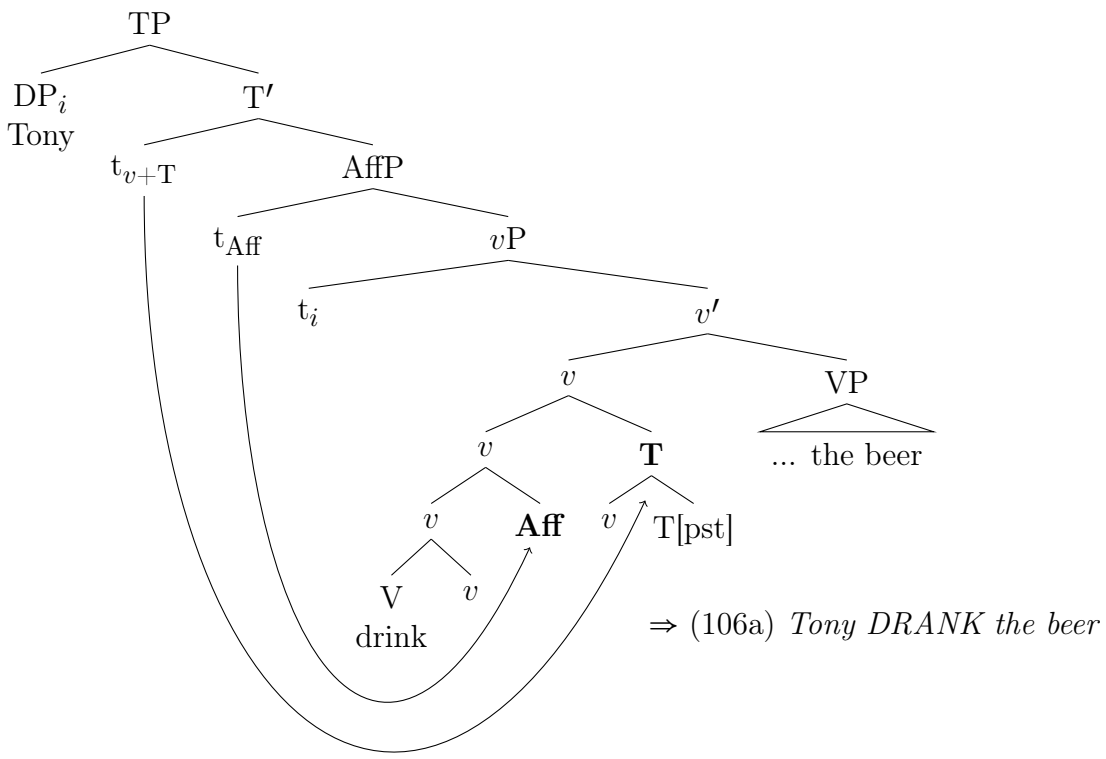
After the derivation in narrow syntax is completed following the step in (105), Aff-Lowering applies in Morphology and this gives the green light for T-Lowering, defined again in (109) with explicitly specified location of v to which T lowers.

(109) *T-Lowering* (revised)

T lowers to v if **it c-commands *v* and** no head intervenes between T and v.

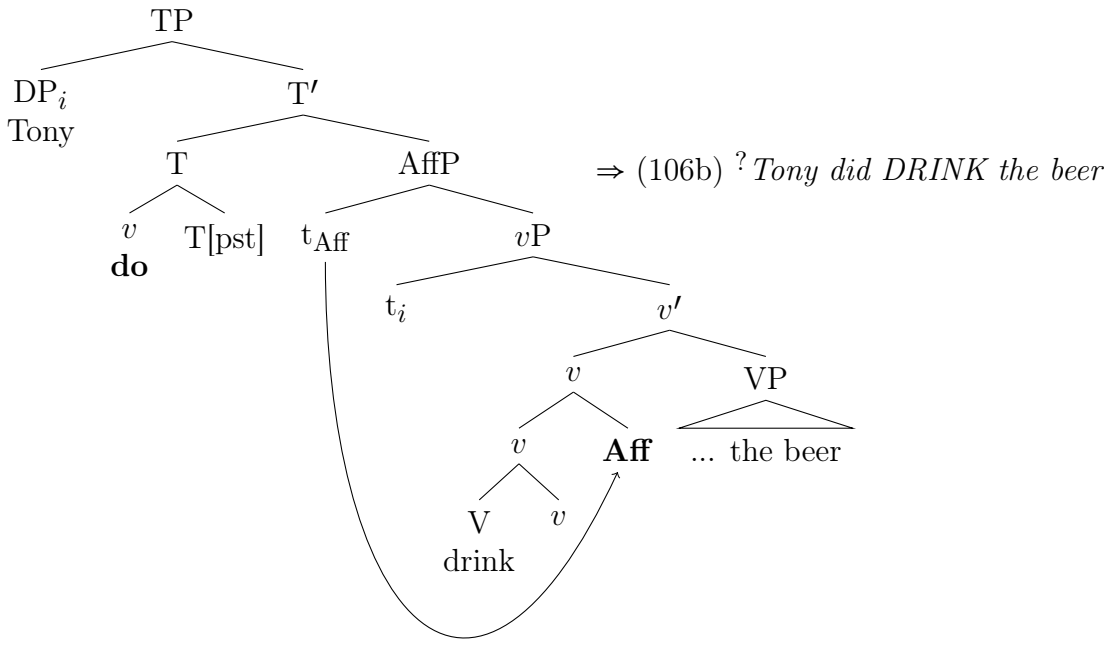
Once Aff° is lowered, there is no longer a head that intervenes between T° and v° and T-Lowering takes place successively, as illustrated in (110).

(110)



In contrast, (106b) is degraded as a result of realizing v on T° with its default Spell-Out *do* when T-Lowering could have applied after Aff-Lowering, as illustrated in (111).

(111)



3.2.3 Implication

This type of 'optionality' in the realization of v on T at PF is in much spirit of what we have observed in contrastive verb doubling in §2.2.6.2. The difference between two configurations reduces to whether complex head formation operations like Lowering is part of what conditions *do*-support like operations (cf. *ha*-support). In Korean, a true optionality for satisfying the morphological requirement on T is attested between realizing v on T with *ha* and realizing the lower copy of the main verb, because the realization of tense morphology simply requires a linear adjacency between the morphological host and T at PF. However, one option is preferred over another in English as the PF process of *do*-support that realizes v with *do* is conditioned by whether T-Lowering could apply, because the tense morphology of T can only be realized on its host via complex head formation such as Lowering and head movement.

3.2.4 Semantics

Semantically, the denotation of [aff] in English is just like that of Korean's, as in (112).

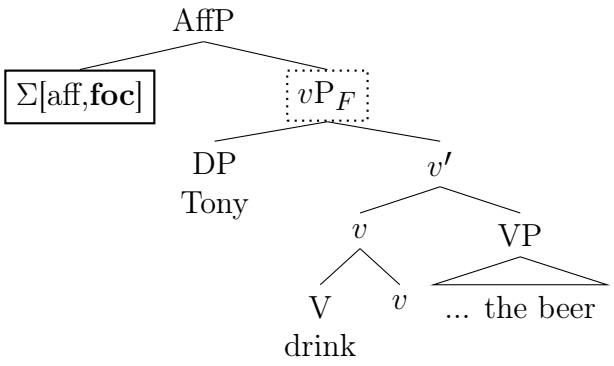
(112) $[\![[\text{aff}]]\!]^c = \lambda f_{\langle v,t\rangle}.\lambda e.\ f(e)$
PRESUPP: $\exists u_{\langle v,t\rangle}[u \in c \wedge \neg u(e) \wedge u \neq f]$

We expect there to be no interpretive difference between VP-focus and contrastive verb doubling as [aff] is hosted within ΣP that immediately dominates vP, so that $[\![[\text{aff}]]\!]$ applies to $[\![v\text{P}]\!]$ in both configurations. This prediction is borne out as the two configurations in two languages indeed share the meaning and serve the identical pragmatic function. Therefore, the felicity of contrastive verb doubling in Korean and that of VP focusing in English both come down to whether the presupposition from [aff] is satisfied, such that there is a salient event/state description in the context and its reverse is true in the event e.

3.2.5 F-marking

As illustrated in (113), we may assume that Σ° in VP-focus hosts [foc] on top of [aff], and that [foc] assigns an F-index to the maximal projection that it c-commands, just as [foc] on *ki* in contrastive doubling does (see §2.3.2).

(113)



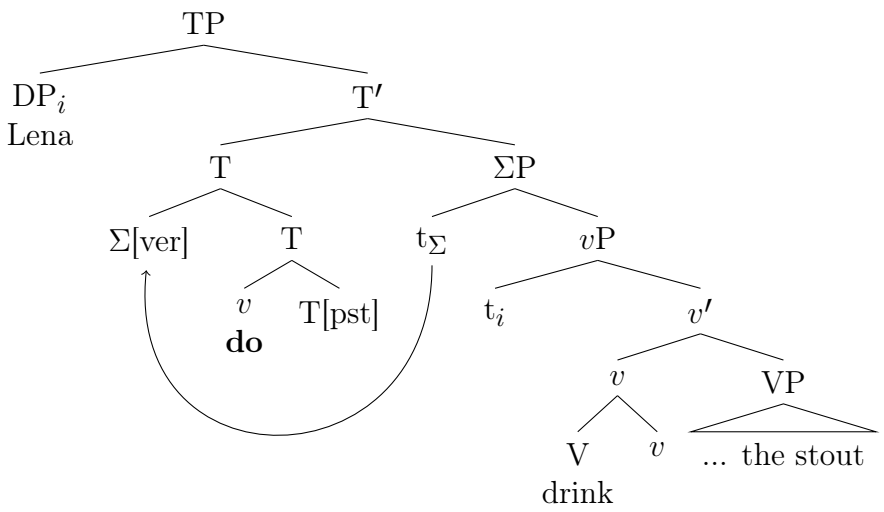
3.3 Extension of Analysis to Verum Focus

In this section, I further extend the proposed analysis of VP focus to VERUM FOCUS (Höhle 1988, 1992) in English. The intuition is that speakers use verum focus to affirm, or emphasize, the truth of the proposition. Essentially, what Laka (1990) called emphatic affirmation, as in (114), would be an instance of verum focus, in which the inflected *do* receives a falling pitch accent.

(114) Lena DID drink the stout.

I propose that verum focus in (114) arises as a result of an interpretable verum feature [ver] on Σ° that is just like [aff] in VP-focus except that Σ[ver] raises to T° unlike Σ[aff] that lowers to v°, as illustrated in (115).

(115)



This straightforwardly predicts the difference between verum focus and VP-focus both at the level of PF and LF. In order to assess the semantic and pragmatic contribution of the verum feature [ver], we will turn to a couple of question-answer congruence tests. As we have seen in (85) in §3.1, partially repeated in (116), verum-focused sentences such as (116a) cannot answer simple yes-no questions without the help of elaborated context, unlike VP-focused sentences as in (116b).

(116) Did Lena drink the stout?

a. #She DID drink it.

b. She DRANK it.

Adding *really* to the question in (116), as in (117), can precondition the felicity of a verum-focused sentence as an answer, such as (117a).

(117) Did Lena really drink the stout?

a. She DID drink it.

b. She really drank it.

Romero & Han (2004) argues that questions with *really* as the one in (117) are epistemically biased, as opposed to an epistemically unbiased question as the one in (116). That is, the

question in (117) has a negative epistemic implicature such that the speaker believes that Lena did not drink the stout.[1]

I propose the denotation of [ver] as defined in (118), where W is a contextually salient set of worlds. Just like [aff], [ver] is vacuous with respect to the asserted meaning and only has a presuppositional meaning.

(118) $[\![[\text{ver}]]\!]^c = \lambda f_{\langle s,t\rangle}.\lambda e.\ f(e)$

PRESUPP: $\exists w' \in W[\neg f(e) \sqsubseteq w' \wedge \neg f(e) = 0]$

The presupposition says that the reverse of the asserted event description's truth-value is part of the contextually salient set of worlds and it is false. Then, an utterance containing this presupposition would be felicitous only if there exists such a truth-value associated with a relevant event description in the contextually salient set of worlds. Crucially, a contextually salient set of worlds encompasses that of the speaker's and that of the addressee's. This explains why (116a) is not a felicitous answer to the question in (116): whether the reverse of the asserted event description's truth-value is part of the salient set of worlds is simply unknown in this context. However, a sentence with verum focus may answer the *really* yes-no question in (119) because such a question triggers the negative epistemic implicature that

[1]Romero & Han (2004) proposes that *really* is the overt version of a 'conversational' epistemic operator Verum, such that the meaning of Verum is something like: *The speaker is certain that p should be added to the Common Ground* (Romero & Han 2004: 627). The motivation to treat *really* as the conversational epistemic operator, not just an epistemic operator, is that *really* seems to behave differently from 'pure' epistemic operators such as *be certain* and *be sure*, as in the courtroom context below (Romero & Han 2004: 626).

i. S: Mr. Beans, did you see anybody leave the house after 11pm the night of the crime?
A: Yes.
S: Who did you see?
A: I saw Mrs. Rumpel.
S: This is important, Mr. Beans. Are you sure that you saw Mrs. Rumpel leave the house that night?
S′: #This is important, Mr. Beans. Did you really see Mrs. Rumpel leave the house that night?

adds the reverse of the asserted event description's truth-value to the contextually salient set of worlds, as in (120).

(119) $[\![\text{Did Lena really drink the stout?}]\!] = \left\{ \begin{array}{l} \text{Lena drank the stout,} \\ \text{Lena did not drink the stout.} \end{array} \right\}$

IMPLIES: The speaker believes that Lena did not drink the stout.

(120) a. $[\![[_{\text{TP}}\ \text{Lena DID drink the stout}]]\!]^c = \exists e.\ \text{drink}(\text{stout})(e) \wedge \mathbf{Ag}(e) = \text{Lena}$

PRESUPP: $\exists w' \in W[\neg[\![v\text{P}]\!](e) \sqsubseteq w' \wedge \neg[\![v\text{P}]\!](e) = 0]$

b. (120a) $\rightsquigarrow$ felicitous

If: $(\lambda e'.\ \neg\text{drink}(\text{stout})(e') \wedge \mathbf{Ag}(e') = \text{Lena}) \sqsubseteq w'$

and $(\lambda e'.\ \neg\text{drink}(\text{stout})(e') \wedge \mathbf{Ag}(e') = \text{Lena}) = 0$

Given that: $C = \left\{ \begin{array}{l} \lambda e.\ \text{drink}(\text{stout})(e) \wedge \mathbf{Ag}(e) = \text{Lena}, \\ \lambda e.\ ..., \\ \lambda e.\ \neg\text{drink}(\text{stout})(e) \wedge \mathbf{Ag}(e) = \text{Lena}. \end{array} \right\}$

In prose, the presupposition in (120a) says that there is a truth-value relative to the event where Lena did not drink the stout in the contextually salient set of worlds, and that it is false. I will leave the question of whether this analysis is tenable under more elaborate context open for future research.

SECTION 4

CONCLUSION

In this thesis, I proposed that contrastive verb doubling is homologous with long form negation in Korean. Both of these configurations arise from ΣP, yet the feature specification on Σ determines the form and function of the resulting structure at the end of the derivation. Also, I suggested that the semantics and pragmatics of VP focus in English is identical to those of contrastive verb doubling in Korean because the two configurations share the analogous structure, despite morphophonological characteristics of two different languages that completely blur the similarity on the surface. This study corroborates the existence of Σ across languages and suggests that the study of focus must be accompanied by the study of negation in a language in question, as there seems to be a deep relationship between the structure of negation and that of focus, mediated by the feature specification of Σ.

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