

Korean Short Form Negation and Related Phenomena: A Lexicalist, Constraint-Based Analysis

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Jong-Bok Kim. 1999. Korean Short Form Negation and Related Phenomena: A Lexicalist, Constraint-Based Analysis. *Language and Information* 3.2, 13–30. There have been two opposing views on the structure of the so-called head internal relative construction (HIRC) in Korean/Japanese, i.e., a view that analyzes the HIRC categorially as a nominal projection and functionally as an argument (Kuroda 1992, Watanabe 1992, Hoshi 1996, Jhang 1991/1994, among others) vs. a view that analyzes the HIRC categorially as an adjunct clause and functionally as a non-argument (Murasugi 1994). This paper on the one hand points out several phenomena indicating that Murasugi's analysis is more viable, while on the other hand proposing a more complex structure than Murasugi's to account for other facts as well. The *no/kes* clause in the HIRC will be analyzed as the complement of a null perception verb whose projection constitutes part of an adjunct clause. (**Hanyang University**)

1. Introduction

A common and productive method of expressing sentence negation in Korean is to introduce the negative marker *an* or a negative auxiliary *anh-ta*, as represented in 1.¹

- (1) a. John-un an ka-ass-ta. (SFN: Short Form Negation)
John-TOP NEG go-PST-DECL
'John did not go.'
- b. John-un ka-ci anh-ass-ta. (LFN: Long Form Negation)
John-TOP go-COMP NEG-PST-DECL
'John did not go.'

The morphosyntactic status of SFN *an* or *mos* has been rather an issue of controversy. It has been treated either as an adverb (Lee 1990, Sells 1994) or as a prefix (Ahn 1991, S.-Y. Kim 1993, among others), or as a head of NegP selecting a VP as its complement.² In

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1. The form *anh-ta* has been taken to be the contracted form of the archaic form *ani + ha-*'NEG+do'. I accept the view that the negative auxiliary *anh-ta* is an inseparable, base-generated word in Modern Korean.
2. Sells (1998) provides a new analysis where *an* is taken to be a complement of the verb, similar to the analysis for English *not* given in ?).

this paper, I argue that there is ample empirical and theoretical evidence for the treatment of *an* as a prefix. I will show that this analysis provides us with a straightforward account of its placement restrictions as well as other related phenomena, such as scope relation.

2. Arguments for the Prefix Analysis of Short Form Negation

One of the arguments for treating the negator as an adverb has often been drawn from its similar distributional behavior to some adverbs such as *cal* 'well', *te* 'more', *tel* 'less', *com* 'a little', and so forth (cf. Lee 1993).

- (2) a. (**cal*) Tom-un (**cal*) pap-ul (cal) mek-nun-ta.
 Tom-TOP meal-ACC well eat-PRES-DECL
 'Tom eats the meal well.'
- b. (**an*) Tom-un (**an*) pap-ul (an) mek-nun-ta.
 Tom-TOP meal-ACC NEG eat-PRES-DECL
 'Tom does not eat the meal.'

The sentences in 2 illustrate that the negator *an* and the adverb *cal* are restricted to the preverbal position. A closer comparison between the adverb and the negator, however, indicates that the similarity in their syntactic distribution does not guarantee that the negator is an adverb. One immediate difference between *cal* and *an* lies in their linear ordering when they both occur in the same clause:

- (3) a. cal an ka-ss-ta.
 well NEG go-PST-DECL
- b. *an cal ka-ss-ta.
 NEG well go-PST-DECL

If we accept the view that the true adverb *cal* and the negator *an* are both adverbs, we must account for why they have certain ordering restrictions with respect to each other, or we need to introduce a specific linear ordering constraint.³

Another similar difference between the adverb *cal* and the negator *an* lies in their distribution in so-called verbal noun constructions:

- (4) a. *an yenkwu ha-ta.
 NEG research do-DECL
- b. cal yenkwu ha-ta.
 well research do-DECL

The contrast here also falls out naturally in the prefix analysis: *an* and *mos* are morphological elements that cannot be attached to an element bigger than a word. But *cal* is an adverb which has no such restriction.⁴

The existence of lexical idiosyncrasies gives us another strong argument for treating it as a prefix. In particular, the adverb analysis will have difficulties in blocking lexically inherent negative cases such as *molu-ta* 'not.know' and its positive counterpart *al-ta* 'know' from cooccurring with the negator(s):

3. But when we have two true adverbs *cal* 'well' and *maywu* 'very', we can freely interchange their order as in *cal maywu* or *maywu cal*. If we take *an* as an adverb, we need to explain this contrast.

4. To those who accept examples like *an cwungyo hata* 'not.important' *an phikon hata* 'not.tired', the negator attaches to a complex verbal lexical category. See Sells (1994)

- (5) a. ku mwuncey-ul (*an) moll-ass-ta.
 that problem NEG not.know-PST-DECL
 ‘(I) did not know the problem.’
- b. ku mwuncey-ul (*an) al-ass-ta.
 that problem NEG know-PST-DECL
 ‘(I) knew the problem.’

Any syntactic or semantic attempt would fail in predicting these lexical blocking cases because of the existence of idiosyncratic cases: the negator can host the causative forms of *al-* ‘know’ as illustrated in (6) (cf. No 1988).⁵

- (6) an al-li-ess-ta.
 ‘NEG not.know-CAUS-PST-DECL’

But notice that the adverb *cal* unlike *an* has no lexical blocking cases as shown in (7).

- (7) a. ku mwuncey-ul cal moll-ass-ta.
 that problem well not.know-PST-DECL
 ‘(I) did not know the problem.’
- b. ku mwuncey-ul cal al-ass-ta.
 that problem well know-PST-DECL
 ‘(I) knew the problem.’

If the negator *an* were taken to be an adverb, like the true adverb *cal*, we would require an additional mechanism to account for this contrast in lexical idiosyncrasies.⁶

A plural copying process in Korean provides another piece of evidence for the prefixhood of the negators. Korean has a so-called plural copying operation: when the subject is marked with the plural marker, *-tul*, each following syntactic unit also can copy it, as illustrated in (8).

- (8) motu-tul cam-ul-tul kiphi-tul ca-ass-ta.
 everybody-PL sleep-ACC-PL sound-PL sleep-PST-DECL
 ‘Everyone slept soundly.’

5. According to Poser (1991), there are also cases where lexical forms block phrasal constructions such as Japanese “incorporated” periphrastic verbs formed with *suru*. Within this view, one may argue that the existence of the LFN forms such as *al-ci anh-ta* ‘know-COMP NEG-DECL’ and *iss-ci anh-ta* ‘exist-COMP NEG-DECL’ should block the corresponding regular forms. However, this cannot be correct because all regular forms have corresponding LFN forms. As for SFN negation, blocking is restricted to the word-formation component.

6. Consider the following example noted by an anonymous reviewer.

- (i)
 an al-a pota
 NEG know try
 ‘not try to find out’

Given the prefixhood analysis, the negative marker *an* should combine with the lexeme *al* ‘know’, which should be blocked by the existence of *moluta* ‘not.know’. As noted earlier, the existence of a verbal complex accounts for this In a verbal complex analysis (Sells 1994), [al-a pota] is not a phrasal but a lexical verbal complex. To this lexical element, *an* or *mos* is prefixed.

The plural marking on the subject *motu-* in (8) licenses the occurrence of plural marking on every following syntactic unit, except the main verb. What is interesting is that this plural copying process can be applied even to the following adverb such as *cal*, as shown in (9).

- (9) ku salam-tul cal-tul mek-ess-ta.
that people-PL well-PL eat-PST-DECL
'Those people ate well.'

But the examples in (10) show that this copying process cannot apply to the negator.⁷

- (10) a. *ku salam-tul mos-tul ka-ss-ta.
that people-PL NEG-PL go-PST-DECL
b. *ku salam-tul an-tul ka-ss-ta.
that people-PL NEG-PL go-PST-DECL

The attachment of particles, further, shows a difference between adverbs and negative markers. The delimiters such as *-man*, *-to* and *-un* can be attached to a word, but cannot be inserted within a word.

- (11) cal-man/to/un ha-yess-ta.
well-only/also/FOC do-PST-DECL
'did it well'

What we observe is that though the delimiters, *-man* 'only', *-to* 'also', or *un* can freely be attached to adverbs like *cal* as shown in (11), they can combine with neither of the negators, *an* and *mos*, as seen from (12).⁸

- (12) a. *mos-un/to ha-ta.
NEG-FOC/DEL do-DECL
b. *an-un/to ha-ta.
NEG-FOC/DEL do-DECL

Another difference between the adverb *cal* and the negative markers can be found with so-called verb reduplication cases (cf. No 1988, Ahn 1991).

- (13) Tom-i pap-ul mek-ki-nun mek-ess-ta.
Tom-NOM meal-ACC eat-NMLZ-TOP eat-PST-DECL
'Tom did eat the meal, but ...'

7. In childhood languages, we could find the attachment of plural marker to the negative marker. This attachment disappears at a later stage to most of the native speakers. This might imply that the negative marker has undergone a recategorization process from an adverb to a prefix.

8. An anonymous reviewer allows the attachment of a delimiter marker to the negative marker as in the following examples.

- ((i) a. *an-to mek-kess-ta.
NEG-DEL eat-FUT-DECL
b. *an-to ha-kess-ta.
NEG-DEL do-FUT-DECL

However, most of the native speakers reject these examples. One possible answer to this acceptance is a mixed usage of the true adverbial negation *ani* with the negative marker *an*. The adverbial negative marker can freely stand alone without any verbal element as in *ani, pelisse* 'NEG already'.

The verb reduplication process imposes a certain restriction: the copied part should be at least a word. This restriction then implies, under my prefix treatment of the negators, that the preverbal adverb can be freely copied, but not the negator, *an* or *mos*. The examples in (14) support this prediction.

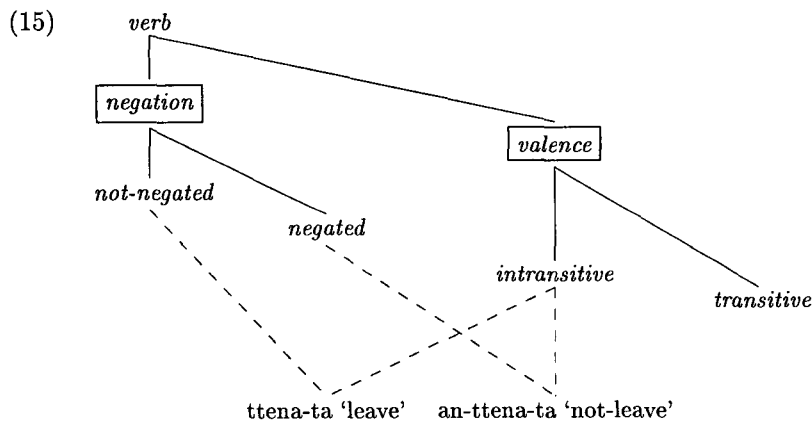
- (14) a. Tom-i hakkyo-ey cal ka-ki-nun (cal) kassta.
 Tom-NOM school-LOC well go-NMLZ-FOC (well) went
 ‘Tom did go to school well, (but ...)’
- b. Tom-i hakkyo-ey an ka-ki-nun *(an) kassta.
 Tom-NOM school-LOC NEG go-NMLZ-FOC NEG went

Copying the adverb *cal*, which is an independent syntactic unit, is optional, but the reduplication of the negator *an* is obligatory. This obligatoriness is expected, provided that it is a prefix and forms a word with the main verb.

3. A Note on the Structure of Negation

3.1 Short Form Negation

The observations we have made so far give us enough empirical as well as theoretical justification to take the negative markers *an* and *mos* as prefixes. I suggest that verbs, in addition to general information such as valence, also bear the information on negation as represented in the hierarchical lexicon structure in (15).



According to this multiple inheritance hierarchy, verbs have at least the information on negation and valence (this conjunctive requirement is marked by the boxes on the two types). The two types are partitioned into several subtypes.⁹ The inheritance mechanism of this hierarchy allows nonnegative words and negative words with the negative marker *an* to inherit all the constraints of their supertypes. That is, their lexical information is underspecified but is later specified thru multiple inheritance. For example, the types in the hierarchy specify the following relevant information:

9. cf. Warner (1998) for partitioning the English auxiliary system into NEGATION and INVERSION).

- (16)
- | | | | |
|----|---|----|---|
| a. | $\left[\begin{array}{l} \textit{transitive} \\ \text{COMPS (NP)} \end{array} \right]$ | b. | $\left[\begin{array}{l} \textit{intransitive} \\ \text{COMPS (} \quad \text{)} \end{array} \right]$ |
| c. | $\left[\begin{array}{l} \textit{negated} \\ \text{I-FORM an + [1]} \\ \text{STEM [4] } \left[\begin{array}{l} \textit{not-negated} \\ \text{I-FORM [1]} \end{array} \right] \\ \text{CONTENT not-relation} \end{array} \right]$ | d. | $\left[\begin{array}{l} \textit{not-negated} \\ \text{STEM [4] } \textit{verb-lexeme} \end{array} \right]$ |

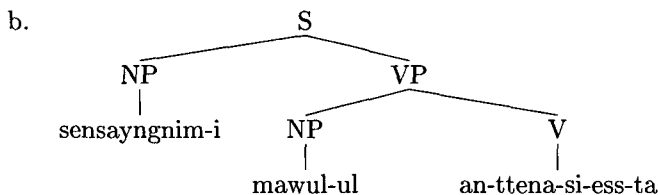
Such information is inherited down to its subtype. This system generates the lexical entries for the verb *ttena-* ‘leave-DECL’ and its negative counterpart *an-ttena-* ‘NEG-leave-DECL’ as in (17).

- (17)
- | | | | |
|----|---|----|--|
| a. | <i>ttena-</i> ‘leave’ | b. | <i>an ttena-</i> ‘NEG leave’ |
| | $\left[\begin{array}{l} \textit{not-negated} \wedge \textit{transitive} \\ \text{HEAD verb} \\ \text{SUBJ (NP [1])} \\ \text{CONTENT } \left[\begin{array}{l} \textit{leave-rel} \\ \text{AGENT [1]} \end{array} \right] \end{array} \right]$ | | $\left[\begin{array}{l} \textit{not-negated} \wedge \textit{transitive} \\ \text{I-FORM an + [3]} \\ \text{HEAD verb} \\ \text{CONTENT } \left[\begin{array}{l} \textit{not-rel} \\ \text{ARG [2]} \end{array} \right] \\ \text{STEM [4] } \left[\begin{array}{l} \text{I-FORM [3]} \\ \text{CONT [2]} \end{array} \right] \end{array} \right]$ |

One immediate advantage of this on-line type construction¹⁰ is a uniform analysis of productive as well as nonproductive lexical processes. Each regular and exceptional lexical lexeme is pretyped to the relevant category. For example, exceptional cases such as *molu-ta* ‘not.know’, *eps-ta* ‘not.exist’ are prelinked to the type *negated*. Pretyping such lexical entries to the category prevents an identical function of the word from being generated as in **an-molu-ta* and **an-eps-ta*.¹¹

Given this basic architecture of SFN, we assign a simple structure to SFN sentences. For example, sentence (18a) will have the structure in (18b).

- (18) a. *sensayngnim-i mawul-ul an-ttena-si-ess-ta.*
 teacher-NOM town-ACC NEG-leave-HON-PST-DECL
 ‘The teacher did not leave town.’



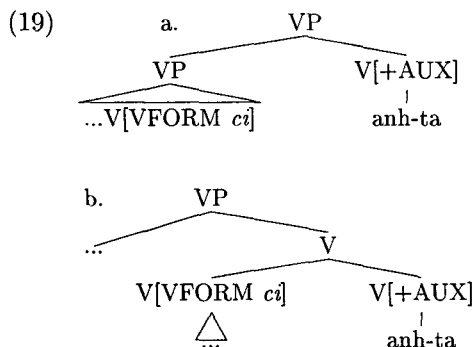
There is no functional projection NegP under this assumption, and there is thus no syntactic movement to form the word *an-ttena-si-ess-ta* (see section 2.4). All the inflectional affixes, including the negator *an*, are attached in the lexicon and have no syntactic status, other than whatever features they contribute to the overall word containing them. The negated main verb is, thus, simply base-generated from the lexicon.

10. We, of course, can generate the output through a lexical rule that affects the meaning of the output verb.

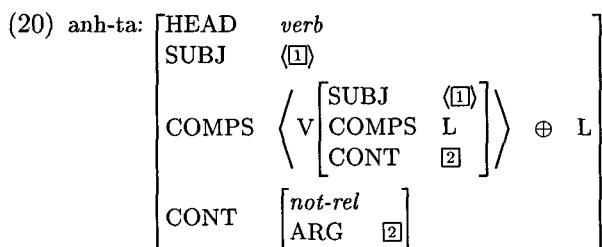
11. See Koenig (1999) for a formulation of morphological blocking principle in a more precise way.

3.2 Long Form Negation

In exploiting the lexical view of LFN (Long Form Negation), we also have two issues that need to be addressed in LFN, the categorial status of *anh-ta* and its syntactic structure. As for its categorial status, I take *anh-ta* to be an independent auxiliary forming a verbal complex with a main verb. As for the syntactic structure of LFN, there are two possible views. One is to assume that the negative auxiliary takes a VP complement (cf. Lee 1993, S.-Y. Kim 1993, Yoon 1993, among others) and the other is to claim that it forms a verb complex with the preceding main verb (cf. Sells 1991, 1994, Kim 1996).



As argued by Kim (2000), phenomena such as topicalization, coordination, clefting, adverb intervention, scrambling, and so forth provides us with strong evidence to prefer the structure (19b) as that of Korean LFN. Together this verbal complex analysis, I introduce the mechanism of argument composition into the lexical entry of the negative auxiliary as represented in (20).¹²



The lexical entry in (20) specifies that the negative auxiliary selects as its complement a verbal element as well as the complement(s) (L) that this verb selects. The subcategorization requirements of the complement verb are thus passed to the negative auxiliary head with which it combines.¹³

4. Implications of the Analysis

4.1 More on Basic Properties

As noted previously, unlike LFN *anh-ta*, the attachment of SFN *an-* is sensitive to the syllable structure of the host it attaches to. The attachment of the prefix *an-* is restricted to

12. The basic motivation of the argument composition is to allow a saturated-complement taking verb to alternatively select a non-saturated head.
 13. Also, notice that the negative auxiliary verb is treated as a raising verb (cf. Sells 1991). This is represented by the identity (⟦1⟧) between the SUBJ value of the negative auxiliary and that of the selected complement verb.

a monosyllabic or bisyllabic host whereas the negative auxiliary has no such restriction.¹⁴

- (21) a. ??an alumtap-ta.
NEG beautiful-DECL'
b. alumtap-ci anh-ta.
beautiful-COMP NEG-DECL

The contrast in (21) is a natural prediction of the present analysis in which SFN is taken to be a prefix whereas the LFN to be an independent word.¹⁵

Another observed difference was that unlike LFN, SFN shows lexical idiosyncrasies, as seen from the contrast between the a and b examples in (22) and (23).

- (22) a. *an moll-ass-ta.
'NEG not.know-PST-DECL'
b. molu-ci anh-ass-ta.
not.know-COMP NEG-PST-DECL
(23) a. *an al-ass-ta.
'NEG know-PST-DECL'
b. al-ci anh-ass-ta.
know-COMP NEG-DECL

The prefixation of the negator is a lexical process whereas the verb complex formation in LFN is a syntactic process. If both SFN and LFN were syntactic processes, such a contrast would be very hard to account for.

4.2 Intervention Effect

The negators *an* and *mos* can in general occur with either stative or non-stative verbs, but this is not always true. For example, they cannot occur with auxiliary verbs in complex predicate structures (the term 'intervention effect' is borrowed from Sells (1998)):¹⁶

- (24) a. mek-e (*an) po-ta.
eat-COMP NEG try-DECL
'try to eat'
b. ilk-eya (*an) ha-yess-ta
read-COMP NEG do-PAST-DECL
'have to read'

Further, the negators cannot precede modal verbs, as shown in (25).

14. The judgements on examples like (21a) vary slightly, though most native speakers accept them as non-standard. For such speakers, there wouldn't be such a phonological constraint as in my analysis.
15. The negator *mos* also appears to observe the same phonological condition. It generally does not occur with a polysyllabic host, as illustrated in (i).

(i) a. ??mos kongpwuha-ta.
NEG study-DECL'
b. kongpwuha-ci mos-ha-ta.
study-COMP NEG-do-DECL

16. However, there is no restriction for the negative marker to combine with the first main verb.

- (25) a. John-i ka-n kes (*an) kath-ta.
 John-NOM go-PNE thing NEG seem-DECL
 ‘It seems that John left.’
- b. John-i ca-nun chey (*an) ha-yess-ta.
 John-NOM sleep-PNE pretend NEG do-PST-DECL
 ‘John pretended to sleep.’

We cannot attribute this behavior to the semantics of the auxiliaries since the LFN *anh-ta* has no such restriction.

- (26) a. mek-e po-ci anh-ass-ta.
 eat-COMP try-COMP NEG-PST-DECL
 ‘not try to eat’
- b. John-i ka-n kes kath-ci anh-ass-ta.
 John-NOM go-PNE thing seem-COMP NEG-PST-DECL
 ‘It does not seem that John left.’

Within a prefix analysis, this morphosyntactic constraint is accounted for by a simple constraint (27).

$$(27) \left[\begin{array}{l} \textit{negated} \\ \text{HEAD } \textit{verb} \\ \text{STEM } \left[\text{AUX } - \right] \end{array} \right]$$

The constraint specifies that the stem that the marker *an* attaches to should be a nonauxiliary verb. This simply captures the intervention effect we have observed.¹⁷

4.3 Double negation

My analysis also provides a simple description of double negation cases. Consider the examples in (28) and (29).

- (28) a. *John-i Mary-lul manna-ci an anh-ass-ta.
 John-NOM Mary-ACC meet-COMP NEG NEG-PST-DECL
- b. *Mary-ka yeppu-ci an anh-ta.
 Mary-NOM pretty-COMP NEG NEG-DECL
- (29) a. Mary-ka yeppu-ci anh-ci anh-ta.
 Mary-NOM pretty-COMP NEG-COMP NEG-DECL
 ‘It is not the case that Mary isn’t pretty.’
- b. Jon-i Mary-lul manna-ci anh-ci anhassta.
 John-NOM Mary-ACC meet-COMP NEG-COMP NEG
 ‘It is not the case that John didn’t meet Mary.’

17. In an adverb analysis, it may not be impossible to block such ill-formed cases. For example, we may think of the negation as a functor modifying the head verb. To this functor, we can assign the specific lexical entry saying that it can modify only a non-auxiliary verbal category. However, this adverb analysis yields other problems, in particular, with scope.

The SFN marker *an* is a prefix and forms a word unit with the host it attaches to. The ungrammaticality of (28a) and (28b) is simply due to the morphological properties of the negative prefix *an*: it does not attach to an auxiliary verb including a negative one.¹⁸ LFN negation is an independent auxiliary and selects a verb with the suffix *-ci*, whether it be an auxiliary or a main verb. Nothing blocks the double occurrence of the negative auxiliary, as in (29a) and (29b).

Also the analysis naturally predicts double negative cases in which SFN and LFN negation co-occur, as given in (30).

- (30) a. John-i Mary-lul [[an manna-ci] anh-ass-ta].
 John-NOM Mary-ACC NEG meet-COMP NEG-PST-DECL
 'It is not the case that John did not meet Mary.'
- b. Mary-ka [[an yeppu-ci] anh-ta].
 Mary-NOM NEG pretty-COMP NEG-DECL
 'It is not the case that Mary isn't pretty.'

Again the negative auxiliary, an independent lexical unit, has no such restriction as to whether the main verb it combines with should be positive or negative.

Another revealing advantage of the present analysis is that it easily accounts for why the negator *mos* cannot 'semantically' combine with a verb complex:

- (31) John-i sakwa-lul mos mek-ci anh-ass-ta.
 John-NOM apple-ACC NEG eat-COMP NEG-PST-DECL

The sentence in (31) has only the reading where *mos* negates the following main verb as represented in (32a). The sentence, however, cannot have the reading in which *mos* scopes over the verb complex as represented in the bracketing structure in (31b).

- (32) a. John-i sakwa-lul [[mos [mek-ci] [anh-ass-ta]].
 John-NOM apple-ACC NEG eat-COMP NEG-PST-DECL
 'It was not the case that John was unable to eat the apple.'
- b. *John-i sakwa-lul [mos [mek-ci anh-ass-ta]].
 John-NOM apple-ACC NEG eat-COMP NEG-PST-DECL
 'John was not able to not eat the apple.'

This contrast shows that *mos* combines with the main verb, but not with a unit bigger than a word. Treating the negator *mos* as an adverb (cf. Sells 1994) could not explain why (32b) is unacceptable. But this is exactly what we expect from the prefix status of *mos*.

18. But it is possible to have the combination of *an* and *mos* in order.

- (i) John-i sakwa-lul an mos mek-ess-ta.
 John-NOM apple-ACC NEG NEG eat-PST-DECL
 'It was not the case John was unable to eat the apple.'

Since *mos mek-ess-ta* is a main verb, the negator *an* can again occur with it.

4.4 Scope of Negation in Complex Predicates

In the present analysis where the negator combines with its host main verb as a prefix, the question arises of how we can obtain the wide scope of negation in verbal complex cases like (33).

- (33) a. *an mek-e po-ta.*
 NEG eat-COMP try-DECL
- b. *an mek-ko iss-ta.*
 NEG eat-COMP in.process-DECL

The negator *an* can either scope over the whole verb complex with the meaning of ‘not try to read’ or just over the main verb with the meaning of ‘try not to read’. If we take the negator *an* to be an adverb, this different scope of negation can be drawn from the difference in the structural attachment of the negator as in (34).

- (34) a. [*an* [*ilk-e po-ta*]]
- b. [[*an ilk-e*] *po-ta*].

In the prefix treatment, we cannot resort to such a structural resolution of scope. Within this approach, the only possible structure would be something like (34b). The approach I adopt is the analysis of Pollard and Yoo (1998) and of Manning, Sag, and Iida (1997) in which scope is determined via the notion of storage and lexical properties. The key point of this analysis is that the quantification value of a verb be the set union of the quantification values of the verb’s argument structure members. This effect can be illustrated through the simplified Quantifier-Store Amalgamation Constraint given in (35).

(35) QSTORE Amalgamation Constraint:

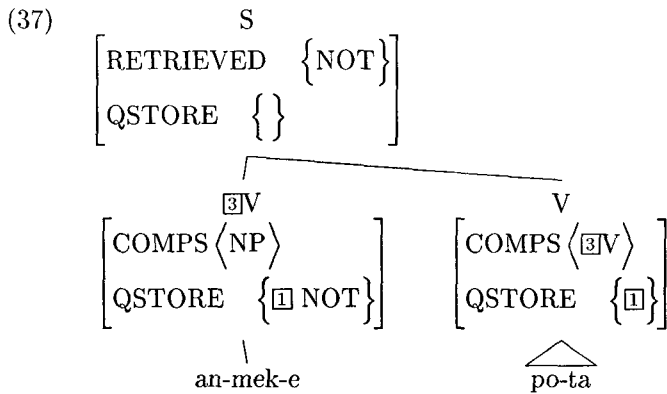
$$word \Rightarrow \left[\begin{array}{l} \text{ARG-ST} \langle [\text{QSTORE } \boxed{1}], \dots, [\text{QSTORE } \boxed{n}] \rangle \\ \text{QSTORE } \boxed{1} \uplus \dots \uplus \boxed{n} \end{array} \right]$$

The constraint says that a word’s QSTORE value is the union of the QSTORE values of its argument structure members. Let’s see how this lexically encoded storage analysis works out.

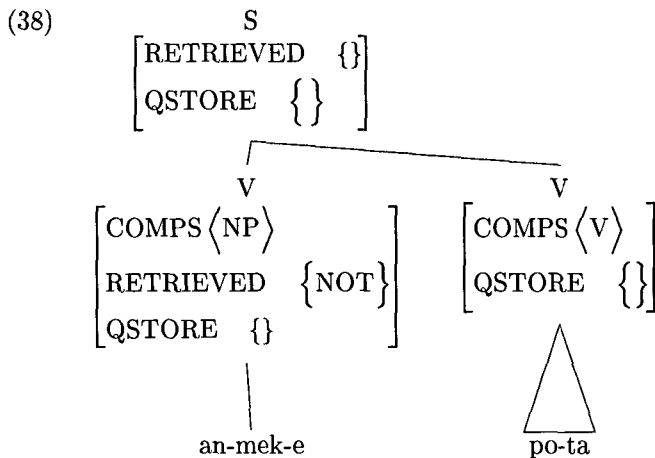
Accepting the mechanism of argument composition for auxiliary verbs (see Chung (1998) for arguments), we posit the following as the lexical entry of auxiliary verbs such as *po-ta*.

(36)
$$\left[\begin{array}{ll} \text{HEAD} & \textit{verb} \\ \text{SUBJ} & \langle \boxed{1} \rangle \\ \text{COMPS} & \left\langle \text{V} \left[\begin{array}{ll} \text{SUBJ} & \langle \boxed{1} \rangle \\ \text{COMPS} & \text{L} \\ \text{CONT} & \boxed{2} \end{array} \right] \right\rangle \oplus \text{L} \\ \text{CONT} & \left[\begin{array}{ll} \textit{try-rel} \\ \text{ARG} & \boxed{2} \end{array} \right] \end{array} \right]$$

The lexical entry tells that the auxiliary *po-ta* ‘try’ takes as its complement a verbal element and the complements this verbal element selects. When this lexical entry incorporates the QSTORE amalgamation constraint, we then assign the following structure to the example in (34).



The verb *po-ta* combines with its verbal complement *an-mek-e*; meanwhile it also amalgamates the QSTORE value of the verbal complement *an-mek-e*. This QSTORE value is passed up to its mother, but can be retrieved at this node. The final scope depends on which node a quantifier is retrieved at and on the order of its retrieval relative to other quantifiers retrieved at the same node, as indicated by the value RETRIEVED. The retrieval freedom thus allows the narrow scope reading, too, in which the QSTORE value is retrieved earlier, as represented in the following:¹⁹



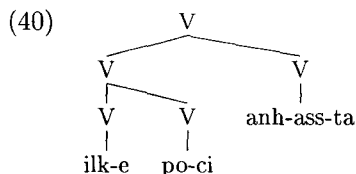
A consequence of this analysis comes from complex predicates where only a narrow scope reading is possible:

- (39) an ilk-eya han-ta.
NEG read-COMP do-DECL

Unlike the complex predicates we have seen, negation only has narrow scope in (39). This lexical idiosyncrasy is simply because the auxiliary *ha-* lexically does not inherit the QSTORE value of its verbal complement *an-ilk-eya*.

Unlike SFN, the negation scopes over the whole verbal complex. This is natural consequence of the analysis, as can be observed from the following structure:

19. An anonymous reviewer questioned a scope relation with an adverb with the assumption that adverbial elements cannot be in the argument structure. However, recent analyses (cf. Kim 2000, Manning et al. 1997, Warner 1998, among others) show that certain adverbials can be members of the argument structure.



Since in this structure it is the negative auxiliary that bears the QSTORE value, the only place the QSTORE value can be retrieved is the top V. This results in only the reading where negation scopes over the whole verbal complex.²⁰

4.5 Distribution of Adverbs

Another advantage of my analysis comes from the account of adverb positions.

As noted in Lee (1993), the position of adverbs like *cal* are all confined to the immediate preverbal position like the negative markers *an* and *mos*, as illustrated from the contrast (41) and (42).²¹

- (41) a. John-un sakwa-lul cal mek-nun-ta.
 John-TOP apple-ACC well eat-PRES-DECL
 'John eats apples well.'
- b. John-un sakwa-lul an mek-nun-ta.
 John-TOP apple-ACC NEG eat-PRES-DECL
 'John does not eat apples.'

- (42) a. *John-un cal sakwa-lul mek-nun-ta.
 b. *John-un an sakwa-lul mek-nun-ta

But in LFN constructions, the adverb *cal* cannot intervene in the verb complex *mek-ci anh-ass-ta*:

- (43) a. John-un sakwa-lul cal mek-ci anh-ass-ta.
 John-TOP apple-ACC well eat-COMP NEG-PST-DECL
 'John didn't eat apples well.'
- b. *John-un sakwa-lul mek-ci cal anh-ass-ta.

A legitimate question that follows at this point is how my non-derivational, surface-oriented analysis correctly accounts for adverb placement in Korean. Though I cannot

20. Sells (1998) has raised a puzzle in the treatment of *an*: whether we treat *an* either as an adverb or a prefix, we run into problems about the intervention effect with respect to scope of negation in verbal complex constructions (this problem has lead Sells 1998 to treat *an* as a complement).

21. For languages like English and French, the distribution of adverbs has been a major motivation for postulating the functional projection NegP and further adopting verb movement analyses (cf. Pollock 1989). The same has been true for Korean. Choi (1991) and Lee (1993) have independently argued that the distributional properties of certain adverbs provides positive evidence for the existence of verb-raising as well as that of functional projections including NegP.

In capturing this distributional behavior of adverbs and the negator, Lee (1993) introduces a verb-raising analysis with the syntactic structure of functional projections. In particular, he proposes that elements like *cal* are adverbs generated as post-VP modifiers whereas the negators *an* and *mos* are adverbs positioned in the Spec of NegP. However, as seen earlier, various arguments have gone against the treatment of *an* and *mos* as adverbs: phenomena such as the attachment of delimiters, plural copying, and reduplication all have distinguished the negators *an* and *mos* from adverbs such as *cal* 'well', and further entailed that they are not independent words.

do justice to all adverb cases, I will sketch an analysis for those adverbs within my nonderivational analysis. I first assume that there are at least two types of adverbs in Korean, as given in (44).²²

- (44) a. V-adverb: *cal* ‘well’, *com* ‘a little’, *cokum* ‘a little’, *te* ‘more’, *tel* ‘less’, *ceil* ‘most’, etc.
 b. VP-adverb: *acwu* ‘very’, *wancenhi* ‘completely’, *ppalli* ‘quickly’, *yelsimhi* ‘hard’, etc.

As noted earlier, V-adverbs have a very strong preference to appear in the immediate preverbal position (relevant data repeated here).

- (45) a. ai-ka sakwa-lul cal mek-nun-ta.
 child apple-ACC well eat-PRES-DECL
 ‘The child eats apples well.’
 b. *ai-ka [cal [sakwa-lul mek-nun-ta]]

In order to capture this positional restriction, I assume that a V-adverb like *cal* has the lexical information in (46) at least.

- (46) $\left[\text{HEAD} \left[\begin{array}{l} \textit{adv} \\ \text{MOD } V^0 \left[\begin{array}{ll} \text{AUX} & - \\ \text{STATIVE} & - \end{array} \right] \end{array} \right] \right]$

The lexical entry specifies that *cal* modifies only a lexical, main verb, but not a phrasal unit. The lexical entry, combined with the existing Head-Modifier Schema, will generate the following structure.

- (47)
- ```

 V'
 / \
 Adv V[-AUX, -STATIVE]
 | |
 cal ...

```

22. There seems to be another type of adverb, S-adverbs, such as *wuncohkeyto* ‘fortunately’, *hwaksilhi* ‘certainly’, *ceypal* ‘please’, *imi* ‘already’, etc. One of their main differences from VP-adverbs can be found in the contrast given in (i)a and (i)b.

- (i) a. *pwulhaynghakeyto* [pay-ka apha-se]  
 unfortunately stomach-NOM sick-because  
 [na-nun sakwa-lul mek-ci anh-ass-ta].  
 I-TOP apple-ACC eat-COMP NEG-PST-DECL  
 ‘Unfortunately, because of my bad stomach, I didn’t eat the apple.’  
 b. [acwu pay-ka apha-se]  
 very stomach-NOM sick-because  
 [na-nun sakwa-ul mek-ci anh-ass-ta].  
 I-TOP apple-ACC eat-COMP NEG-PST-DECL  
 ‘Because my stomach was very bad, I didn’t eat the apple.’

S-adverbs like *pwulhaynghakeyto* can either modify the embedded or the main clause, whereas VP-adverbs like *acwu* can modify only the embedded clause.

Given the general linear order constraint that a modifier precedes the element it modifies, the lexical specification of the head feature MOD(IFIED) explains the unacceptability of (45b) in which the adverb modifies not a lexical unit but a phrasal unit.

The lexical entry also specifies that *cal* modifies a non-auxiliary and non-stative verb. This is to block cases like (48a) and (48b).

- (48) a. \*ai-ka sakwa-lul mek-ci [cal [anh-ass-ta]].  
 child-NOM apple-ACC eat-COMP well NEG-PST-DECL  
 'The child didn't eat the apple well.'
- b. \*ai-ka [cal [yeppu-ta]].  
 child well pretty-DECL

Though *cal* in (48a) modifies a lexical unit, it incorrectly modifies an auxiliary. In (48b), it also wrongly modifies a stative verb.

The simple lexical entry (46) also accounts for the position of adverbs like *cal* in verbal noun constructions. *cal* can either precede the complex verb like *kongpwu ha-* or just the verb part *ha-*:

- (49) a. ai-ka kongpwu [cal [ha-n-ta]].  
 child study well do-PRES-DECL  
 'The child studies well.'
- b. ai-ka [cal [kongpwu ha-n-ta]].

Since both [*ha-n-ta*] in (49a) and [*kongpwu ha-n-ta*] in (49b) are lexical verbs, nothing would block the adverb *cal* from modifying either of them.

Notice again that the negator *an* contrasts with the adverb *cal* in its distribution in verbal noun cases, as illustrated here again:

- (50) a. ai-ka kongpwu an ha-n-ta.  
 child study NEG do-PRES-DECL  
 'The child does not study.'
- b. ??ai-ka an kongpwu ha-n-ta.

Unlike *cal*, *an* cannot precede the complex verb *kongpwu ha-*. I again attribute the contrast here to the nature of the prefix *an*: it is a verbal prefix and cannot be attached to a verbal noun or a syntactic X<sup>0</sup> element.<sup>23</sup>

Of course, when combined with my assumption that *an* is a prefix, the analysis easily predict why the prefix *an* cannot precede the word *cal*:

- (51) a. John-un sakwa-lul cal an-mek-nun-ta.  
 John-TOP apple-ACC well NEG-eat-PRES-DECL  
 'John doesnot eat apples well.'
- b. \*John-un sakwa-lul an cal mek-nun-ta.  
 John-TOP apple-ACC NEG well eat-PRES-DECL

23. Following Sells (1995), I assume that elements like *kongpwu ha-ta* is not a lexical verb but a syntactically formed V<sup>0</sup> constituent. See Sells (1995) for arguments of this position.

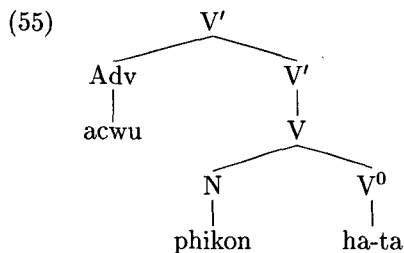
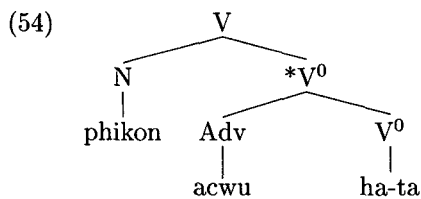
Now, let us return our attention to VP-adverbs. The distribution of VP-adverbs like *acwu* 'very', *wancenhi* 'completely', *ppalli* 'quickly' and so forth is much freer, as shown in (52).<sup>24</sup>

- (52) a. John-un ppalli chayk-ul sangca-ey neh-ess-ta.  
 John-TOP quickly book-ACC box-LOC put-PST-DECL  
 'John put the book in the box quickly.'  
 b. ppalli John-un chayk-ul sangca-ey neh-ess-ta.  
 c. John-un chayk-ul ppalli sangca-ey neh-ess-ta.  
 d. John-un chayk-ul sangca-ey ppalli neh-ess-ta.

In the analysis I sketched here, the only thing we need for this behavior is the lexical specification in (53) that VP-adverbs modify not a verbal element but a unit bigger than a word, i.e., a phrasal element VP (or V').

$$(53) \left[ \text{HEAD} \left[ \begin{array}{l} \textit{adv} \\ \text{MOD V}' \end{array} \right] \right]$$

Given that VP-adverbs have this lexical information at least, we are then able to account for the distribution of adverbs like *acwu*.



The VP-adverb *acwu* cannot intervene inside the sequence of the complex verb *phikon ha-*, since it then modifies a verbal element. This will violate the lexical restriction given in (53). But the adverb can precede the verbal noun, as in (55), since in this case it modifies a phrasal unit.

## 5. Conclusion

By treating *an* as a prefix rather than an adverb, we can provide a straightforward account for various phenomena such as order restrictions with adverbs, lexical blocking

24. I leave aside the discussion of the various possible positions of VP-adverbs given here.



cases, plural copying, reduplication process, and so forth. This analysis allowed us to have a simple structure for the SFN constructions, as well. When combined with the argument composition analysis for the LFN, the analysis also predicts the complicated behavior of negation with respect to the intervention effect and double negation.

Even the scope of negation in verbal complex predicate constructions is a natural prediction within the proposed lexicalist approach. This approach, built upon the notion of argument composition and the lexicalized account of quantifier scoping, captures the scope phenomena of SFN as well as LFN. The analysis also provides a streamlined account of adverb positions without resorting to movement operations, which has been a common practice in transformational analyses.

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