Sub-Phrasal Syntax in Korean*

Peter Sells

While much recent work in syntax has concentrated on the scrambling possibilities of non-head elements in the Korean clause, in this paper I investigate the syntax of certain non-head elements which cannot scramble, such as negative adverbials like *an* and *mos*, adverbials like *cal* 'well' and *cokum* ('a little'), and bare verbal nouns (as in *tochak ha-ta* 'arrive'). I argue that within the productive phrasal syntax of Korean there is a 'sub-phrasal' component, which accounts for the combination of the restricted elements discussed here. Each such element has the property that it does not project beyond the X^0 level; nevertheless, all of this is syntax, and falls outside the domain of the lexicon.

0. Introduction

Most recent work on Korean syntax has focussed on the range and theoretical nature of the 'scrambling' possibilites of non-head constituents (for a recent account, see Lee 1993). However, strictly, it is not only heads which cannot scramble; certain other restricted elements also show a fixed order. In this paper I will look at the syntactic distribution of these elements in Korean, and interactions and restrictions among them, with a view to articulating more clearly this aspect of Korean syntax.

In general, while the order of phrases is free in Korean, the order of certain word-like (X^0) constituents as *an* or *mos* (negative) and *cal* ('well,

*The basic ideas in this paper were developed in joint work with Young-Mee Yu Cho, and I would like to acknowledge her significant contributions to all aspects of this paper. We presented a much earlier version at the 1991 Workshop on Korean Syntax and Semantics, at the Linguistic Society of America Summer Institute in Santa Cruz. Additionally, I have benefited through comments, suggestions and help, from Hye-Won Choi, Ki-Sun Hong, Jong-Bok Kim, Yookyung Kim and an anonymous reviewer. All errors and misinterpretations are, of course, mine.

often') or *cokum* ('a little') is fixed in the phrasal syntax. For example, while the first three elements in (1) can be freely reordered with respect to each other, the last three *cal mos paywuessta* must have a fixed order.

(1) swuni-ka mikwuk-eyes yenge-lul
Sooni-NON America-in English-ACC
cal mos paywu-ess-ta
well cannot learn-PAST-DECL
'Sooni did not learn English well in America.'

To account for this, one might claim that the first three elements are true phrasal constituents of the clause, and allow reordering, while the rest, *cal mos paywuessta*, is a complex word of some kind, and essentially is a complex head. However, there is no evidence that supports the idea that *cal mos paywuessta* is a word-in fact, all the relevant evidence from phonology and morphology indicates the presence of three separate lexical words.[1] The position that I will argue for in this paper is that there is a productive 'phrasal syntax' in Korean, into which the first three elements of (1) fall, and within it, there is a 'sub-phrasal' component in Korean, which accounts for the combination of the restricted elements (see also Choi 1991). In addition to adverbs and negation markers, the sub-phrasal syntax also includes the (bare) verbal-noun+*ha-ta* construction, as in *kongpwu ha-ta* 'studies', which itself can appear in such fixed-order combinations as *kongpwu cal mos hata* 'cannot study well'. All of this is nevertheless syntax, and falls outside the domain of the lexicon, or the word-formation component.

After some preliminary assumptions have been laid out, section 2 of the paper presents the data and arguments which support the idea of a sub-phrasal component in the syntax. Section 3 contains my specific proposal, and section 4 looks at some further restrictions that need to be captured under any account.

1. Preliminaries

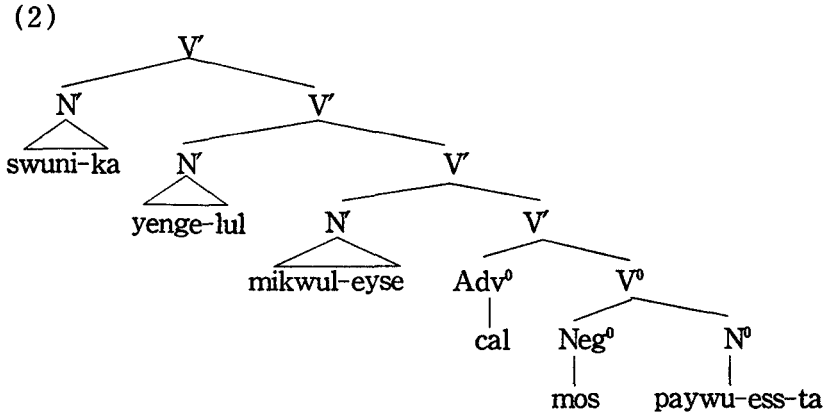
For the phrasal syntax, I assume that it consists primarily of base-generated adjunction at the X′ level, following the ideas of Fukui (1986), with

[1] There is another interpretation of the string in (1), irrelevant to my purpose here, in which *calmos* is an adverb, meaning 'mistakenly'. I intend that this interpretation is avoided in the judgement of the examples.

fully binary structures.[2] In constrast, most recent work assumes that scrambling involves movement within a richly articulated structure involving several functional categories. However, I believe that the evidence for such functional categories is not convincing (following the arguments in Sells 1994b), though I will not address this issue directly in this paper, as the focus is on more restricted areas of the syntax. Nevertheless, aspects of this debate will emerge in the discussion of other approaches to the data I consider here.

I assume that X′ theory only provides two levels for Korean, X^0 and X′. If the phrasal syntax is formed out of X′ constituents, clause-internal scrambling is just the free generation of phrases in any order. The structure for (1) that I will argue for is shown in (2). Only the X′ (N′) phrases may scramble, but within the domain of X^0s, the structure is fixed. I include the Adv^0 *cal* in this 'domain', as explained below in section 2.2.

(2)



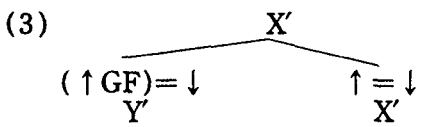
[2] The binary-branching structures are necessary to account for the cases discussed this paper, as well as constructions involving mixed case-marking on the complements of verbal nouns-for discussions based on Japanese, see Sells (1988), Manning (1993). Korean examples such as (i) are discussed in Lee (1993) (also Sells 1994a).

(i) kim-kyowsu-ka wencahayk-uy yenkwu-cwung,
Kim-prof.-NOM atomic nucleus-GEN research-during,
cencayng-i ilen-ass-ta
war-NOM break out-PAST-DECL
'During Prof. Kim's research on the atomic nucleus, war broke out.'

With a flat sturcture, it would be very difficult to explain how the nominative NP and the genitive NP could be sisters, and/or how the same element (*yenkwu-cwung*) could assign the two types of case in the same configuration.

In this structure, I adopt the view of Cho and Sells (1994) and Sells (1994b), that there is no syntactic category of Postposition. Thus, I label *mikwuk-eyse* as N′ rather than P′, though nothing in this paper rests on that decision. Also following Cho and Sells (1994), I will present the analysis in the syntactic framework of Lexical-Functional Grammar (Bresnan 1982b); (2) is the constituent structure (c-structure) representation. Under these assumptions, we can say that the productive phrasal syntax is formed by a single schema, shown in (3).

(3)



These binary-branching phrase structures have functional annotations which specify the role of the dominated constituents in the associated functional structure (f-structure), which represents functional information such as subject, object, predicate, and so on. The structure in (3) indicates that the right daughter is the head (the functional annotation '↑ = ↓' refers to the functional head), and allows arguments and adjuncts to be introduced randomly as the left daughter, depending on the choice for GF. For the LFG treatment of languages with rather free ordering and no structural distinction between arguments and adjuncts, see Mohanan (1982) and Simpson (1991).

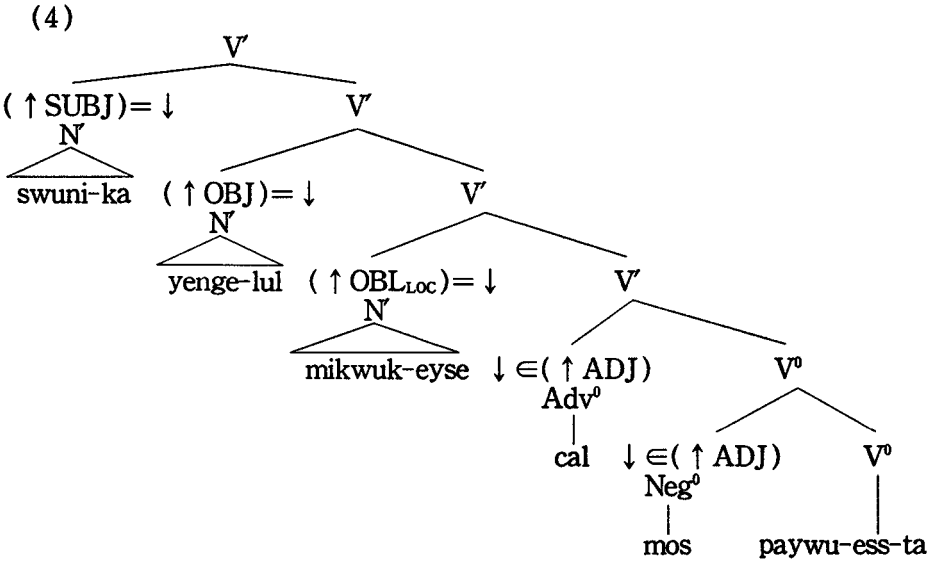
In the usual spirit of X′ theory, I take it that (3) actually defines unordered structures, and that the syntax of Korean contains a linear precedence statement to the effect that heads are final. With respect to the c-structure, head is defined in the usual way, in terms of the categorial specification of the nodes. In LFG, the functional head need not coincide with the c-structure head, but in Korean phrasal syntax it does, and thus the functional annotations in (3) are predictable from the c-structure definition of headedness (see section 3 for more discussion of this aspect of the analysis).

Under this conception, grammatical functions such as subject and object are defined via the information in the case-marking and argument structure (see Hong 1991), rather than via some designated structural position (such as SpecIP, etc.). Similarly, (productive) adjuncts would also be generated at the X′ level. For example, in (2), the non-stative verb 'learn' will

govern a nominative subject and an accusative object; thus, the syntax must provide nominative and accusative NPs, which will be interpreted as the subject and object, regardless of their position in the structure. It is further predictable that the phrase marked by *-eyse* 'in, at' is a locative phrase. The lexical information in the predicates, and the case-marking on the phrases, thus provide the key to the syntactic formation.

The annotated c-structure for (2) is that shown in (4). All nodes which are not annotated, except for the root node, are assumed to have the functional equation $\uparrow = \downarrow$. The annotation $\uparrow \in (\downarrow \text{ADJ})$ indicates that those elements belong to the set of sentence-level adjuncts.

(4)



2. Sub-Phrasal Combinations

The sub-phrasal combinations that I will present in this paper all involve cases where one daughter or the other is not X' but X^0. Hence, these can be thought of as units smaller than a regular phrase. In this section, I present the various kinds of X^0 element which occur in the sub-phrasal domains, and develop an account of them. In the next two subsection, I discuss negative particles and then (positionally) restricted adverbs-in the rest of the paper, I will use the term 'restricted adverbials' to refer to elements in either of these classes.

2.1. Negative Particles

In the short-form type of negation, the negative particles *an* and *mos* appear immediately preverbally. I will argue that they are themselves X^0s (I use the label 'Neg' for them, but view them as a kind of adverb) which attach to V^0s to make V^0s in the syntax. Alternatively, one might assume that the particles are truly prefixal, attached to the verb as a lexical process. I will argue that the former approach is correct.

One argument against the idea that a negative particle is literally a part of the following word is that it does not count for phonological 'weight'. Cho (1991) and Cho and Sells (1994) note that attachment of particles imposes no constraint on the phonological shape of a non-verbal category, while affixation of particles to a verbal form is constrained by the phonological length of the stem, as illustrated by the examples in (5).[3] In the examples below, *ca* is formed from the root plus the 'continuative' suffix, *ca-a*, and *hay* is underlyingly *ha-e*.

(5) a. cap-a-to cwu-sey-yo
hold-COMP-also give-HON-LEVEL
'Please also hold (it).'

b. *ca-to cwu-sey-yo
sleep-COMP-also give-HON-LEVEL
'Please sleep also.'

c. kwen-hay-man po-sey-yo
encourage-only try-HON-LEVEL
'Please try encouraging (someone).'

d. *hay-man po-sey-yo
do-COMP-only try-HON-LEVEL
'Please try doing (it).'

The phonological condition is that the verbal form must be at least disyllabic in order for a particle to attach. In (5a) *-to* is attached to *cap-a*, a disyllabic form, whereas in (b) *-to* is affixed to the monosyllabic *ca-*, a contracted form of *ca-a-*. Similarly, affixation of *-man* is well-formed only when its

[3] In the Kyengsang dialect the constraint on phonological weight seems to be absent; speakers of that dialect accept *mek-to mos ha-ta* 'cannot even eat', while this is unacceptable in the standard dialect.

host is at least two syllables long, as in *kwen-hay-man* but not **hay-man*.[4]

Now, as illustrated by examples in (6), monosyllabic verb forms to which a particle cannot attach resist affixation of the same particle even when a negative morpheme precedes. That is, the negative morpheme does not contribute to the length of the verb stem. In (b) and (d) below, the particles *-nun* or *-man* ignore the preceding *an* and *mos* in counting the length of their host (*wa* is underlyingly *o-a*).

(6) a. *hay-nun cwu-ess-ta
do-COMP-FOC give-PAST-DECL
'(I) did (it) (for you).'

b. *an hay-nun cwu-ess-ta
NEG do-COMP-FOC give-PAST-DECL
'(I) did not do (it) (for you).'

c. *wa-man po-ass-ta
come-COMP-only try-PAST-DECL
'(I) tried coming.'

d. *an wa-man po-ass-ta
cannot come-COMP-only try-PAST-DECL
'(I) tried not coming.'

These facts suggest that the negative morphemes are not lexically part of the verb, as has been claimed in the literature. Unlike the other truly derivational suffixes as the passive and causative (as in *cay-u-e-man* 'only cause to sleep'), the negative morphemes do not contribute to the phonological weight. This argues against an analysis of these morphemes as derivational prefixes, such as that proposed by No (1988).[5]

Another argument for the independent status of the negative particles can be found in the affixation of the *-tul* of Plural Copying (Kuh 1987, Lee

[4] The acceptable version of (5d), *ha-ki-man hay po-sey-yo*, has the nominalizer *-ki* on *ha-*, providing a disyllabic host for *-man*.

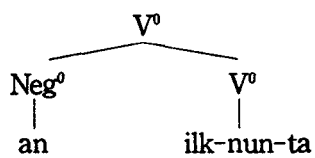
[5] Strictly these data only show that *an* combines with its sister verb after the delimiters like *-nun* are attached. Hence *an* could be a prefix, so long as it was attached after the suffixes. It is also possible that there are some semantic constraints on the simultaneous appearance of delimiters and negation—*an mek-man po-ass-ta* "tried not only eating' seems to be unacceptable, even though the phonological condition for *-man* is satisfied. I would like to thank Jong-Bok Kim for discussion and clarification of these points.

1991). This process indicates what is a unit in the syntax: when there is a plural subject, a copy of the plural, indicating a kind of agreement, can appear on every independent unit, but never within one. As (7) shows, the negative *mos* behaves like a separate item.[6]

(7) mos-tul mek-nun-ya?
cannot-PLU eat-PROC-Q
'Aren't you(plu.) eating?'

However, the negative particles are not truly phrasal either: they cannot be modified, and have a fixed position, immediately in front of the verb. I therefore propose that these combine with a V^0 to give a new V^0, as shown in (8), for *an ilk-nun-ta* 'is not reading'.

(8)



It is important to note that this is a syntactic combination, even though it combines only words. In a theory which distinguishes formations in the lexicon from those in the syntax on the basis of lexical phonological properties, it is possible in principle to have identical structural formations which nevertheless show different properties, as one is lexical and one is syntactic (for discussion, see Mohanan 1993). The word is the largest unit in the lexicon, and the smallest in the syntax, but nevertheless has a status in both. The claim of (8) is that the whole formation has the syntactic distribution of any other V^0, which is correct, and that, in virtue of being a syntactic combination as a whole, it will show no lexical phonological properties, which is also correct, as the argument above shows.

2.2. Restricted Adverbs

I take it as uncontroversial that elements such as adverbs are independent words in the syntax, meaning that there are indeed certain ordering

[6] This example is from Martin (1992: 830); the plural subject is implicit. For many speakers, this example is acceptable only in a very informal register, and the negative particles cannot host any other suffixes except for *-tul*. Nevertheless, the example is evidence of the syntactic independence of the negative particles.

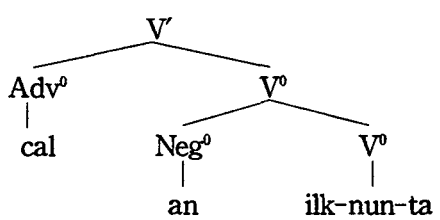
restrictions to be accounted for in examples like (1) with adverbs such as *cal*. Other adverbs which have at least a very strong preference to be almost immediately pre-verbal are *cal* 'well, often', *com* 'please, a little' and *cokum* 'a little' and the negative adverbs described above; for most speakers other adverbs such as *manhi* 'many', *nemwu* 'too much', *mopsi* 'very much', *ppalli* 'quickly', *kolwu* 'evenly' allow a certain amount of scrambling; these will participate in the productive phrasal syntax.[7]

The independent status of *cal*, for example, can be seen in the affixation of various particles, including the *-tul* of Plural Copying. In (9), the subject is specified as being plural, and the plural can be copied onto non-subject constituents, as indicated by the underlining on the adverb. The acceptability of *cal-tul* shows that *cal* is a discrete syntactic element.

(9) ai-tul-i koki-lul cal-tul mek-nun-ta
child-PLU-NOM meat-ACC well-PLU eat-PROC-DECL
'The children eat meat well.'

A restricted adverb such as this must appear adjacent to the verb, with the exception of the possible intervention of a negative particle. Consequently, an example like *cal an ilk-nun-ta* 'does not read well' must have the structure shown in (10). While attachment of Neg^0 to V^0 creates another V^0, I propose that the true adverb *cal* creates a V′.

(10)



By assigning categories and bar levels in this way, such that when *cal* attaches the resulting constituent is a V′, not a V^0, the fact that *cal* appears outside of negation is accounted for; the order **an cal ilk-nun-ta*, which is ungrammatical, can not be generated. The facts suggest that a combination

[7] The adverbs *te* 'more' and *tel* 'less' may also be restricted adverbs, like *cal*, though I have encountered some variability among speakers in their distributional possibilities, so I do not discuss them explicitly in this paper.

with an adverb always creates a V′, but that *cal* differs from most other adverbs in that its sister must be V^0 rather than V′. Hence *cal* is really only exceptional in one way—it appears in the sub-phrasal syntax, in that it is an Adv^0, and takes a V^0 as its sister.

Consider now complex predicates with two verbs, such as the causative *V -key ha-ta*. It has been observed that these two verbs should be string-adjacent (Choe 1988, Choi 1994, Sells 1991). However, the restricted adverbials may intervene, subject to considerations of pragmatic plausibility: as the causative example in (11) shows, negation can appear in front of both verbs.

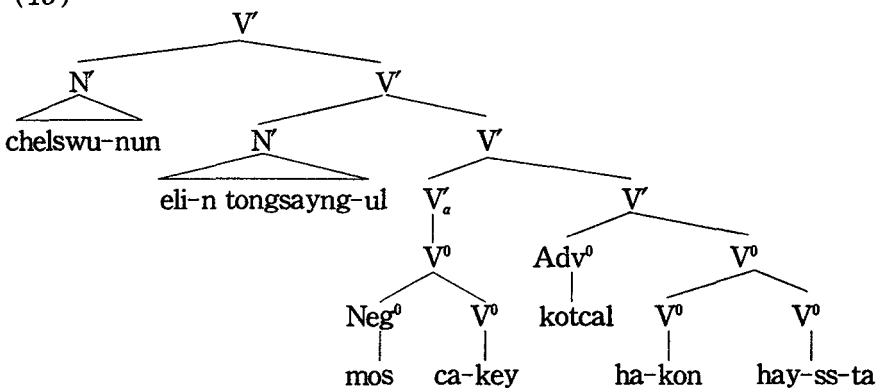
(11) an ca-key-nun mos ha-ta
NEG sleep-COMP-FOC cannot cause-DECL
'cannot make (someone) not sleep'

Pursuing this, and putting it in the context of the structures under consideration here, we can have examples like (12), in which the caused verb is negated, and, crucially, the causing verb (the first *ha-*) is preceded by the restricted adverb *kotcal*. Such examples are not perfect, but seem to be acceptable.

(12) ʾchelswu-nun eli-n tongsayng-ul
Chelsoo-TOP young brother-ACC
mos ca-key kotcal ha-kon hay-ss-ta
cannot sleep-COMP often cause-ASP do-PAST-DECL
'Chelsoo often used to make his younger brother not sleep.'

The structure of this example is shown in (13). All of the structure below the two N′ constituents is fixed. The complement V′ (V'_a) does not scramble either, though it does not fall within the sub-phrasal domain as I have presented it here. The facts of such 'verbal complexes' are taken up in section 4.

(13)



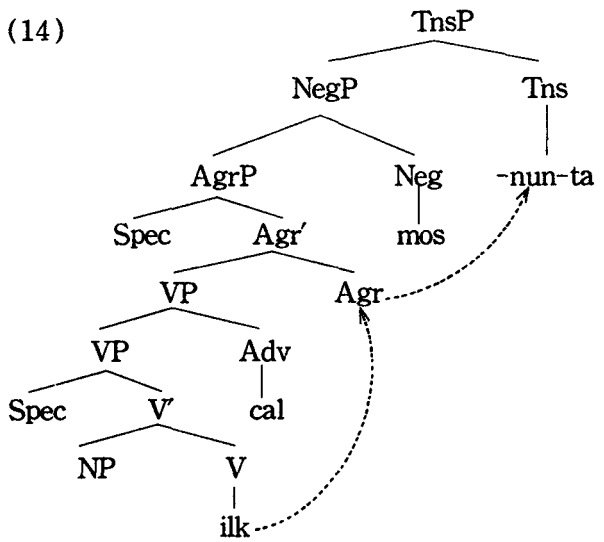
2. 3. Phrasal and Sub-Phrasal Syntax

Much of the work assuming or arguing for functional categories in Korean syntax has taken the view that the distribution of at least some of the restricted elements discussed here actually provides positive evidence for such functional categories, and of head movement to the various accompanying head positions. Further, this is usually taken to show that 'extended X′ theory' (Chomsky 1986, Pollock 1989) provides a useful characterization of the structure of Korean sentences. On the other hand, I take the view that there are really two distinct domains in Korean syntax: the productive, phrasal domain, and the restricted, sub-phrasal domain. In the rest of this subsection, I show how one analysis using head movement between various head positions has tried to account for the distribution of restricted adverbials, and then discuss problems which arise for such an account.

In a movement-based analysis, Lee (1993) proposes that elements like *mos* and *cal* are generated post-verbally; the former is part of a NegP, and the latter is adjoined to VP. The verb moves from its base position to a higher Agr position, across the adverb, and then possibly up to a higher Tns node, crossing over Neg, to give the order Adv-Neg-V. A slightly simplified presentation of his analysis is shown in (14) (for *cal mos ilk-nun-ta* 'can not read well'). [8]

[8] In a complete analysis under Lee's assumptions, the suffix *-ta* should probably be generated under a higher Mood node, as in Whitman (1989).

(14)



Although the restricted elements are underlyingly post-verbal, under this account there can be no occurrences of VP which are not dominated by AgrP, and no occurrences of NegP that are not dominated by TnsP. This is necessary to account for the fact that elements like *mos* and *cal* are always preverbal in the surface. For instance, in example (12), Lee's analysis would entail that the complement of the causative verb has a Tns node, for the lower verb *ca-key* must have moved to that position, across *mos*. A similar underlying structure would have to be present in all verbal complexes (see section 4), as all allow restricted adverbials before the first verb. For example, *an mek-e po-ta* 'tries not eating' is a possible string (in the context, say, of being on a diet), and must be analyzed by any account which posits a NegP as also containing an embedded TnsP, in order to position V after the negative element, as in the second movement shown in (14). This directly contradicts the known facts of Korean morphology, namely that the *-e/-a* suffix falls in the slot where subject honorification is normally expressed, and is to the left of the slot for the tense morpheme.

However, this proposal does not correctly capture the full range of facts concerning *cal*. The negative elements like *an* and *mos* are restricted adverbs which cannot be modified, but, crucially, the regular adverbs such as *cal* may take degree modifiers, as in *cengmal cal* 'really well'. In this case, it is resonable to assume that the adverb projects up to Adv', and, in fact, the evidence shows that it must. Unlike plain *cal*, the Adv' *cengmal cal* need not be adjacent to the lowest V^0, and can be freely ordered among the

major phrases in the phrasal syntax, as seen in the contrast in the examples in (15).[9]

(15) a. *chelswu-nun cal sinmwun-ul ilk-ul swu iss-ta
Chelsoo-TOP well newspaper-ACC read-MOD can-DECL
'Chelsoo can read newspapers well.'
b. chelswu-nun cengmal cal sinmwun-ul ilk-ul swu iss-ta
Chelsoo-TOP really well newspaper-ACC read-MOD can-DECL
'Chelsoo can read newspapers really well.'

The facts are exactly as predicted in the account I have developed here: X^0s which do not project up to X′ are fixed in their position, as there are no general licensing conditions for such structures. X′ s are potentially free in their position, and those elements which can but need not project up to X′, such as *cal*, therefore show both kinds of behavior. [10]

For an account such as that of Lee (1993), it must somehow be stipulated that *cal* is generated as a post-verbal adverb only if it constitutes an Adv^0, and not if it is part of an Adv′. It is not clear how this can be accomplished, for if the adverb truly is adjoined to VP, it should itself be (part of) a phrasal projection, to respect the usual condition on adjunction that phrases adjoin to phrases, and heads to heads. On the other hand, it must be stipulated that the post-verbal Adv does not block head movement across it, if it is really an X^0. Either way, the movement analysis does not actually predict the data correctly, without additional stipulations.

2.4. Short-Form and Long-Form Negation

Above, I have suggested that the 'short-form' negation involves just the restricted negative adverb *an*. In contrast, 'long-form' negation involves a different construction, with the negative verb *anh-ta* and another verb. The two are often treated as having a common source, with *anh-ta* supposedly formed from an independent negative morpheme (either *an* or *ani*) and a 'dummy' verb *ha-ta*, inserted into the position of Tns in (14). This is perhaps plausible for *ilk-ci mos ha-ta* 'cannot read', but much less so for *ilk-ci anh-ta* 'does not read'. Moreover, it is possible to show that the two types of

[9] Some speakers seem to prefer any phrase headed by *cal* to appear as close to the verb as possible; for them, (15b) is (almost) as bad as (15a).

[10] Similar facts will emerge with verbal nouns, below in section 2.5; they may either project as N^0s or N′ s, and may scramble only in the latter case.

negation are structurally different.

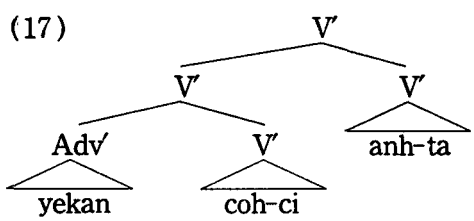
The crucial distinction can be shown by the behavior of the adverb *yekan*, which shows that the phrase structure has to have a certain articulation in order for the relevant constraints to be statable. This adverb *yekan* means 'extremely', but can only be used in conjunction with a negative; however, the word immediately following *yekan* may not be negative itself,[11] as seen in the contrast in (16a)/(16b).

(16) a. yekan coh-ci anh-ta
extremely good-COMP NEG-DECL
'is extremely good'
b. *yekan an coh-ta
extremely NEG good-DECL
c. yekan papo-ka ani-ta
extremely fool-NOM NEG.COP-DECL
'is extremely foolish'

The fact that (16c) is acceptable shows that the licenser of *yekan* is not just the negative verb *anh-ta*, but rather any negative morpheme in the appropriate structural relationship.

The structure of (16a) is shown below. The constraint that *yekan* imposes is that it must combine with a predicative constituent which is not negative, yet be in the scope of a negative. This forces the structure shown in (17), with the long-form negative *anh-ta* being a verb, which project to V′ to take a V′ complement (see section 4 below). I assume that *yekan* is a regular adverb, which projects to Adv′ and adjoins to V′.[12]

(17)



[11] This generalization only fails to hold in the fixed expression ···*yekan ani-ta*, a predicate indicating some extraordinary property of its subject.

[12] Even if different bar-levels were assigned in the structures given in this section, the structural relationships between each element would be the same, and the argument would remain unchanged. Example (16c) would also be assigned a hierarchical structure similar to (17).

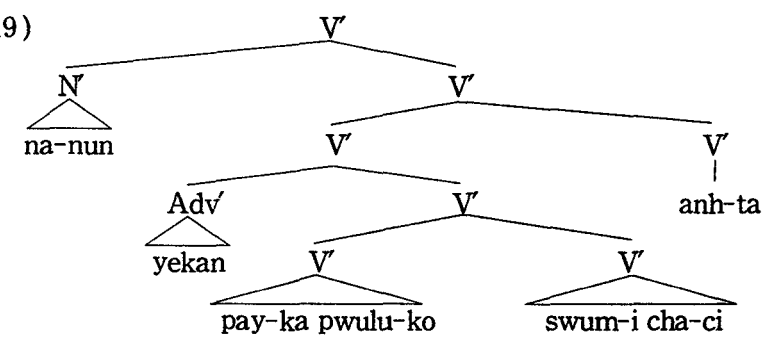
On a more general level, the contrast in (16a)/(16b) indicates that short- and long-form negation are not merely innocuous variants of some identical underlying form. That is to say, the long-standing and quite popular proposal to derive (16b) from a structure similar to (17) by moving the verb *coh-* up to the place of *an* would not seem to allow one to distinguish the two cases, without the imposition of further (surface) constraints.

The adverb *yekan* does not have to be 'close' in any linear sense to the negation that cooccurs with it, as shown by (18).

(18) na-nun yekan [pay-ka pwulu-ko]
I-TOP extremely [stomach-NOM be.full-CONJ]
[swum-i cha-ci] anh-ta
[breath-NOM gasp-COMP] NEG-DECL
'As for me, my stomach is extremely full and my breath is extremely short.'

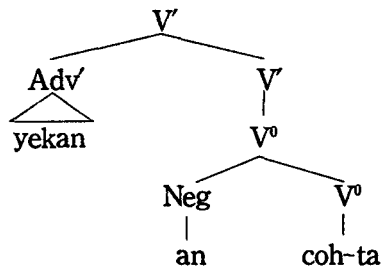
However, if *yekan* has to be immediately in the scope of a negative element, the relevant structure of (18) is that shown in (19).

(19)



Assuming that the negative adverb *an* cannot be modified, the fact that (16b) is ungrammatical follows from the analysis presented here: given the way that the negation works, the only possible constituent structure is that shown in (20), which does not put *yekan* in the scope of the negative element.

(20)



In turn, these facts show that the negative adverb is generated in a position structurally lower than the position where the negative verb *anh-ta* is generated: thus, the two cannot have a common underlying structure.

2.5. Verbal Nouns

The possibilities of particle attachment and the phonological constraint mentioned above can be used to provide tests for the lexical status of morphemes. They clearly distinguish between the two kinds of *ha-ta* verbs formed with verbal nouns, most of which are Sino-Korean in origin. Such complex phrasal verbs as *kongpwu ha-ta* 'study' and *il ha-ta* 'work' are formed as two words in the syntax, contrasting with true lexical verbs like *kwen-ha-ta* 'encourage' or *myen-ha-ta* 'avoid'.[13]

First, a particle like the focus particle-(*n*)*un* can interrupt the phrasal verbs, but not the lexical ones, as seen in (21).

(21) a. il-un hay twu-ess-ta
work-FOC do-COMP put-PAST-DECL
'(I) worked (for future use).'
b. *kwen-un-hay cwu-ess-ta
encourage-FOC-do-COMP give-PAST-DECL
'(I) encouraged (for you).'

Second, true lexical *ha-ta* verbs allow particle attachment to the whole verb such as *kwen hay* in (22c), while the parallel attachment fails in the sub-phrasal construction in (22a)/(22b), for those speakers who have the phonological constraint discussed in section 2.1. The ungrammaticality

[13]For more detailed argumentation about the non-lexical status of the relevant combinations see Ahn (1990) and Kim (1990), and Poser (1991) for the Japanese equivalents.

results as the particle is attached to a monosyllabic form *hay* in (22a)/(22b) rather than to *kongpwu hay* or *il hay*, which are not lexical items.

(22) a. *kongpwu hay-nun po-ass-ta
study do-COMP-FOC try-PAST-DECL
'(I) tried studying.'
b. *il hay-nun twu-ess-ta
work do-COMP-FOC put-PAST-DECL
'(I) worked (for future use).'
c. kwen-hay-nun cwu-ess-ta
encourage-COMP-FOC give-PAST-DECL
'(I) encouraged (for you).'
d. myen-hay-man po-ass-umyen…
avoid-only try-PAST-if…
'Only if (I) could avoid (it)…'

Third, causatives and passives cannot be formed by the respective replacement of *ha-ta* by *sikhi-ta* 'order' or *tang-ha-ta* 'undergo' for the true lexical predicates, as seen in the (b) examples below (see Martin 1992, 313).[14]

(23) a. kongpwu sikhi-ta
study order-DECL
'have someone study'
b. *kwen-sikhi-ta
encourage-order-DECL
'have someone encourage someone'

(24) a. hayko tang-ha-ta
dismissal undergo-DECL
'be fired'
b. *myen-tang-ha-ta
avoid-undergo-DECL
'be avoided'

Let us now consider the negation of these examples with Sino-Korean

[14] The phrase *kongpwu sikhi-ta* also has the specialized meaning of 'to put someone through school'.

nouns. The rough generalization about *an* is that it immediately precedes a verb, but not a complex verb like *yenkwu ha-ta* 'research'. Thus, if the rule for *an* is that it attaches to a V^0, as presented above, one must conclude that *yenkwu ha-ta* itself is not a V^0, for the negation can only be between the verbal noun and *ha-ta*, but not in front of both, as seen in (25).

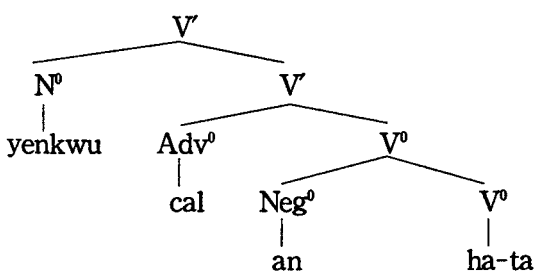
(25) a. yenkwu an ha-ta 'does not research'
b. *an yenkwu ha-ta 'does not research'

Along similar lines, the adverb *cal* must also attach within the complex verb *yenkwu ha-ta*, but also outside of negation: thus (26a) is the only possibility. [15]

(26) a. yenkwu cal (an) ha-ta 'does (not) research well'
b. *cal (an) yenkwu ha-ta 'does (not) research well'

Given the observations above, the structure in (27) is left as the only possible one.

(27)

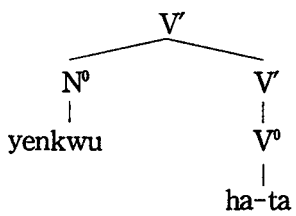


The fact that various words may intervene between *yenkwu* and *ha-ta* clealy adds more support to the idea that it is not a lexical combination; moreover, it is clear that such collocations cannot be formed by Incorporation in the syntax (as proposed by Ahn 1990), as they involve units bigger than X^0.[16] In particular, the 'host' must be a V': thus, even the simple *yenkwu ha-ta* should have the structure shown in (28). This is clearly quite a surprising conclusion, but one that the negation and adverb facts warrant.

[15] With the adverb *cokum*, both examples in (26) are acceptable for some speakers; for them, it seems that only the monosyllabic adverbs are fully restricted, and that *cokum* can attach at the V^0 or V' level.

[16] Ahn indicates that what is incorporated into the V^0 is a phrasal projection of N, although why this is necessary, or how it is possible, is not clear to me.

(28)



This structure makes the notion of the sub-phrasal domain clearer—while the head in (28) is V′, the complement is, and must be, N; as is well-known, the verbal noun cannot be modified in this construction (Kim 1990, Sato 1993). Thus, the sub-phrasal domain is that domain in which either daughter is X^0, though not necessarily both.

Given that a modified restricted adverb must appear outside of the sub-phrasal domain, as shown above in section 2.3, the analysis correctly predicts that the pattern of acceptability will reverse between (26) and (29).

(29) a. *yenkwu cengmal cal (an) ha-ta 'does (not) research really well'
b. cengmal cal yenkwu (an) ha-ta 'does (not) research really well'

Here the Adv′ *cengmal cal* cannot appear between the N^0 *yenkwu* and the V^0 *(an) ha-ta.*

If *yenkwu* in (29a) bears the accusative marker *-lul*, I assume that the verbal noun projects up to N′, and its syntactic distribution is essentially free, as it participates in the phrasal syntax. Hence (30) is fully acceptable, unlike (29a).[17]

(30) yenkwu-lul cengmal cal (an) ha-ta 'does (not) research really well'

Verbal nouns, then, have the option of participating in the syntax as N^0 or of projecting to N′; the first instance will show the restricted sub-phrasal distribution, and the second, the freely distributed and productive phrasal distribution.

Returning to the sub-phrasal domain, the existence of structures like

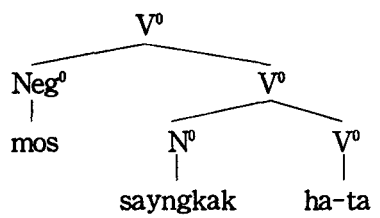
[17] A reviewer suggests that there might be an unwanted derivation of (29a) as a version of (30) with deletion or dropping of the accusative case. If there is such a process, I would assume that it can only happen in this case when the N′ is adjacent to the verb *ha-ta* (cf. Saito 1983 on Japanese). My general approach in this paper suggests a line of analysis for the phenomenon of case dropping in terms of N′ vs. N^0, rather than N′s with and without case, though I have not pursued this matter.

(28) is nicely counterpointed by the existence of others exhibiting the more familiar attachment of the verbal noun at the V^0 level. Some of the verbal nouns, such as *phantan* 'judgement', *hayko* 'dismissal' and *sayngkak* 'thinking' allow these structures, as evidenced by the acceptability of both variants in (31). (Compare (31b) with (26b).)

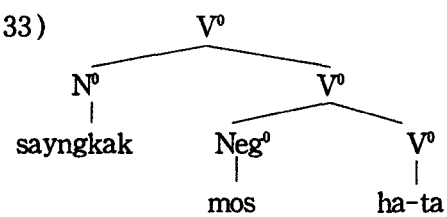
(31) a. (cal) sayngkak mos ha-ta 'cannot think (well)'
b. (cal) mos sayngkak ha-ta 'cannot think (well)'

The structures of these examples are shown below in (32)-(33); if the verbal noun attaches at the V^0 level, both must be generated. As *sayngkak cal mos ha-ta* is also possible, we can conclude that *sayngkak* also allows the structure in (28): it attaches to either V' or V^0.

(32)



(33)



Overall, then, there are three types of predicates formed with verbal nouns: one class is syntactically unanalyzeable, and the other two are analyzeable to varying degrees, as I have discussed.[18]

[18] Given that a form like *kwen-ha-ta* is now frozen as a unit, it is not in fact obvious what synchronic evidence there is that the *kwen-* part is a noun. However, I have included such forms here for the purposes of comparison. The inseparable forms all seem to involve monosyllabic first elements, though not all such monosyllabic types are inseparable, as seen in the third column in (34). Further differentiations among the classes of nouns may be necessary; for instance, some speakers find *mos sayngkak ha-ta* to be of questionable status, yet accept *cal sayngkak ha-ta*, and have the same judgements for *phantan*.

(34) Lexical V^0	Attach to V^0 or V′	Attach to V′
kwen-ha-ta	phantan ha-ta	yenkwu ha-ta
'encourage'	'judge'	'research'
ceng-ha-ta	sayngkak ha-ta	kongpwu ha-ta
'decide'	'think'	'study'
myen-ha-ta	hayko ha-ta	il ha-ta
'avoid'	'dismiss'	'work'
kwu-ha-ta		cel ha-ta
'seek'		'bow'

It is important to keep these data separate from another phenomenon, one that allows the restricted adverbs a little more freedom in colloquial styles, as seen in the examples in (35), where the adverb *cal* appears in front of the verbal noun. The fact that the negative *mos* intervenes between *yenkwu* and *ha-ta* in (35a) shows that *yenkwu ha-ta* cannot be thought of as a single lexical item.

(35) a. cal yenkwu mos ha-myen…
well study cannot do-if …
'if one cannot study well…'
b. cal-to yenkwu ha-myen…
well-even study do-if …
'if one studies (even) well…'

Unlike the restricted adverbs, the negative particles do not allow this positioning in front of the verbal noun (compare the acceptability of *mos saymgkak ha-ta* in (31b) above).

(36) *mos yenkwu ha-myen…
cannot study do-if …
'if one can not study well…'

Even though this forward positioning of *cal* is possible with accusative-marked objects, it seems that it is restricted to verbal noun objects, that is, objects whose argument structrue is the argument structure of the whole sentence, as in (37a). With a true referential object of a transitive verb, forward positioning of *cal* is unacceptable, as shown in (37b).

(37) a. cal yenkwu-lul mos ha-myen···
well study-ACC cannot do-if ···
'if one cannot study well···'
b. *cal pap-ul mek-umyen···
well rice-ACC eat-if ···
'if one eats (rice) well···'

These data, which show the slightly more relaxed constraint on *cal* and the other restricted adverbs, allowing them to appear to the left of even certain phrasal objects, does not affect the classification given in (34), which is based on the more general local interactions of all (and only) the restricted elements considered in this paper.

2.6. Other *ha-ta* Verbs

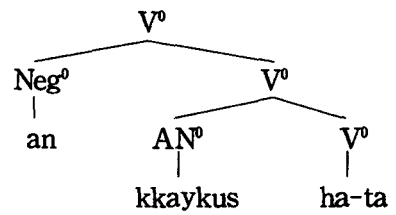
Given the chart in (34) above, one might expect that there are some *ha-ta* verbs whose left element attaches only at the V^0 level, as this is the other logical possibility. There do in fact appear to be stative verbs which are compounds formed with *ha-ta*, and which allow the content part to function as an independent X^0 in the syntax. This is illustrated by the fact that *kkaykus ha-ta* in (38b) may pattern with the phrasally formed *phantan ha-ta* in allowing intervening particles such as the constrastive focus -(*n*)*un* or the Plural Copy -*tul* (Martin 1992). These stative verbs, which Martin terms 'quasi-inseparable', differ from the verbs which are completely inseparable, such as *ceng-ha-ta* 'decide', shown in (38c).

(38) a. haksayng-tul-i phantant-tul ha-n-ta
student-PLU-NOM judgement-PLU do-PROC-decl
'The students judge.'
b. pang-tul-i kkaykus-tul ha-ta
room-PLU-NOM clean-PLU be-DECL
'The rooms are clean.'
c. haksayng-tul-i ceng*-tul ha-n-ta
student-PLU-NOM decision-PLU do-PROC-DECL
'The students decide.'

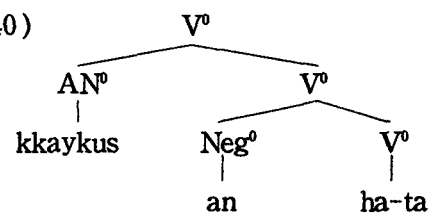
As observed by Ahn (1990), predicates like *kkaykus ha-ta* allow two structures, which interact with negation as shown in (39) and (40). These are

just like the structures for *phantan ha-ta* discussed above.[19] It is practically impossible to determine what category *kkaykus* is when it is separable, as it has no distribution apart from the structures discussed here. Martin (1992: 190) presents a list of such nouns and considers them to be Adjectival Nouns; thus I will refer to them as 'AN'.

(39)



(40)



Unlike the verbal nouns, these AN⁰s never allow the option of attaching to V′ —adverbs like *cal* or *com* always appear to the left of the complex V⁰, and so an example like (41d) is bad (*phikon* is an AN⁰ like *kkaykus*).

(41) a. cal phantan ha-ta 'judges well'
b. phantan cal ha-ta 'judges well'
c. com phikon ha-ta 'a little bit tired'
d. *phikon com ha-ta 'a little bit tired'

The fact that (40) is possible shows that these combinations are not lexically formed V⁰s, and attachment of the AN at the V⁰ level correctly predicts that an adverb may not intervene, as in (41d).

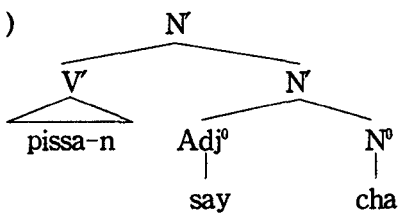
[19] Strictly, one cannot tell whether *an kkaykus-ha-ta* has the structure shown in (39) or whether *kkaykus-ha-ta* is a lexical atom. However, the existence of the split structures such as (40) suggests that (39) should be available as a structrue. The split structures themselves are somewhat of an innovation, in that not all speakers find them fully acceptable, and appear to be better with *an* than with *mos*. Ahn classifies *kkaykus ha-ta* as the same type as *phantan ha-ta*, but this is not quite correct, as I show in (41) (with *phikon ha-ta*).

2.7. Nominal Structure

Within the nominal projection, there is a small class of pre-nominal modifiers, such as *say* 'new' and *on* 'whole'. These are invariant in form, and in that sense are like English adjectives. They appear to fall in the sub-phrasal domain, in that they must follow all other nominal modifiers, as indicated in (42), the structure of which is shown in (43). Like *cal*, I assume that *say* creates an X', in this case N' when it attaches.

(42) pissa-n say cha
expensive-PRES new car
'an expensive new car'

(43)

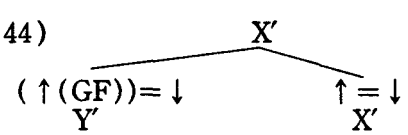


If *pissa-n* is regular N' modifer (a relative clause), then we would expect the sequence *say pissa-n cha* to be unacceptable, as it is for most of the Korean speakers I have consulted. This is predicted if *say* has to fall in the sub-phrasal domain within the nominal projection.

3. Specifying Syntactic Structures

The fundamental schema for the productive syntax was given above in (3), repeated here in a slightly revised form.

(44)



This is viewed as an unordered structure, which projects any X' as the categorial and functional head, indicated by the matching of the label 'X' and the annotation '↑ = ↓' respectively, and a non-head sister Y'. Functionally, Y' may be an argument or adjunct, depending on the value of GF, or it may be a (co-)head, in which case its annotation is '↑ = ↓'.[20] This

[20] If Y' is an adjunct, it should be annotated ↓ ∈(↑ ADJ).

last case arises in instances of complex predicate formation, such as the causative in (11)—(12) above (see also section 4).

The linear order of constituents in determined by (45), which refers to c-structure information.

(45) The head X′ projection follows the non-head.

This principle operates throughout the syntax, for both X′ and X^0 (but not the morphology—see Sells 1994b), and correctly orders all the sub-phrasal structures discussed above, as well as structures licensed by (44).

However, it still remains to specify what licenses the sub-phrasal structures themselves. Clearly, the solution to this lies in the particular nature of the elements that I have been concerned with, in particular, with their lexical properties. For example, it seems to be necessary under any account to say something special about an adverb such as *cal*; my view is that adverbs, as a class, combine with V′ to give V′, except for *cal* which is exceptional in that it requires that it combine with V^0. The negative adverbs differ from the other adverbs in combining to produce V^0, rather than V′.

Among the X^0s, the restricted cases that I have looked at involve words which select for properties of the head with which they combine. In all cases this must be viewed as a property of the left sister, that is, the non-head. This necessity emerges clearly from the facts concerning verbal and adjectival nouns—specifically, from the differences discussed above *yenkwu*, *phantan*, and *phikon*. All combine with the same light verb *ha-ta*, yet they do so in different ways: I see no alternative but to specify that *yenkwu* selects for V′ as its right sister while *phantan* selects for V′ or V^0, and *phikon* for V^0. Some sample entries, with the relevant information, are given in (46).[21]

(46) a. *an* Neg [[ ]V^0]$_{V^0}$
b. *cal* Adv [[ ]V^0]$_{V'}$
c. *yenkwu* VN [[ ]V′]$_{V'}$
d. *phantan* VN [[ ]V^0/V′]$_{V'}$
e. *phikon* AN [[ ]V^0]V_0

[21] The entry for *an* would apparently allow recursion, incorrectly, as e.g., **an an V* is unacceptable. To account for this, I would follow the suggestion of Bratt (1994) that *an* selects for a verb whose polarity value is 1 (positive), and changes that polarity value to 0 (negative).

If we make the assumption that such selectional properties can only be effected by lexical items, the particular restricted nature of the sub-phrasal domain emerges—it is the domain in which the left sister is an X^0. If such an X^0 projects to X′, it is plausible to assume the selectional information such as that shown in (46) is lost, and therefore the X′ could only be licensed by (44), participating in the regular phrasal syntax.

The restricted elements discussed in this paper fall into two groups, as shown in (47).[22]

(47) a. those which belong to major class categories: VN, Adv
b. those which belong to minor categories: AN, Neg

Those elements in class (a) will naturally allow projection to the X′, and will show free ordering possiblities in such cases: so while *cal* is restricted, *acwu cal* is not. All of the nouns classified above as verbal nouns allow projection to X′, in which case they take a case marker, as in *yenkwu-lul ha-ta* 'research', *phantan-ul ha-ta* 'judge'.

On the other hand, the elements in class (b) cannot project to X′, being minor categories, and therefore will show (essentially) fixed positioning (the only alternations being those shown in (32)-(33) and (39)-(40)).

4. Verbal Complexes

In the present context, another question that arises is that of the fixed order within what I will refer to as 'verbal complexes', such as those shown in (48).

(48) a. ilk-e po-ass-ta
read-COMP try-PAST-DECL
'tried reading'
b. mantul-e cwu-ess-ta
make-COMP give-PAST-DECL
'gave the favor of making'

[22] I omit the noun modifiers like *say* from this classfication, as I did not find a consistent pattern of judgements with them beyond the simple cases discussed in section 2.7.

c. phyenci-lul ssu-na po-ta
letter-ACC write-COMP seem-DECL
'seems to write a letter'

d. ilk-e-ya ha-n-ta
read-COMP must-PROC-DECL
'must read'

e. ilk-ci anh-nun-ta
read-COMP NEG-PROC-DECL
'does not read'

f. uyca-lul mantul-ko siph-ta
chair-ACC make-COMP want-DECL
'wants to make a chair'

In each case, there is complement verb which must be (almost) adjacent to the following governing verb; the only elements which may intervene are the restricted adverbials (see (11)-(12) for example, and the discussion below). However, the general solution to the problem of the fixed order here does not seem be found within the sub-phrasal domain, as the units in question do not seem to be X^0s. This is because the governing verbs seem to take V″ complements, as evidenced by the coordination in (49) (see Yoon 1993, Choi 1994).

(49) na-nun [chayksang-ul kochi-ko] [uyca-lul mantul-ko] siph-ta
I-TOP [desk-ACC fix-COMP] [chair-ACC make-COMP] want-DECL
'I want to fix the desk and make a chair.'

On the other hand, these constructions allow negation adverbs to scope out of the complements.[23] In (50), the preverbal negation can be interpreted as just negating the lower verb 'read', or the whole verbal complex 'want to read', even though it is a part of the lower bracketed constituent.

(50) yong-i [chayk-ul an ilk-ko] siph-ess-ta
Yong-NOM [book-ACC NEG read-COMP] want-PAST-DECL
'Yong did not want to read the book.'/'Yong wanted to not read the book.'

[23] In earlier work (Sells 1991), I took these facts as evidence of a V^0 formation consisting of the two verbs, e.g. [an[ilk-ko siph-ta]].

Similarly, adverbs may have wider scope than might be expected from their syntactic position; in (51), the adverb *cengmallo* 'really' naturally modifies 'want (to make)'.

(51) na-nun [uyca-lul cengmallo mantul-ko] siph-ta
I-TOP [chair-ACC really make-COMP] want-DECL
'I really want to make chair.'

However, if something like *mantul-ko siph-ta* is a V^0, then the coordination data in (49), and the fact that an adverb (which creates a V′) may intervene are problematic. On the other hand, if the complements are the bracketed constituents shown in (49)-(51) (essentially VP-complements (V′s here)), the fact that negation and adverbs may scope out is problematic, as is the fact that the V′s do not scramble.

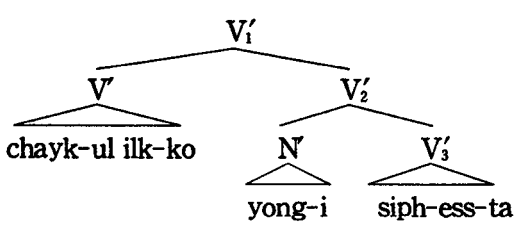
These conflicting properties seem to be general diagnostics of complex predicates, that is, syntactically independent formations whose heads have a shared argument structure. The facts above concerning negation and adverbs would then show that their scope properties must be defined on the level of argument structure; complex predicate formation would bring two domains together as one, effectively extending scope 'upward'.

To account for the fact that the complement cannot scramble away from the governing higher verb, I suggest that Korean requires that the complex predicated must be formed at the lowest possible position in the tree. Consider (52), as a relevant example.

(52) *[chayk-ul ilk-ko] yong-i siph-ess-ta
[book-ACC read-COMP] Yong-NOM want-PAST-DECL
'Yong wanted to read the book.'

This is ungrammatical, because the verbal complex has been split up, by the intervening subject. If Korean phrase structure is binary-branching as suggested above, then the structure assigned to such an example would be that shown in (53).

(53)



Here, the lowest V″ that could dominate both *siph-ess-ta* and the complement is subcategorizes for is V_2', but this node does not dominate the complement. Given that the restricted elements may intervene (subject to the qualifications given below), this leads to the conclusion that complex predicates are formed at the lowest possible level within the phrasal syntax—that is, they are licensed as syntactic structures by the regular phrasal principles. They could not be formed in the sub-phrasal syntax, as that would require the left-hand (main) verb to select for the right-hand one, but the selection facts go in the opposite direction (each inflected verb in (48) selects for the COMP form of the preceding verb).

One might try to argue that what is wrong with (52) is that, if the empty subject of *chayk-ul ilk-ko* 'read the book' is an empty category, namely, PRO, then this PRO would not be c-commanded by its antecedent, the subject *yong-i*, as is apparent from the structure in (53).

However, this fails to distinguish complex predicates from constructions which simply have an embedded clause. For example, the complement of 'want', if expressed as *V-ki wenha-ta*, can scramble, as in (54), as can the complement of 'persuade' (*-tolok seltuk-ha-ta*), in (55) (for extensive discussion, see Bratt 1994).

(54) a. na-nun [pap-ul mek-ki-lul] wen-ha-n-ta
I-TOP [rice-ACC eat-NOMIN-ACC] want-PROC-DECL
'I want to eat rice.'

b. [pap-ul mek-ki-lul] na-nun wen-ha-n-ta
[rice-ACC eat-NOMIN-ACC] I-TOP want-PROC-DECL
'To eat rice is what I want.'

(55) a. hyenmyeng-ha-key-to emeni-kkeyse ai-eykey
cleverly mother-HON.SUBJ child-DAT
[chayk-ul ilk-tolok] seltuk-ha-si-ess-ta
[book-ACC read-COMP] persuade-HON-PAST-DECL
'Cleverly, the mother persuaded the child to read the book.'

b. hyenmyeng-ha-key-to emeni-kkeyse
cleverly mother-HON.SUBJ
[chayk-ul ilk-tolok] ai-eykey seltuk-ha-si-ess-ta
[book-ACC read-COMP] child-DAT persuade-HON-PAST-DECL
'Cleverly, the mother persuaded the child to read the book.'

In neither of the (b) examples is the complement constituent c-commanded

by its controlling NP, yet the examples are acceptable. In LFG terms, these constructions would involve functional control of the unexpressed subject of an embedded XCOMP constituent, analogous to the obligatory control of PRO in GB analyses (see Bresnan 1982a). These examples show that the ungrammaticality of (52) cannot be traced to a c-command failure. Rather, they show that complex predicates differ from true embedding constructions in that only the latter can be scrambled apart.[24]

Another possible account of the unity of the complex predicate might try to build on the fact that the second verb selects for the form of the first: thus we have *ilk-ko siph-ta* but not **ilk-e siph-ta*, etc. If it could be shown that this selection had to be satisfied as low as possible in the structure, this would effectively prevent a complement from scrambling. However, this too des not draw the appropriate distinctions—the form of the embedded predicate in the examples in (54)-(55) is determined by the governing verb just as much as it is in the true complex predicates presented above.

The difference can be brought out more strikingly with the causative construction. In most circumstances, the causee NP can be marked accusative, dative, or nominative. The first two types are complex predicates, which show evidence of argument structure merger (see Bratt 1994). However, the causative with a nominative causee has a full embedded clause as its complement, a complement which is fully independent from the matrix clause. Unsurprisingly, then, the causative with a nominative cause allows the whole causative complement to scramble away, as seen in the examples in (56).

(56) a. apeci-kkeyse [atul-i pap-ul mek-key] ha-si-ess-ta
father-HON.SUBJ [son-NOM rice-ACC eat-COMP] cause-HON-PAST-DECL
'The father had the son eat the rice.'

b. [atul-i pap-ul mek-key] apeci-kkeyse ha-si-ess-ta
[son-NOM rice-ACC eat-COMP] father-HON.SUBJ cause-HON-PAST-DECL
'The father had the son eat the rice.'

[24] In Lexical-Functional Grammar, complex predicates involve the merging of two argument structures into one, and the composite argument structure determines a mono-clausal f-structure; true embedded complements are independent at argument structure, and determine an embedded XCOMP or COMP at f-structure. For extensive discussion and comparision, see Butt (1993).

However, regardless of the case marking on the causee, the causative verb *ha-ta* always selects for an embedded verb with the complementizer *-key*. Thus, selection for a particular form does not restrict or contrain scrambling possibilities.

As noted above, the causative (regardless of the case marking on the causee) allows the two verbs to be separated by restricted adverbials, as in (57).

(57) mek-key mos ha-ta
eat-COMP cannot cause-DECL
'cannot make (someone) eat'

As far as I am aware, none of the other verbal complexes allow intervening negation (as shown in (58)), though this cannot be a fact attrtibutable to the semantics of the whole construction, as long-form negation is always possible (in (59)).

(58) a. *ilk-e an po-ta
read-COMP NEG try-DECL
'not try to read'
b. *ilk-ko an siph-ta
read-COMP NEG want-DECL
'not want to read'
c. *ilk-e an cwu-ta
read-COMP NEG give-DECL
'not give the favor of reading'
d. *ilk-eya an ha-ta
read-COMP NEG must-DECL
'does not have to read'

(59) a. ilk-e po-ci anh-ta
read-COMP try-COMP NEG-DECL
'not try to read'
b. ilk-ko siph-ci anh-ta
read-COMP want-COMP NEG-DECL
'not want to read'
c. ilk-e cwu-ci anh-ta
read-COMP give-COMP NEG-DECL
'not give the favor of reading'

d. ilk-eya ha-ci anh-ta
read-COMP must-COMP NEG-DECL
'does not have to read'

In Sells (1991), I attributed the unacceptability of the examples in (58) to a restriction on complex predicate formation, to the effect that no elements could intervene in the general case. The causative differs from all of these other complex predicates, in that it augments the argument structure, adding an agentive argument (the causer). This appears to be what allows restricted adverbials to intervene.

More precisely, the causative is the only complex predicate which adds an external argument. All of the others fall into two types—those such as 'has to eat' or 'is eating' merely add some semantic feature, and those such as 'try eating' or 'want to eat' add some feature of the Agent of the action, but do not add a new participant argument. The causative can be represented as in (60), following Alsina (1992); the *cause* predicate itself takes an argument θ_1, and a lower predicate, indicated by P*, whose highest argument is θ_2 (the causee).

(60) cause$<\theta_1$ P*$<\theta_2 \cdots>>$

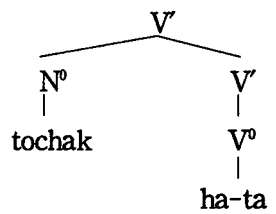
It is reasonable, then, that each predicate here can be independently negated, even by the short-form negation. The other complex predicates show less independence of the two predicates; for example, the object of the predicate embedded under *siph-ta* 'want' can appear in the nominative case, as shown in (61c), suggesting that the object is governed in some sense by the whole stative predicate 'want to see.'

(61) a. ku yenghwa-lul/*-ka po-ass-ta
that movie-ACC/*-NOM see-PAST-DECL
'(I) saw that movie.'
b. ku yenghwa-lul po-ko siph-ta
that movie-ACC see-COMP want-DECL
'(I) want to see that movie.'
c. ku yenghwa-ka po-ko siph-ta
that movie-NOM see-COMP want-DECL
'(I) want to see that movie.'

Therefore, I would suggest that only the causative complex predicate allows the verbal complex to be split by intervening restricted adverbials as only it has two clearly distinct predicates. Although this is clearly not satisfactory as an analysis, these considerations do point to some clear generalizations about verbal complexes, namely that they are neither lexically formed, nor do they consist of a true syntactic embedding construction.

The restrictions about intervening restricted adverbials hold only for the verbal complex predicates. Complex predicates formed with verbal noun+ *ha-ta* may be split, and in fact must be split if the short-form negation is used, as discussed in section 2.5 above. Given the analysis proposed here, this can be viewed as a necessary consequence, as there is no other way for short-form negation to be well-formed. For instance, an example like *tochak ha-ta* 'arrive' must have the structure shown in (62).

(62)



The sequence **an tochak ha-ta* can not be generated: *an* cannot attach to the upper V', as *an* attaches to V^0, and *an* cannot attach to *tochak*, as it attaches to V rather than N. Hence the only possible expression of short-form negation, *tochak an ha-ta*, must split the complex predicate.[25]

5. Conclusion

The view that emerges of Korean syntax, then, is one in which X' s combine with other X' s rather freely; but 'lower down' there are structures whose properties are not determined by X' -theory, but rather by idiosyncratic lexical properties of the relevant lexical items, as one might expect in a restricted domain. Within each terminal word, of course, are structures that are truly lexical (see Cho and Sells 1994).

[25] It is worth noting that, at least for most complex predicates, short-form negation is possible, so long as it does not split the complex, as in *an ilk-e po-ta* 'does not try reading' etc.

In summary, I have argued that there are a range of constructions in Korean which involve the combination of X^0s, as opposed to the more familiar phrasal syntax involving X' s. This proposal compares favorably to others that have been made, or are implicit, in the literature on Korean syntax. The idea of combining X^0s in the syntax to give another X^0 may be somewhat novel, but it is one that I feel is strongly supported by the kinds of facts discussed above.

References

Ahn, Hee-Don (1990) 'On Light Verb Constructions in Japanese and Korean,' in Hajime Hoji (ed.), *Proceedings of the Conference on Japanese and Korean Linguistics*, 221-237, Stanford, CSLI/Stanford Linguistics Association.

Alsina, Alex (1992) 'On the Argument Structure of Causatives,' *Linguistic Inquiry* 23, 517-555.

Bratt, Elizabeth Owen (1994) 'Argument Composition and the Lexicon: Lexical and Periphrastic Causatives in Korean,' Doctoral dissertation, in progress, Stanford University.

Bresnan, Joan (1982a) 'Control and Complementation,' in J. Bresnan (ed.), *The Mental Representation of Grammatical Relations*, 282-390, Cambridge, Mass., MIT Press.

Bresnan, Joan (1982b) (ed.) *The Mental Representation of Grammatical Relations*, Cambridge, Mass., MIT Press.

Butt, Miriam (1993) *The Structure of Complex Predicates: Evidence from Urdu*, Doctoral dissertation, Stanford University.

Cho, Young-mee Yu (1991) 'A Phonological Constraint on the Attachment of Particles in Korean,' in S. Kuno et al. (ed.), *Harvard Studies in Korean Linguistics* 4, 37-46.

Cho, Young-mee Yu and Peter Sells (1994) 'A Lexical Account of Inflectional Suffixes in Korean,' ms., Stanford University, to Appear in *Journal of East Asian Linguistics*.

Choe, Hyon Sook. (1988) *Restructuring Parameters and Complex Predicates: A Transformational Analysis*, Doctoral dissertation, MIT.

Choi, Hye-Won (1994) 'The V-V Combination in Korean: A Complex Predicate Composed in Syntax,' ms., Stanford University, Presented at the

LSA 68th Annual Meeting, Boston.

Choi, Kiyong (1991) 'A Theory of Syntactic X^0 -Subcategorization,' Doctoral dissertation, University of Washington.

Chomsky, Noam (1986) *Barriers*, Cambridge, MIT Press.

Fukui, Naoki (1986) 'A Theory of Category Projection and Its Applications,' Doctoral dissertation, MIT.

Hong, Ki-Sun (1991) 'Argument Structure and Case Marking in Korean,' Doctoral dissertation, Stanford University.

Kim, Jay Jeong-Ryeol (1990) 'Noun Incorporation of *ha*-Verbs in Korean,' in Eung-Jin Baek (ed.), *Papers from the Seventh International Conference on Korean Linguistics*, 158-178, International Circle of Korean Linguistics.

Kuh, Hakan (1987) 'Plural Copying in Korean', in S. Kuno et al. (ed.), *Harvard Studies in Korean Linguistics* 2, 239-250.

Lee, Han-gyu (1991) 'Plural Marker Copying in Korean,' in S. Kuno et al. (ed.), *Harvard Studies in Korean Linguistics* 4, 513-528.

Lee, Jae Hong (1993) 'Postverbal Adverbs and Verb Movement in Korean,' in P. Clancy (ed.), *Japanese/Korean Linguistics* 2, 429-446, Stanford, Stanford Linguistics Association.

Lee, Young-Suk (1993) 'Scrambling as Case-Driven Obligatory Movement,' Doctoral dissertation, University of Pennsylvania.

Manning, Christopher (1993) 'Analyzing the Verbal Noun: Internal and External Constraints,' in Soonja Choi (ed.), *Japanese/Korean Linguistics* 3, 236-253, CSLI, Stanford Linguistics Association.

Martin, Samuel (1992) *A Reference Grammar of Korean*, Rutland, Vermont, Charles E. Tuttle.

Mohanan, K. P. (1982) 'Grammatical Relations and Clause Structure in Malayalam,' in Joan Bresnan (ed.), *The Mental Representation of Grammatical Relations*, 504-589, Cambridge, Mass., MIT Press.

Mohanan, Tara (1993) 'Wordhood and Lexicality: Noun Incorporation in Hindi,' ms., National University of Singapore; to Appear in *Natural Language and Linguistic Theory*.

No, Yongkyoon (1988) 'Negative Morphemes in Korean: Evidence for a Derivational Treatment,' in Eung-Jin Baek (ed.), *Papers from the Sixth International Conference on Korean Linguistics*, 556-567, International Circle of Korean Linguistics.

Pollock, Jean-Yves (1989) 'Verb Movement, Universal Grammar, and the Structure of IP,' *Linguistic Inquiry* 20, 365-424.

Poser, William (1991) 'Japanese Periphrastic Verbs and Noun Incorporation,' ms., Stanford University.

Saito, Mamoru (1983) 'Case and Goverment in Japanese,' in M. Barlow, D. Flickinger and M. Wescoat (eds.), *Proceedings of WCCFL* 2, 247-259, Stanford, CSLI/Stanford Linguistics Association.

Sato, Yutaka (1993) 'Complex Predicate Formation with Verbal Nouns in Japanese and Korean: Argument Transfer at LF,' Doctoral dissertation, University of Hawaii.

Sells, Peter (1988) 'More on Light Verbs and θ-Marking,' ms., Stanford University.

Sells, Peter (1991) 'Complex Verbs and Argument Structures in Korean,' in S. Kuno et al. (ed.), *Harvard Studies in Korean Linguistics* 4, 395-406.

Sells, Peter (1994a) 'The Category and Case Marking Properties of Verbal Nouns in Korean,' ms., Stanford University.

Sells, Peter (1994b) 'Korean and Japanese Morphology from a Lexical Perspective,' ms., Stanford University, to Appear in *Linguistic Inquiry* 26.

Simpson, Jane (1991) *Warlpiri Morpho-Syntax: A Lexicalist Approach*, Dordrecht, Kluwer Academeic.

Whitman, John (1989) 'Topic, Modality, and IP Structure,' in S. Kuno et al. (ed.), *Harvard Studies in Korean Linguistics* 3, 341-356.

Yoon, James Hye Suk (1993) 'Tense, Coordination, and the Clausal Structure of English and Korean,' ms., University of Illinois, Urbana-Champaign, presented at the 5th Harvard International Symposium on Korean Linguistics.

Dept. of Linguistics
Stanford University
Stanford, CA 94305-2150
U. S. A.
sells @csli. stanford.edu