References

The Breton data and judgements in this paper, unless otherwise indicated are from my work with Gilda Hamel, a speaker of Bro-Dreger Breton. I have also benefited from discussion with Jim McCloskey, Marc Haverkort, Casal Doherty, Philip Spaeli and members of the audience at the MIT Morphology-Syntax Connection Workshop.

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Korean Verbal Inflection and Checking Theory*

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1. Introduction

Chomsky (1992) entertains two options regarding the manner in which a verb and its inflection are combined. On one account, verbs are inserted in the syntax in their bare uninflcted form, while verbal inflectional morphemes such as Tense and Agr affixes are projected as heads of functional categories dominating the VP projection. Syntactic head movement builds the inflected form of the word. We may call such a theory the "building theory" of verbal inflection. In the second alternative, verbs are inserted in the syntax fully inflected. However, the inflectional features borne by affixes on the verb must be licensed in the syntax. This is achieved when the verb raises and adjoins, overtly or at LF, to various functional heads above the VP, "checking off" its inflectional features until none remains. In this alternative, the functional preterminal categories such as Tns and Agr in syntax do not dominate actual bits of affixes, but complexes of features (Chomsky 1965, Anderson 1992, Halle & Marantz 1993). The feature complex on a preterminal must match the inflectional features of the verb when it adjoins to it. If the feature complex on the preterminal and those specified by verbal affixes should fail to match, the complex cannot be rewritten as lexical material, and the derivation "crashes", since there will now be a preterminal which fails to receive proper interpretation at PF. This alternative is the "checking theory" of inflection.

Chomsky adopts the second alternative, thus turning the side against much current GB work in functional categories which has assumed some form of the "building theory" of inflection. However, the reason that guides him to the choice has to do primarily with the fact that the latter alternative enables him to provide an account of the French vs. English contrast in verb-raising (Pollock 1987) without the need to invoke S-structure as the crucial focus of parametric variation. His choice is understandable given that the elimination of S-structure is one of the stated goals of the minimalist program. What is notably lacking are morphosyntactic arguments for or against the alternatives.
treat ing inflectional affixes-clitics as independent atoms in the syntax. We shall see that coordination data provides positive arguments for the conclusion that verbal affixes are syntactically independent in Korean.

2.1. The Distribution of Tense in Coordinate Structures

As argued in Yoon (1993), following Cho & Morgan (1987) who first pointed out the relevance of this fact to the analysis of Korean inflection3, verbal coordination in Korean is governed by the generalization that when tense is overtly specified on all verbs in a conjoined structure, the structures obligatorily instantiate clausal conjunction (in this paper, 'clausal' means IP or CP), while in sub-clausal conjunction (VPSC or smaller constituents), only the final conjunct verb is specified for tense (and mood).

The verbs in initial conjuncts in (4) uniformly lack tense inflection, and the conjunctive suffix, -ko, is attached directly to the verbal root. In (5), -ko is attached to verbs inflected for tense. -ko is attached to verbs inflected down to mood, so that in (6), a word conjunction, -kiko, is used.

(4) a. John-i pap-ul mek-ko chu-ess-ta
   J-NOM meal-ACC eat-Conj clean-Past-Decl
   'John ate and cleaned the meal'

b. John-i pap-ul mek-ko kulus-ul chu-ess-ta
   J-NOM meal-ACC eat-Conj dishes-ACC clean-Past-Decl
   'John ate the meal and cleaned the dishes'

c. John-i pap-ul mek-ko Mary-ka kulus-ul chu-ess-ta
   J-NOM meal-ACC eat-Conj M-NOM dishes-ACC clean-Past-Decl
   'John ate the meal and Mary cleaned the dishes'

   J-NOM meal-ACC eat-Pst-Conj clean-Past-Decl
   'John ate and cleaned the meal'

   J-NOM meal-ACC eat-Pst-Conj dishes-ACC clean-Past-Decl
   'John ate the meal and cleaned the dishes'

   J-NOM meal-ACC eat-Pst-Conj M-NOM dishes-ACC clean-Past-Decl
   'John ate the meal and Mary cleaned the dishes'

(6) John-i pap-ul mek-ess-ta kuko Mary-ka kulus-ul chu-ess-ta
   J-NOM meal-AC eat-Pst-Decl Cunj M-NOM dishes-ACC clean-Past-Decl
   'John ate the meal and Mary cleaned the dishes'

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3. This generalization remained a puzzle for them, since they were attempting to defend a lexicalist account of verbal coordination in Korean.
Tense and mood affixes are positioned syntactically, and simply suffix/cliticize to phrases which they subcategorize for (VPSC and IP, respectively). Therefore, on the surface, they will appear as suffixes on the verbal root. However, their affixation is not due to a requirement to fill in positions in some morphological template. Instead, it is the syntax which calls for the affixes and places them where they are. Tense is required as the head of an independent IP, and mood as the head of a CP. When syntax does not require them, these affixes do not appear, as in the case of tenseless initial conjuncts, which are clause-like in the sense of being a minimal domain with a subject - i.e., a CFC, but do not carry specifications for tense and mood.

Following earlier work, I analyze verbal affixes in Korean as phrasal affixes. Phrasal affixes, like clitics, combine syntactically with phrases, while appearing as an affix on the periphery/head of the constituents they subcategorize syntactically. However, unlike most clitics, they exhibit

\[ (*) \]

Anderson (1992) uses this term to describe clitics. In this sense the two usages are similar. However, Anderson crucially assumes that affixes are not 'things', but 'processes'. The lack of allomorphy and the paucity of violations from the one-to-one pattern for Korean does not necessitate treating affixes as a spell-out of some feature complex (cf. also, Halle & Marantz 1993b). A morpheme-as-thing approach like Lieber (1992) is well-suited for the facts of Korean inflection.

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\[ (*) \]

We shall see later that NP scrambling may violate the ATB restriction in certain instances. However, the situation here is different. Head-raising analysis must assume that ATB is violated systematically in all coordinate structures, even when NP scrambling must observe ATB.
element. There are several types of NPIs, but they show similar distribution. I examine below the distribution of *amwuto and NP-pakkey forms.

In coordinate structures when the initial conjunct contains an untensed V, NPI may occur in subject or object position, even when the licensing negation appears on the second conjunct only. However, if the verb is tensed, licensing of NPI in the same configuration systematically fails.

(8) a. *amwuto pap-ul mek-ko chi-ku ci anh-ass-ta anyone meal-ACC eat-Conj clean-Comp Neg-Pst-Decl 'No one ate the meal and cleaned up'
b. *amwuto pap-ul mek-es-ko chi-ku ci anh-ass-ta anyone meal-ACC eat-Pst-Conj clean-Comp Neg-Pst-Decl 'No one ate the meal and cleaned up'
c. *amwuto pap-ul ha-kena selkeci-lul ha-ku ci anh-ass-ta anyone meal-ACC make-Or dish-ACC do-Comp Neg-Pst-Decl 'No one made the meal or did the dishes'

d. *amwuto (you as-kena) halul ha-ku ci anh-ass-ta anyone meal-ACC make-Or dish-ACC do-Comp Neg-Pst-Decl 'No one made the meal or cleaned the dishes'

Negation in the above examples is expressed by a negative auxiliary (an-
or mos-ha) which selects an untensed main V in -ci COMP form. Let's take this to mean that the Neg auxiliary selects a VPSI and projects an AuxP, which is another VPSI. Now, when the initial conjunct lacks tense specification, it is a VPSI which is conjoined with the second conjunct VPSI. In this structure, Neg appearing after the second conjunct is an AuxP which combines with a conjunct VPSI. In this configuration, the Neg c-
commands the NPI in the first conjunct. Neither is there an intervening c-
commanding subjects. In contrast, when the initial conjunct has a specified tense, it is an IP on our account, and Negation on the final conjunct fails to c-
command the NPI in the first. Therefore, NPI in the first conjunct is not licensed and the structure is correctly predicted to be ungrammatical.

9. Untensed 1st conjunct:

The role of an intervening subject (SSC) is observed below. The embedded verb in a causative structure cannot be inflected for tense. However, the lower subject blocks the licensing of NPI in the embedded constituent.

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However, SSC may be overridden in complements to certain bridge verbs. In addition, there is some variation among speakers regarding the SSC.
3.2. Scrambling and Tense Specification

The interaction of Scrambling with Tense specification constitutes another argument for the syntactic independence of inflectional morphemes in Korean. Movement from coordinate structures must be ATB. However, scrambling out of coordinate structures can violate the ATB restriction under the following conditions: (i) non-final conjuncts lack tense specification, and; (ii) the conjuncts are interpreted sequentially. As we shall see, conjuncts are non-sequential either when each conjunct is independently specified for tense, or when they described non-temporally ordered events.

The data to be examined below involve scrambling the object NP of the second conjunct, either to a position immediately preceding the object of the first conjunct, or to the front of the entire coordinate structure. Sequential, as well as non-sequential coordinate structures are exemplified.\(^7\)

In addition to allowing selective violations of ATB, only sequential, untensed coordination allows -se ('then') to be suffixed to -ko. Non-sequential conjunction may arise as in (b) (both conjuncts tensed) or (c) (contrastive, non-temporally ordered events).

  J-NOM meal-ACC eat-Conj-then clean-Pst-Decl

  J-NOM meal-ACC eat-Pst-Conj-then cleaned

  J-NOM bread-ACC hate-Conj-then rice-ACC like-Pst-Decl

Importantly, (c) shows that while ATB must be observed in non-sequential

(10) Sequential/Untensed:

a. pap-ul, John-i chay-ik-ul ilk-ko t mek-ess-ta
  meal-ACC J-NOM book-ACC read-Conj eat-Pst-Decl
  'John read the book and ate the meal'

b. John-i pap-ul, chay-ik-ul ilk-ko t mek-ess-ta
  J-NOM meal-ACC book-ACC read-Conj eat-Pst-Decl
  'John read the book and ate the meal'

c. *pap-ul, John-i chay-ik-ul ilk-ko Mary-ka t mek-ess-ta
  meal-ACC J-NOM book-ACC read-Conj M-NOM eat-Pst-Decl
  'John read the book and ate the meal'

e. *John-i pap-ul, chay-ik-ul ilk-ko Mary-ka t mek-ess-ta
  'John read the book and ate the meal'

(11) Sequential/Tensed:

  meal-ACC J-NOM book-ACC read-Pst-Conj eat-Pst-Decl

b. *John-i pap-ul, chay-ik-ul ilk-ess-ko t mek-ess-ta
  J-NOM meal-ACC book-ACC read-Pst-Conj eat-Pst-Decl

c. *pap-ul, John-i chay-ik-ul ilk-ess-ko Mary-ka t mek-ess-ta

d. *John-i pap-ul, chay-ik-ul ilk-ess-ko Mary-ka t mek-ess-ta

(12) Non-sequential/Untensed:

a. *pap-ul, John-i ppang-ul silheh-(-ss)-ko/una t coahay-ss-ta
  meal-ACC J-NOM bread-ACC hate(-Pst)-and/but like-Pst-Decl
  'John hated bread and but liked steamed rice'

b. *John-i pap-ul, ppang-ul silheh-(-ss)-ko/una t coahay-ss-ta
  J-NOM meal-ACC bread-ACC hate(-Pst)-and/but like-Pst-Decl
  'John hated bread and but liked steamed rice'

The structures proposed for various types of verbal coordination, together with the assumption that scrambling observes the Proper Binding Condition (Saito 1985), provide a simple account of the above data.

In (10b), the object has scrambled and adjoined to a conjoined VP. In this position, it binds its trace. I take (10ac) to exemplify adjunction to a conjoined VPSC. The trace is bound in either case. In (10d), on the other hand, the object has scrambled into the VP of the first conjunct VPSC, failing to c-command its trace, explaining its ill-formedness.

conjunction, tense and mood elements may still take scope over initial conjuncts when they are lacking in the initial conjunct. The relevance of this fact will become clear when we discuss alternative analyses of Korean coordination.
James Yoon

Failure of c-command cannot be the only reason for the ungrammaticality of the sentences in (11). While violations of PBC can account for (11b,d), in (11a,c), the fronted object is presumably adjoined to IP and should c-command its trace. I propose to explain these sentences in the same way as examples of non-sequential conjunction in (12).

The ATB constraint on extraction from coordinate structures has well-known exceptions. To the best of my knowledge, ATB violation occurs where the conjuncts can be interpreted sequentially, or as describing a single event ordered sequentially. (Goldsmith 1985; Lakoff 1988) - cf. (13a) vs. *(13b)

(13)a. What did John go to the store and buy it?
b. *What does John like apples and hate it?

This implies that when tense is specified on the initial conjunct, the coordinate structure cannot be construed as describing a single event, but necessarily as describing two separate events (cf. Yoon 1993, who labels this contrast "tense-dependent" vs. "tense-independent"). We can now understand why ATB cannot be violated in (11), quite independently of any violation of the PBC.

3.3. Interaction of Neg/Aux and Tense Specification

The interaction of tense-specification and negation scope provides another argument for the proposed structures, and thus for the syntactic independence of inflectional elements in Korean (J-M Yoon 1990; Yoon & Yoon 1990).

The negative auxiliary on the final conjunct may negate the initial, as well as the final conjunct when the initial conjunct verb is untensed. When tense is specified on initial conjuncts, only the second conjunct lies within the scope of the negation.

   J-NOM meal-ACC eat-Or dish-ACC clean-Comp Neg-Pst-Decl
   'John didn't eat the meal or cleaned the dishes'
   J-NOM meal-ACC eat-Pst-Or dish-ACC clean-Comp Neg-Pst-Decl
   /
   \-> Either I ate the meal or (he) didn't clean the dishes

The explanation for this contrast is rather straightforward. As proposed above, the negative aux selects a VPSC to form another VPSC. As such, it cannot combine with IP in the first conjunct of (14b). In (14a), in contrast, the neg aux combines with conjoined VPSCs, taking both conjuncts in its scope.

This restriction is part of the larger generalization that when the final

Korean Verbal Inflection and Checking Theory

conjunct contains an auxiliary which combines with a tenseless verb form, the aux may not have scope over the first conjunct when it is tensed. However, when the auxiliary on the final conjunct is such that it combines with a tensed verb form, then the initial conjunct falls within its scope regardless of specified tense (see Yoon 1993 for details). This is shown by the auxiliary v-

   J-NOM meal-ACC eat-Cnj M-NOM dish-ACC do-Pst-Cmp seem-Decl
   'It seems that John ate the meal and Mary did the dishes'
   J-NOM meal-ess-ko Mary-ka selkekul-lyul hayss-na po-ta
   'It seems that J ate the meal and M did the dishes'

4. Alternative Accounts

The analysis presented in the previous section is at odds with the assumptions of the checking theory. No doubt, a checking theoretic account of these facts is possible. However, in such an account, generalizations that naturally follow in the account proposed above remain as stipulations. In this section, I will briefly consider some alternative accounts of the patterns of coordination we have considered.

4.1. CP with Null Tense/Mood

One alternative that has been suggested runs as follows. Contrary to what we have assumed thus far, assume that -ko may coordinate only full CPs. In this account, tenseless conjuncts we have taken to be sub-CP level constituents are instead CPs with null, anaphoric Ts (and Mood) heads, bound by those on the final conjunct (Y-S Lee 1993).

(16)

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While such an account may account for the tense dependency, it suffers from the following problem - it is crucial in this account that the binding/control is always backward, since specified tense on the initial conjunct
does not determine that on the second conjunct, as shown by (17) below, which is ill-formed due to the lack of tense specification on the final conjunct despite the fact that the first conjunct has a specified tense.

(17) *John-i pap-ul mek-ess-ko Mary-ka ppong-ul mek-ta
J-NOM eat-ACC eat-Pst- Conj M-NOM bread-ACC eat-Decl

"John ate the meal and Mary ate the bread"

Therefore, this account must be buttressed with additional assumptions. For instance, one might entertain that coordinate structures where non-final conjuncts are unmarked for tense is asymmetric, in that the final conjunct asymmetrically c-commands non-final conjuncts (cf. Cho & Morgan 1987).

Unfortunately, we cannot find independent evidence for the proposed asymmetry. We cannot test for this directly with nominal binding, since even if the final conjunct is higher than non-final conjuncts, NPs inside the final conjunct will not c-command out of the conjunct boundary.

ATB behavior is sometimes made contingent on the assumption that coordinate structures are multiply headed, i.e., that they are symmetric (GKPS 1985). Based on this reasoning, one might point to violations of ATB as evidence for the asymmetric nature of coordinate structures. However, ATB violations, while they are attested, are highly circumscribed. Crucially, the data allowing ATB violation are not co-extensive with data showing tense distributing into non-final conjuncts. Tense and Mood distribute from final to non-final conjuncts even in sequential conjunction (note 7). It seems that we are left with no other option but to stipulate that tense/mood-binding is always backward, even though such behavior is not found elsewhere.

When it comes to the blocking effect of specified tense in non-final conjuncts, more serious problems arise. Take the interaction of NPI and tense specification, as an example. To explain the fact that an NPI in a tenseless initial conjunct is licensed by negation on the final conjunct, one might propose the following - NPI is licensed by a null Neg head which is in turn coindexed with the overt Neg in the final conjunct. However, in order to explain the blocking effect of tense, one would have to stipulate that a null negation in non-final conjuncts cannot be controlled by negation on the final conjunct when an overt tense is present in the first. Needless to say, this is a strange stipulation which does not follow from anything.

4.2. Tense and Mood as Edge Features

Edge Feature theories represent the extreme in lexicalist analyses of inflection-cliticization. In these theories, most clitic-host combinations are taken to constitute a single formative in syntax. The phrase-level scope of clitics/affixes are accounted for by having such features distribute along the EDGE (first or last) of a constituent, just as some features distribute along the head path (HEAD features), or along just about any path (FOOT features).

An Edge Feature analysis of coordinate structures in Korean might run as follows. Assume that verbs in Korean need not be specified obligatorily for tense and mood*. When tense, mood, and other verbal suffixes which distribute from final to non-final conjuncts are present in a coordinate structure, the information they introduce behave as EDGE features, specifically, as LAST features. LAST features are constrained to appear on the right edge of constituents they occur in, by the Edge Feature Principle (EFP, Miller & Halpern 1992). In (18), T is a triggering feature, presumably introduced via meta-rules on basic ID-rules. E is the morphosyntactic feature that 'matches' the relevant triggering feature. Clauses (ii) & (iii) govern the upward and downward percolation of Edge features, respectively.

(18) Edge Feature Principle:

(i) If a node has T, then one of its daughters has E;
(ii) If a node has E, then its mother has T or E;
(iii) If a node has E, then one of its daughters has E.

There are some initially attractive consequences of this type of analysis. If Tense in Korean is an Edge feature, it is predicted to occur either on the right edge of the entire conjoined structure (19a), or on the right edge of all of the conjuncts (19b), but not on the initial conjunct to the exclusion of the final conjunct (19c), because Tns could not be LAST in such a configuration.

(19) a. S[TNS] -> S Conj S[Tns]

An Edge Feature account can rule out sentences like (17), which proved problematic for the previous account we considered. However, it should not be too difficult to see that the blocking effect of specified tense on non-final conjuncts remains as problematic for this account as it was for the previous account. There is no principled way to derive the blocking effect of

* Specifically, in keeping with lexicalist assumptions, one would have to assume that as long as the verb form is a free form, it may be inserted in the syntax. Conjugative -ko, like other COMP endings, takes a bound root to a free-standing form so that V-ko is a legitimate formative in the syntax.
tense that would follow from the assumption that tense is an EDGE feature.

In the remainder of the paper, I turn to the question of why, despite the phonological cohesion, verbal affixes in Korean and similar languages act as independent syntactic formatives. I propose a tentative answer to this question by borrowing some ideas from Kayne’s recent work - namely, the claim that while leftward head-to-head raising is possible, its mirror-image, rightward head-to-head movement, is not.3 Coupled with assumptions about what may underlie agglutinative vs. fusional inflectional systems, we can begin to understand why Korean inflection behaves the way it does.

5. Toward a Parametric Account

Kayne (1993) conjectures that there might be a fundamental difference in the way verbs associate with INFL and COMP in syntactically head-initial as opposed to head-final languages. In particular, he claims that while the morphological complex V-I-C may be formed by successive leftward head-movement in the former, the surface V-I-C complex in strictly head-final languages cannot be formed by successive rightward head-movement. This conjecture is radical and rules out most recent analyses of inflection in languages like Korean which are predicated on the premise that rightward head-movement derives the inflected form of verbs (cf. Whisman 1990). While Kayne mentions some potentially “favorable consequences” of his conjecture, he provides no morphosyntactic arguments in support of his conjecture.4 It should be easy to see that the Korean data we have examined constitute such evidence. As we have seen, while there is a surface V-I-C complex, it is not formed by head-movement, but by phrasal affixation.

What remains to be done is to derive this difference in a systematic way.

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3. Sam Bayer and Steve Lapointe (p.c.) have suggested to me that an Edge Feature account buttressed with checking theoretic assumptions might be able to predict the blocking effect. However, such an account requires positing null headed structure, which is deemed theoretically undesirable in theories countenancing feature propagation.

4. Specifically, he mentions the lack of overt WH-movement, the lack of that-trace effects, and nominative anaphors in subject position. These facts become favorable consequences of his conjecture only with much theorizing. Kayne also seems to be assuming that the morphology associated with head-final languages is predominantly agglutinating, while that in head-initial languages (possessing head-movement) may be fusional, although nothing in his paper seems to predict this clustering. I shall attempt to give content to this intuition shortly.

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Korean Verbal Inflection and Checking Theory

Kayne predicts it as a consequence of antisymmetry. In what follows, I will develop a loosely categorial account of the distinction between head-initial and head-final languages based on the intuition that LR incremental parse is systematically related to hierarchical structure. This account, like Kayne’s, predicts the absence of head-motion in head-final languages. It goes further than Kayne in providing an explanation for the systematic differences.

5.1. Head Initial vs. Final; Head-Movement vs. Phrasal Affixation

The key difference between head-initial vs. head-final languages can be rendered in categorial terms as follows: Syntactically head-initial C, I, V can be composed left-to-right to form a single lexical functor, V-I-C, while head-final V, I, C cannot be so composed. Instead, if there is to be composition of heads, it must proceed right-to-left. If a given syntactic string must be parsed LR only, there can be no composition of heads in the latter type of language. Assume that the combinatorial types for C, I, and V are as follows.

(20) COMP = CP/IP; INFL = IP/IP; V = VP/NP

In head-initial languages, the heads V, I, C can compose to form a single lexical functor by successive L-R Function Composition, yielding a single functor CP/IP, which combines with NP object of the transitive verb. This is shown in (21).

(21) [COMP ... [INFL ... [V, NP CP/IP IP/IP VP/NP ___________ CP/IP CP/IP NP L-R FC(twice) CP L-R FA

In a strict head-final language, the analogous derivation must be R-L.

(22) NP V, I ... INFL ... COMP VP/NP IP/IP CP/IP ___________ CP/IP CP/IP R-L FC (twice) CP R-L FA

Now, if we assume with Kayne (and various versions of Categorial Grammar) that constituent structure (dominance relations) should be calculated on the basis of L-R incremental parse (precedence) of terminal strings, R-L FC is ruled out. In head-final languages, then, the composition of the heads V, I, and C cannot yield a L-R parse.
A L-R parse in head-final languages is possible, if VP and IP are "type-raised" to become functors looking for arguments to their right, (as IP/I, CP/C, respectively) which now combine via L-R Function Application with I and C, yielding CP.

\[(23) \quad v_j v \ldots I_j I \ldots C_{LP} \quad \text{Type Raise \& L-R FA} \]
\[\quad \text{IP/I} \quad \text{I} \quad \text{IP/C} \quad \text{C} \quad \text{Type Raise \& L-R FA} \]
\[\quad \text{CP/C} \quad \text{C} \quad \text{Type Raise \& L-R FA} \]
\[\quad \text{CP} \]

The derivation shown in (21) is the categorial equivalent of (successive) headmovement and Baker. While (23) is the categorial rendition of clitization-phrase affixation. The two types of morphosyntactic dependencies are now correlated with head-initial and head-final languages, respectively. Based on this identification, we can begin to explain the differences between headmove and clitization/phrase affixation that have been noted.

First, while head-to-head movement involves a head to head relation, clitization involves a relation between a phrase and a lexical head. (21) vs. (23) reflect this difference. Head composition involves composing functors (=heads), while clitization involves combining a phrase with a head.

Secondly, the Government Transparency Corollary (GTC) is a hallmark of head-movement in Baker (1988). By it, a head that has incorporated into a remotely c-commanding head may still govern its dependents because incorporation voids the barrierhood of intermediate projections. Such long-distance dependency also follows as a theorem in the categorial account. In (21), composition yields a functor which combines with NP and yields CP.

In contrast, the GTC effect is not found in clitization. This is because there is no merging of heads/functors. As predicted, GTC fails to hold in phrase affixation in languages like Korean, as evidenced in copula affixation. The copula in Korean is a verbal suffix. Its Case-assigning properties can be determined on the basis of the non-affixal negative copula, which behaves like static verbs in assigning NOM Case. Therefore, we assume that the affixed copula would assign NOM to its complement, if it were an independent verb.

\[(24) \quad \text{a. John-i sacang-i-ta} \quad \text{J-NOM boss-Cop-Decl} \]
\[\quad \text{b. John-i sacang-i ani-ta} \quad \text{J-NOM boss-NOM Neg-Cop-Decl} \]

Korean Verbal Inflection and Checking Theory

Now, if the copula combines with its host by head-movement, it should show the GTC effect. This means that the government relations would change and the copula with the incorporated nominal should govern as a static verb, assigning NOM Case to a stranded dependent of the incorporated nominal, much in the manner of Possessor Raising under incorporation studied in Baker (1988). However, the facts are otherwise. The stranded nominal dependent retains the GEN-marking, and cannot be marked with NOM, even optionally.

\[(25) \]
\[\quad \text{a. John-i hoysa-uy sacang-i-ta} \quad \text{J-NOM company-GEN boss-Cop-Decl} \]
\[\quad \text{b. John-i hoysa-ka sacang-i-ta} \quad \text{J-NOM company-NOM boss-Cop-Decl} \]

Thirdly, intermediate projection boundaries that are made transparent by GTC cannot be verified by standard constituency tests like coordination and constituent fronting. There is a reflex of this in composition of heads in that intermediate constituents are "used up" in head composition. On the other hand, in phrase affixation, the phrase constituents remain and make themselves available for such processes. This difference is reflected directly in the above derivations. Head-movement/composition forms a complex functor, while phrase affixation does not. The (un)availability of intermediate projections can be understood given this difference between the two.

Finally, the morphology associated with head-movement languages can be fusalional, while that associated with phrase affixation is predominantly agglutinative. A relationship between a head and a phrase is not rendered as suppletion (say, the relationship between a V and NP object), but composite heads may be subject to further manipulations that make the surface morphology less than transparent (Halle & Marantz 1993).

* This paper represents a portion of ongoing research into phrase affixation and coordination phenomena in different languages. For helpful comments after the oral presentation of the paper, I would like to S. Bayer, A. Carstains-McCarthy, S. Lapointe and A. Marantz.

7. References


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1. Introduction

The resultative V-V compound has drawn a great deal of attention in recent Chinese linguistic studies (e.g. Cheng 1992, Gu 1992, Huang 1988 & 1992, Li 1990, 1991 & 1993). The fact that the resultative V-V compound is so interesting is partly due to the complex thematic relation

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