

VP (and TP) Movement and Verbal Morphology

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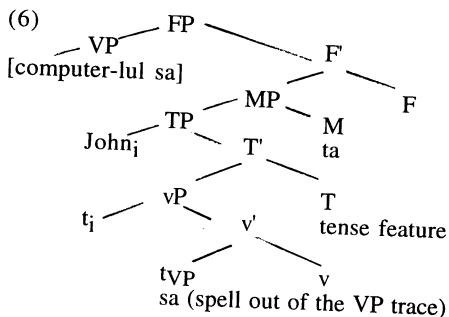


- (4) computer-lul                      sa-ki-nun                      John-i                      sa-ss-ta  
    -Acc                      buy-Nominal-Con<sup>1</sup>                      -Nom                      buy-T-M
- (5) John-i                      computer-lul                      sa-ss-ki-nun                      sa-ss-ta  
    -Nom                      -Acc                      buy-T-Nominal-Con                      buy-T-M
- Indeed, the fact is that John bought a computer, but...*  
*Indeed, the fact is that John bought a computer, but...*

In example (4) and (5), the first appearing verb *sa* (buy) is followed by a nominalizer *ki* and a (contrastive) focus marker *nun*, and interestingly an identical verb to the first one appears again with the tense and mood markers.

I propose that in (4) and (5), VP and TP has respectively moved to the spec of FocusP before spell out, and the reappearance of verbs *sa* 'buy' is due to the otherwise stranded tense and mood morphemes (cf. Nishiyama & Cho 1996). The structure of the VP and TP movement is given in (6) and (7) respectively.

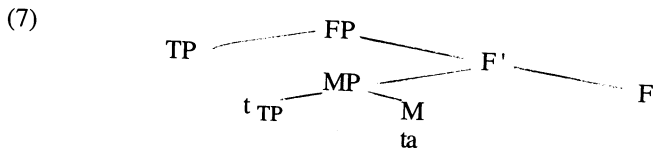
## 2.1 VP Movement



In (6), VP *computer-lul sa* moves to the highest spec position, namely spec of the Focus phrase before spell out, leaving its copy behind. The copy of the trace, namely the verb *sa*, then is spelled out to support the tense morpheme. This is why we have two identical verbs in the same clause<sup>2</sup>.

## 2.2 TP Movement

Analogously to the VP movement, the whole TP has moved to the spec of FP in (7), and this movement leaves the bound mood and tense morphemes unsupported:



In this case also, the head of the copy, namely T, is spelled out to support the Mood morpheme. This solves a problem of the mood morpheme. However, being a



● Adverb Placement

Thirdly, (4) and (5) show a contrast in adverb placement. Sentential adverbs can appear between the extracted element and its copy in both cases:

- (10) [computer-lul sa-ki] nun amato John-i sa-ss-ulkel. VP  
 computer-Acc buy-ki-Con probably -Nom buy-Past-M  
*Probably, John bought a computer, (but probably he did not pay).*
- (11) [John-i computer-lul sa-ss-ki-nun] amato sa-ss-ulkel. TP  
 -Nom -Acc buy-Past-ki-Con probably buy-Past-M  
*Probably, John bought a computer, (but probably he did not pay).*

The sentential adverb *amado* can intervene the extracted elements and the verb regardless whether the first appearing verb in the sentence is tensed or not, as shown above. Non-sentential adverbs, however, can appear between the extracted element and its copy only when the first verb does not contain a tense morpheme:

- (12) [computer-lul sa-ki] nun John-i cincca sa-ss-ulkel. VP  
 computer-Acc buy-ki-Con -Nom really buy-Past-M  
*Indeed, John really bought a computer, (but he did not pay).*
- (13) \*[John-i computer-lul sa-ss-ki-nun] cincca sa-ss-ulkel. TP  
 -Nom -Acc buy-Past-ki-Con really buy-Past-M  
*Indeed, John really bought a computer, (but he did not pay).*

In (13), the first verb contains a tense morpheme and this sentence with a non-sentential adverb is unacceptable. This is exactly what my proposal predicts.

The position of sentential adverbs is presumably very high: higher than the (base) position of the subject. Let us then assume that sentential adverbs merge to M' in Korean. Sentential adverbs then can be left behind regardless of whether VP or TP undergoes a movement, because in both cases there is a place where sentential adverbs can stay as in (14) and (15).

- (14) [[VP ] [MP sentential adverbs [TP Subj ]]] VP movement  
 (15) [[TP ] [MP sentential adverbs [TP Subj ]]] TP movement

This is why (4) and (5) are both good. On the other hand, the position of non-sentential adverbs is lower than the sentential adverbs, i.e. lower than MP. Let us then assume that non-sentinel adverbs merge to vP:

- (16) [[VP ] [MP [TP Sub NS adverb [vP ]]]] VP movement  
 (17) [[TP ] [MP ]]] TP movement

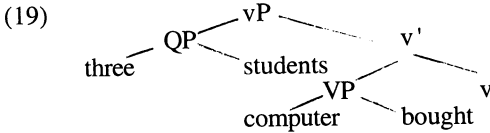
In the case of VP movement, there is still a position where non-sentential adverbs can sit, i.e. vP adjoined position as in (16). However, when TP is extracted, there is no position that the non-sentential adverbs can sit, hence non-sentential adverbs can not appear between the extracted TP and its copy. The unacceptability of (13) and the acceptability of (12) then strongly supports my proposal that it is a VP which has moved in (4) and it is a TP in (5).

Finally, the same point can be made by the distribution of the stranded quantifiers:

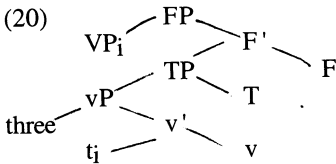
● Standed Quantifier

Following Sportiche (1988), let us assume that we get (18a) when the whole QP undergoes movement from (19). On the other hand, if only NP moves and the quantifier *se-myong* stays in the base position, we get (18b). In (18), the so called stranded quantifiers *se-myong* then designates the base position of the subject since it stays in si-tu, namely in the spec of vP:

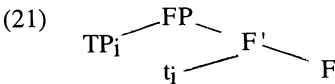
- (18) a. se-myong-uy haksængtul-i computer-lul sassta  
 tree-CL-Gen students-Nom -Acc bought  
*Three students bought a computer*  
 b. haksængtul-i se-myong computer-lul sassta.  
 students-Nom three-CL -Acc bought  
*Three students bought a computer.*



Our prediction is then that when the first verb does not contain a tense morpheme that is, when it is an instance of VP movement, stranded quantifier can appear between the extracted VP and the spelled-out copy verb while this is not allowed when the first appearing verb has a tense marker. This is because when the VP undergoes movement, it does not affect the subject position (the spec of small vP) and therefore the subject can just sit there as in (20).



On the other hand, when the whole TP undergoes a movement, the small vP moves along with it, hence there is no subject position available as in (21).



This prediction is actually born out:

- (22) haksængtul-i [computer-lul sa-ki] nun se-myong sa-ss-ta. VP  
 students-Nom computer-Acc buy-ki-Con three-CL buy-Past-M  
*Indeed, three students bought a computer (but they never use it).*  
 (23) \*[haksængtul-i computer-lul sa-ss-ki] nun se-myong sa-ss-ta. TP  
 students-Nom -Acc buy-T-ki-Con three-CL buy-Past-M  
*Indeed, three students bought a computer (but they never use it).*

In (22), the first verb does not have a tense marker in it and the stranded quantifier can intervene between the extracted element and the verb. On the other hand, in (23), the first verb does have a tense marker and the stranded quantifier is not allowed as predicted.

The conclusion so far is then that when the first verb does not contain a tense marker, it's an instance of VP movement (24) while when the first verb does contain a tense marker, it is an instance of TP movement (25).

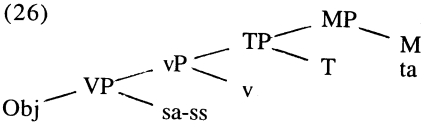
- |      |       |               |                     |                 |           |
|------|-------|---------------|---------------------|-----------------|-----------|
| (24) | [Obj  | <b>Verb</b> ] | Subject             | Verb-Tense-Mood | <b>VP</b> |
| (25) | [Subj | Obj           | <b>Verb-Tense</b> ] | Verb-Tense-Mood | <b>TP</b> |

This conclusion, however, poses a serious problem to both lexical and syntactic approaches of the verbal morphology.

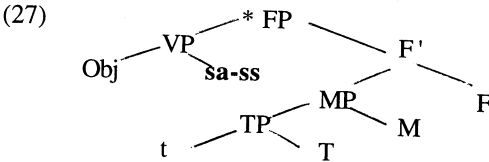
### III. Lexicalist view and Korean Verbal inflection

Under the lexicalist view, the whole inflected verb *sa-ss* (buy-Past) is always taken from the lexicon at the beginning of the derivation. The lexical approach, therefore, predicts that the verb in the spec of Focus phrase should have the same form (i.e. *sa-ss*) regardless of whether it is an instance of VP or TP movement. To make it clear, let us look at the derivation of (4) and (5).

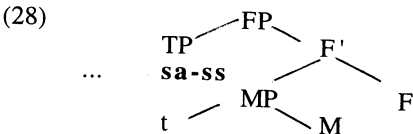
At the beginning of the derivation, the inflected verb *sa-ss* (buy-Past) is taken from the lexicon both in (4) and (5) as in (26). In other words, (4) and (5) share the exact same structure. This is because (4) and (5) are derived from the same numeration and the only difference between them is which category undergoes a movement.



From (26), when the VP undergoes a movement, (26) results in (27):



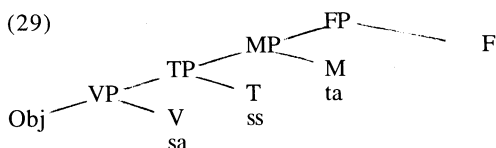
On the other hand, when the TP undergoes a movement, (26) results in (28):



Accordingly, the lexical view of the morphology predicts that the first verb in the extracted position contains a tense marker regardless of whether VP or TP undergoes a movement, and this is not true in Korean. The conclusion for the time being, therefore seems to be that the lexical view of the verbal morphology (Chomsky 1993, 1995) is not appropriate for accounting for Korean Predicate level focus movement. In particular, the fact that the verb from in the head (of the chain) position and the copy position is different clearly shows that tense morphemes are independent of the verbs and are taken from the lexicon by themselves.

#### IV. Syntactic View and AgrS

On the other hand, Syntactic view of verbal morphology seems to account for the different verb forms in VP and TP extraction cases very naturally. Under the syntactic approach, a bare verb and T is separately taken out from the lexicon:



From (29), if VP undergoes a movement, that maximal projection does not contain a tense projection, hence the verb does not contain a tense specification. On the other hand, if TP undergoes a movement, the verb gets a tense specification since the extracted projection contains a tense morpheme.

Based on this observation, one might conclude that syntactic approach of the verbal morphology is more superior to the lexical approach at least for the language like Korean. The distribution of the AgrS morpheme *si*, however, demonstrates that this is not quite true. Korean AgrS *si* indicates the speaker's respect for the subject, and this (spec head relation) is obligatory. Now, let us look at the distribution of AgrS morpheme *si* in the extracted VP:

- (30) computer-lul sa-si-ki-nun halmoni-ga sa-si-oss-ta  
 -Acc buy-Hon-ki-Con grandmother-Nom buy-Hon-T-M
- (31) ??/\*computer-lul sa-ki-nun Halmoni-ga sa-si-oss-ta  
 -Acc buy-ki-Con grandmother-Nom buy-Hon-T-M
- My grandmother indeed bought a computer (buy she never use it).*

Even though the first verb in (30) does not contain a tense morpheme, hence (30) is an instance of VP movement, AgrS morpheme shows up in the first verb and the appearance of *si* is obligatory as the unacceptability of (31) suggests.

To sum up, when VP undergoes a movement, tense morpheme cannot show up whereas AgrS morpheme can. This is very problematic to syntactic approach of the verbal morphology. A tense morpheme does not show up in VP extraction, since the category in the spec of F is smaller than a TP. Given that VP is also smaller than AgrSP (if you posit AgrSP), Syntactic view wrongly predicts that AgrS morpheme should not appear in the Verb in the extracted position<sup>3</sup>. Hence we are in the dilemma.

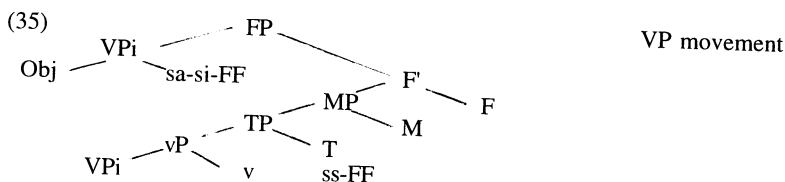
## V. Proposal

To solve this dilemma, I propose that Verbs and Ts (head of TP) are taken from the lexicon with formal features (mainly tense and Agr features) as in (32) and that either a tense feature of verbs or that of Ts can be overtly realized<sup>4</sup> as shown in (33) and (34).

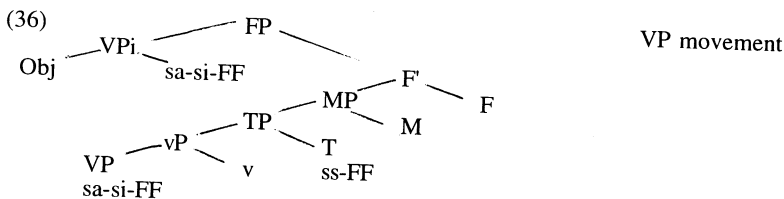
- |      |                                  |                              |
|------|----------------------------------|------------------------------|
| (32) | sa-FF(e.g. tense, Agr features), | T-FF(e.g. tense, Agr feature |
| (33) | sa-ss                            | T-FF                         |
| (34) | sa-FF                            | T-ss                         |
|      |                                  | First group                  |
|      |                                  | Second group                 |

If a tense feature of verbs is overtly realized as in (33), the result would be the same as the inflected verbs being taken out of the lexicon. The difference, however, is that to spell out the tense feature of T is not the only option under my proposal whereas it is the only option allowed under the Lexicalist view. On the other hand, if a tense feature of T is spelled out as in (34), it would look as if a tense morpheme heads a TP, but the difference from the head-adjunction view (syntactic view) is that the verbs down below also have a tense feature which has to be checked off hence moves. Under my proposal, languages are not drastically different from each other. In all languages, verbs move up to T to check off their tense features. They just differ in whether it is a tense feature of the verb or T that are realized.

I claim that Korean belongs to the case where a tense feature of T is spelled out and as for the Agr feature, I propose that Agr feature of the verb is spelled out unlike the tense feature as shown in (35).



Accordingly, at the time when the VP undergoes a movement the verb already contains an agreement marker in it but does not have a tense morpheme even though it does have a tense feature. In (35), VP has moved, but the Agr feature of the verb is already spelled out, thus we get *si* in the fronted verb but we cannot see the tense morpheme there because the spell out site of the tense feature is T (the head of TP) in Korean. Like other examples, the copy of the verb which is *sa-si* is spelled out in the copy position after VP movement. This is why we get the double occurrence of *si* in (30):



Summing up, under my proposal, the verb from *sa-si* in the fronted VP in (4) is just a result of the differentiated spell out of the features: namely, only the Agr feature of the verb is spelled out, leaving the tense feature of the verb unaffected.

## VI. Variations across languages

In the previous section, I have shown that my proposal of verbal morphology offers a natural account for the different verb forms in the fronted VP and TP in Korean. In this section, I will show that it furthermore provides a natural tool to explain the variations found in VP movement among languages.

Data first. In Korean, after the VP movement, the copy of the VP may be spelled out as has been shown, but *do*-support is also an option:

- (37) a. computer-lul sa-ki-nun John-i hae-ss-ta K  
           -Acc buy-ki-Con -Nom buy-T-M  
       b. computer-lul sa-ki-nun John-i sa-oss-ta  
           -Acc buy-ki-Con -Nom buy-T-M

*Indeed, the fact is that John bought a computer, (but he did not pay).*

In English and Japanese, however, only *do*-support is available:

- (38) a. computer-o kai- wa John-ga \*ka-ta. J  
           -Acc buy- Con -Nom buy-Past-but  
       b. computer-o kai- wa John-ga si-ta.  
           -Acc buy- Con -Nom do-Past-but

*Indeed, the fact is that John bought a computer, (but he did not pay).*

- (39) a. \*Buy a computer John bought.  
       b. Buy a computer John did.

That is, both spell-out of the copy and *do*-support option are available in Korean whereas only *do*-support is possible in Japanese and English:

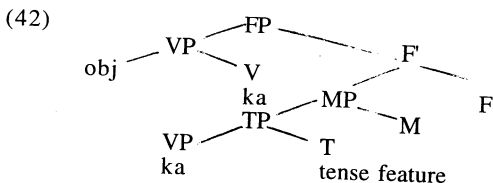
- (40) VP movement  
       a. Korean: spell-out of the copy, *do* support  
       b. Japanese, English: *do* support

I argued that the copy of the VP trace is spelled out to support the otherwise stranded tense morpheme. The same job can be done just by inserting a dummy verb *do* to T. This is why both *do* support and spell-out of the trace option are available in Korean. Given this, Why then would Japanese and English be different from Korean? In principle, English and Japanese also have to allow the spell-out of the copy option in addition to *do*-support. This variation across languages straightforwardly follows from my proposal: Languages can vary regarding to the spell-out site of the tense feature (that is, whether the tense feature of T or that of the verb is spelled out). In other words, under my proposal, some languages realize its tense feature in the verb position while some languages realizes it in the T (the head of TP). The typological difference above then is due to the different spell-out position of the tense feature in languages.

In particular, I argue that Unlike Korean, what is overtly realized is the tense feature of a verb in Japanese and English as in (41).

- (41) a. Korean: Verb-features T-TM  
 b. English, Japanese: Verb-TM T-features

With this assumption, let us consider the construction again. In (38), the Japanese verb *ka* in the focus position does not have a tense morpheme, which in turn means that verbs without a tense feature is taken from the lexicon, since it is the tense feature of V which is overtly realized if there is any in Japanese. Therefore, absence of the tense morpheme means absence of the tense feature in Japanese, unlike Korean. This explains why the spell out of the copy option is not available in Japanese VP focus movement:



After the VP has move into the spec of FP, the verb *ka(w)* in the copy position, in principle, can be spelled out to support the T as it does in Korean. However, the verb *ka(w)* in (42) does not have a tense feature to enter into the checking relation with T, hence the tense feature of T cannot be checked off. This unchecked tense feature of T causes the derivation to crash. This is why spell-out of the copy option is not allowed in Japanese and English. The only option available is then *do* support, and the tense feature of T is deleted by the checking relation with the tense feature of *do*.

The conclusion is then that in the case of VP movement, only the *do* support option is available in a language where a tense feature of the verb is spelled out in that language.

## VII. Conclusion

In this paper, I have shown that once VP (or TP) undergoes a focus movement leaving stranded morphemes behind, one of two actions has to be taken in Korean: spell out of the copy or *do* support.

The optional nature of *do* Support implies that *do* Support may not necessarily be the last resort unlike the standard assumption, since *do* support is available even when verb movement is not blocked in the Predicate Focus construction. On the other hand, presence of duplicated verbs in this construction strongly argues for copy theory of movement.

In addition, my analysis of the Predicate Focus Construction is shown to have important implication for the verbal morphology. Contrary to Chomsky (1993), the different verb forms found in VP (V) and TP focus movement (V+Tense) suggests that the tense morpheme may not be selected with the verb at the beginning of the derivation but it is taken separately from the verb, i.e. the tense morpheme is under T. To account for this under the feature checking theory of verb movement, I proposed that not the inflected verbs but verbs with features are taken out from the lexicon and features of either verb or T can be spelled out. It



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