

Verbal Suffix–Repetition Constructions in Korean: A Constraint– and Construction–based Approach*

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There are various Verbal Suffix-Repetition (VSR) constructions in Korean, where suffixes such as *-kena/ tun(ci)/ tun(ka)* are attached to the repeated verbs. Calling the VSR Choice-denying Repeated Verbs construction, Lee (2011) claims that the following verb of the VSR, which can be replaced with *mal-*, should contain a negative but the preceding verb should be affirmative in the VSR construction which disallows any NPI within it. Unlike Lee (2011), we claim that the verbs in the VSR can freely occur either in the preceding position or in the following one regardless of their Neg value so long as they share the same verbal suffix forms such as *-tun(ka)*. Furthermore, NPIs may occur within the VSR construction if they occur with a negative predicate within the same clause. To implement the findings above into HPSG, we have proposed the two lexical entries for *mal-*, the VSR Construction Rule, and the NPI Clause-mate Constraint. These tools enable us to account for the idiosyncratic properties of the VSR constructions under this constraint- and construction-based approach. (Kangwon National University)

Keywords Verbal Suffix-Repetition construction, Choice-denying Repeated-Verbs, *-kena*, *-tunci*, Constraint-based approach, Construction-based approach, NPI, VSR Construction Rule, Clause-mate Constraint

1. Introduction

It is well known that there are so-called “Verbal Suffix-Repetition” constructions in Korean. By the Verbal Suffix-Repetition (VSR) construction, we mean the CPs

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whose verbs share the same suffixes such as *-kena/ -tun(ci) / -tun(ka)* as follows:

- (1) [Ne-ka Nolay-lul pwulu-**tunci** chwum-ul chwu-**tunci**],
 You-Nom song-Acc sing-Suf dance-Acc dance-Suf,
 Na-nun kongpwu-hallay.
 I-Top study-will
 ‘Regardless of whether you sing or dance, I will study.’
- (2) [Marcia-ka kyelhon-ul ha-**tun** an-ha-**tun**], na-nun kwansim-epse.
 M-Nom marry-Acc do-Suf Neg-do-Suf, I-Top care-Neg
 ‘Whether Marcia marries or not, I don’t care.’

As shown above, the VSR construction, which can be schematized as $_{CP}[\dots V+\alpha V+\alpha]$ (where α stands for a suffix), can function either as an adjunct like (1) or as a clausal complement subcategorized by the head verbs such as *kwansimeps-* ‘don’t care’ like (2).

Recently, Lee (2011) argues that the VSR construction functioning as a complement should be dealt with differently from that functioning as an adjunct in the sense that comparing to the latter, the former exhibits quite different properties: he, first of all, claims that the preceding verb in the repeated verbs of the VSR should be affirmative but the following one, negative, assuming that (3a) is grammatical whereas (3b) is ungrammatical.

- (3) a. [Marcia-ka kyelhon-ul ha-**tun** an-ha-**tun**], na-nun kwansim-epse.
 M-Nom marry-Acc do-Suf Neg-do-Suf, I-Top care-Neg
- b. *[Marcia-ka kyelhon-ul an-ha-**tun** ha-**tun**], na-nun
 M-Nom marry-Acc Neg-do-Suf do-Suf, I-Top
 kwansim-epse.
 care-Neg
 ‘Whether Marcia marries or not, I don’t care.’

Second, he also suggests that the final verb in the VSR can be replaced with *mal-* in terms of either the operation ‘copy & delete’ or ‘substitution’ as follows:

- (4) [Marcia-ka kyelhon-ul ha-**tun** mal-**tun**], na-un kwansim-epse.

M-Nom marry-Acc do-Suf not do-Suf, I-Top care-Neg
 ‘Whether Marcia marries or not, I don’t care.’

Third, any NPI (Negative Polarity Item) cannot occur within the VSR construction on the basis of the fact that (5) is ungrammatical:

- (5) *[Ney-ka *amwuto* manna-**tunka** an-manna-**tunka** /mal-**tunka**],
 You-Nom none (NPI) meet - Suf Neg-meet-Suf / not do-Suf
 na-nun sangkwan an-hay.
 I-Top care not do
 (Intended meaning) ‘Whether you meet someone or not, I don’t care.’

Finally, Lee (2011) calls the VSR functioning as a complement Choice-denying Repeated-Verbs (CRV) Construction. He implies that the VSR at issue semantically delivers choice-denying messages in that the given choices suggested by the CP complement are being denied because the speaker seems unconcerned about whichever choice is made in this construction. Specifically, the speaker pronouncing (4), i.e. I, appears unconcerned about the choices given by the VSR clause, i.e. whether Marcia marries or not.

In short, Lee (2011) claims that the following verb of the VSR, which can be replaced with *mal-*, should contain a negative, but the preceding verb should be affirmative in the VSR construction which disallows any NPI within it, assuming that the construction delivers choice-denying messages. If his claim is right, it is natural to predict that the following sentence, in which the preceding verb with a negative occurs with an NPI in the VSR construction, should be totally ungrammatical.

- (6) [Ku phathi-ey **amwuto** **an-o-tunci** mal-tunci]
 The party-Loc none Neg-come-Suf stop-Suf
 na-un sangkwanan-hay.
 I-Top care not-do
 ‘Whether no one comes to the party, I don’t care.’

However, it is not the case. Though (6) is not perfect, it sounds acceptable.¹ The

grammaticality of (6) can be problematic to Lee (2011): Against his claim, even when the VSR in (6) has an NPI within the clause and exhibits the reverse sequence, namely [negative V+α affirmative V+α], it can be grammatical. Hence, it seems to be necessary to check whether his claim is empirically and theoretically tenable or not.

Unlike Lee (2011), we claim here that the verbs in the VSR can freely occur either in the preceding position or in the following one regardless of their Neg value so long as they share the same verbal suffix form. Further, NPIs such as *amwuto* may occur within the VSR construction if they occur with a predicate containing a negative within the same clause.

To support our claim, we provide various properties of the VSR construction especially as to the possibilities of the occurrence of the verbs in the construction with respect to the value of Neg, the characteristics of *mal-* and the distributional behaviors of NPIs in the VSR in Section 2. On the basis of the properties we observe, we propose a constraint- and construction-based analysis to account for the VSR construction at issue and then demonstrate how it works in Section 3 (cf. Kim & Sells, 2008, Sag et al, 2003, Boas & Sag, 2011). In conclusion, we attempt to suggest how constructions exhibiting idiosyncratic properties, including the VSR, can be analyzed under a constraint- and construction-based approach.

2. Properties of the VSR Construction

2.1 The Possible Verb Sequences in the VSR

Logically, the verb sequences in the VSR construction, schematized as $_{CP}[\cdots V+\alpha V+\alpha]$, can be realized in four ways with respect to the existence of a negative as follows:

- (7) a. Pattern I: $_{CP}[\cdots \text{affirmative } V+\alpha \quad \text{affirmative } V+\alpha]$
 b. Pattern II: $_{CP}[\cdots \text{affirmative } V+\alpha \quad \text{negative } V+\alpha]$

¹ Though a few native speakers believe (6) sounds unnatural, most native speakers regard it as natural, given an appropriate context. Hence, we consider it as grammatical in this paper. The discussions on this grammaticality will be dealt with in the near future study.

- c. Pattern III: $_{CP}$ [... negative V+a affirmative V+a]
 d. Pattern IV: $_{CP}$ [... negative V+a negative V+a]
 (Where a stands for the suffixes such as *-kena/ -tun(ci) / -tun(ka)*)

Though Lee (2011) claims that only (7b) is a possible sequence of the VSR, we need to check whether his claim is tenable or not.

As mentioned above, the VSR can occur as a clausal complement headed by the verbs such as *kwansimeps-* ‘don’t care’. Specifically, such verbs subcategorize for an NP subject and a the VSR clausal complement. Note that the CRV clausal complement named by Lee (2011), however, is not necessarily restricted to be the patterns of the VSR in (7) since a VSR clause with the suffix may contain a single verb or more than two verbs as shown in (8).

- (8) a. [Marcia-ka mwuess-ul ha-**tun**], na-un kwansim-epsta.
 M-Nom what-Acc do-Suf I-Top care-Neg
 ‘Whatever Marcia does, I don’t care.’
 b. [Marcia-ka ca-**tun** nol-**tun** kongpwuha-**tun**], na-nun
 M-Nom sleep-Suf play-Suf study-Suf, I-Top
 kwansim-epsta.
 care-Neg
 ‘Whether Marcia sleeps or plays or studies, I don’t care.’

However, we limit ourselves to treat the patterns in (7) in this paper.

According to Lee (2011), all patterns in (7) cannot be allowed except (7b). To see if it is true, we check the patterns in (7) one by one. As for the Pattern I in (7a), the sequence consisting of two affirmative verbs appears to be well-formed as in (9). If the following repeated verb copies the exactly same form of the preceding verb, it will be ill-formed as in (10).

- (9) [Tangsin-i pap-ul **mek-tun chemek-tun/capsusi-tun**],
 You-Nom rice-Acc eat-Suf eat-Suf/eat-HON-Suf
 na-nun sangkwan an-hay-yo
 I-Top care Neg-do-Decl
 ‘Whether you eat rice or not, I don’t care.’

- (10) *[Tangsin-i pap-ul **mek-tun mek-tun**],
 You-Nom rice-Acc eat-Suf eat-Suf

In other words, the repetition of affirmative forms is allowed if the repeated verbs are distinct morphologically though their semantic relation is identical. In (9), though *mek-* and *capsusi-* (or *chemek-*) have the identical semantic relation, 'eat', they are distinguished by the morphological form. Hence, Pattern I is basically possible unless the repeated verbs are morphologically identical.

As for Pattern II, sentence (11), where the affirmative form of the repeated verbs is followed by the negative form, is grammatical.

- (11) Ney-ka hakkyo-ey ka-tunka kaci anh-tunka,
 You-Nom school-Loc go-Suf go Neg-Suf
 na-nun sangkwan an-hay.
 I-Nom care Neg-do-Decl
 'Whether you go to school or not, I don't care.'

Lee (2011) also has argued that only this pattern can be a well-formed sequence of the repeated-verbs in the VSR construction. So there is no discrepancy in grammaticality at least on this pattern.

The Pattern III stands for the VSR construction in which the preceding verb with a negative appears immediately before the following affirmative verb. Against Lee's claim, we can find sentences like (12) belonging to the Pattern III in terms of *Hanmaru Search Engine of 21 Sejong Project*.

- (12) An-pwa-essten mwuncey i-tun pwa-essten mwuncey i-tun,
 Neg-sa problem be-Suf saw problem be-Suf
 (na-nun) sangkwan eps-e.
 (I-Top) care Neg-Decl
 'Whether you have seen this question or not, I don't care.'
 (6CM00002)

This means that verbs with a negative can be allowed to precede affirmative verbs.

Similarly, sentences like (13) belonging to the Pattern IV, in which the sequence

consists of the repetition of verbs with a negative, also can be found in terms of *Hanmaru Search Engine of 21 Sejong Project*, which means they are acceptable in Korean.

- (13) [**An**-hanunke-tun **mos**-hanunke-tun], nay-ka alke mwe-ya.
 Neg-do-Suf Neg-can do-Suf I-Nom know what-Decl
 ‘Whether he/she doesn’t want to do it or can’t do it, I don’t care.’
 (6CM00054)

It is important to note that when both verbs in the VSR have a negative, the two negatives should be different. That is, the negatives of the two verbs in (13) are different from each other, namely *an-* and *mos-* and thus it is grammatical². On the other hand, if the negative form is the same, it is ungrammatical as follows:

- (14) *[**An**-hanunke-ten **an**-hanunke-ten], nay-ka alke mwe-ya.
 Neg-do-Suf Neg-can do-Suf I-Nom know what-Decl
 ‘Whether he/she doesn’t want to do it, I don’t care.’

Accordingly, the occurrence of two negative verbs in the VSR is acceptable only if the negative affixes have different negative forms.

We have, so far, demonstrated that the four sequence patterns of the repeated-verbs in the VSR construction are empirically possible by presenting the attested data above. The findings throughout the observations are summarized as follows:

- (15) Properties of the VSR construction on Verb-Sequence Patterns³
- A. The verbs in the VSR can freely occur either in the preceding position or in the following one regardless of their Neg value so long as they share the same verbal suffix form.
 - B. When affirmative verbs repeat, they should have different morphological

² In this paper, we assume that the short-form negations, *an-* and *mos-*, can be distinguished in that *an-* has SN 1 while *mos-* has SN 2 in the Morphology in the lexicon (cf. Cho & Lee, 2001).

³ Instead of (15B) and (15C), where they specify that the morphological form of the two verbs should be distinct, we may declare that the two verbs should exhibit a sort of semantic contrasts. However, we will not pursue this issue in this paper.

forms.

C. When negative verbs repeat, negative affixes should be different.

2.2 The Characteristics of *Mal-* in the VSR

Another controversial issue that we have to consider is the characteristics of *mal-* in the VSR construction. As for the verb *mal-*, Lee (2011) suggests that *mal-* can be realized either by the operation “copy & delete” (cf. Chomsky, 1993, Nunes, 2004, etc.) or by substituting (cf. Chung, 2007) the repeated verb in the VSR. If we take the former operation to produce *mal-* in the following verb position of the VSR, the string, *ka-tunka mal-tunka*, can be derived from the string, *ka-tunka kaci-mal-tunka*, in terms of “copy and delete” as shown in (16).

- (16) ka-tunka kaci-mal-tunka → ka-tunka ~~kaci~~ mal-tunka → ka-tunka
 Go-Suf go-not-Suf go-Suf not-Suf go-Suf
 mal-tunka
 not-Suf
 ‘Whether (you) go or not’ (Lee, 2011: 238)

This process appears to be plausible but it faces a difficulty deriving (17a) because its input string in (17b) is ill-formed.

- (17) a. Ku yeca-ka yeypu-tunci **mal-tunci**
 The woman-Nom pretty-Suf not-Suf
 ‘Whether she is pretty or not’
 b. *Ku yeca-ka yeypu-tunci **yeypuci-mal-tunci**
 The woman-Nom pretty-Suf pretty-not-Suf
 ‘Whether she is pretty or not’

On the other hand, if we choose the substitution operation to get *mal-* in the VSR, the process can be sketched as follows:

- (18) ka-tunka an-ka-tunka → ka-tunka ~~an-ka~~-tunka → ka-tunka

Go-Suf	Neg-go-Suf	go-Suf	-Suf	go-Suf
mal-tunka				
not-Suf				
‘Whether (you) go or not’			(Lee, 2011: 243)	

In this process, the essential point is that *mal-* is replaced with *an-ka-* which can be schematized as [Neg + repeated V]. If so, the following question immediately follows: Can the input for each result form be easily determined? In other words, it is unclear how the string, *an-ka-tunka mal-tunka*, can be derived, assuming that this pattern is well-formed. In short, this analysis also seems to undergo difficulties deciding the counterpart input strings.

In fact, there appears to be a consensus on the fact that since the auxiliary (AUX) verb *mal-* selects an active verbal complement with the suffix *-ci*, the strings including an active verb like *mek-ci malta* ‘do not eat’ are predicted to be well-formed, whereas those containing a non-active verb like **yeyppu-ci malta* ‘is not pretty’ are not. The status of the *mal-* in the VSR, however, is unclear. In that sense, the ‘copy & delete’ approach adopts the idea that *mal-* behaves exactly like the AUX mentioned above and consequently fails in explaining the *mal-* in the VSR construction as in (17b). Admitting that the AUX *mal-* might be different from that in the VSR, Lee (2011) suggests the idea that the latter should be a substitution form for [Neg + repeated V]. But as mentioned previously, this solution also seems to be hard to provide the input strings for *an-ka-tunka mal-tunka*, because the conjectured input strings for it must be the unnatural one, **/an-ka-tunka an-an-ka-tunka*. Throughout reviewing the demerits of the two approaches to *mal-*, we can observe that the AUX *mal-* syntactically behaves differently from the *mal-* in the VSR. In addition to the different syntactic behaviors, we propose that the AUX in *V-ci malta* semantically means to stop or deny the event referred to by the preceding verb while that of *mal-* in the VSR means to refer to all the events except for that referred to by the preceding verb (cf. Jang, 2003).

On the basis of the observations above, we conclude that there are at least two different functions of ‘*mal-*’ in Korean: *mal-1* and *mal-2*. The characteristics of the *mal-*s are summarized as follows:

(19)	Form	Meaning
<i>Mal- 1</i>	<i>V-ci mal</i> [+Neg]	to stop or deny the event referred to by the preceding verb
<i>Mal- 2</i>	<i>V-a mal-a</i> [β Neg][β Neg]	to refer to all the events except for that referred to by the preceding verb
(Where a stands for suffixes such as <i>-tunci</i> and β, the value of Neg.)		

As shown in (19), unlike Lee (2011), the *mal-2* in the VSR semantically does not deliver the message of denying the event referred to by the preceding verb. Rather, it refers to all the events except for that referred to by the preceding verb. Thus, we conclude that the meaning of the VSR essentially is the list of events referred to by the repeated verbs in the construction.

2.3 The Distributional Behaviors of NPIs in the VSR

It is common that NPIs such as *amwuto* must occur with a negative within a clause. In other words, there is a Clause-mate Constraint between NPIs and a negative as follows:

- (20) a. Na-nun amwuto an-mannass-ta.
 I-Top none Neg-met-Decl
 ‘I didn’t meet anyone.’
 b. *Na-nun amwuto mannass-ta.
 I-Top none met-Decl
 (Intended) ‘I didn’t meet anyone.’

Sentence (20a) is grammatical because the NPI, *amwuto*, and the negative verb, *an-mannass-ta*, co-occur within a clause whereas (20b) is ungrammatical since there is no negative verb within the clause.

Assuming that the VSR clause is not bi-clausal but mono-clausal, Lee (2011) claims that NPIs cannot appear in the VSR construction based on the fact that (21a-b) are all ungrammatical.

- (21) a. *[Ney-ka amwuto manna-tunka an-manna-tunka],

- You-Nom none meet-Suf Neg-meet-Suf
 b. *[Ney-ka amwuto manna-tunka mal-tunka],
 You-Nom none meet-Suf stop-Suf
 (Intended) ‘Whether you did meet someone or didn’t meet
 someone’ (Lee, 2011:245)

According to Lee (2011), the NPI, *amwuto*, cannot appear with an affirmative verb so that both examples in (21) are predicted to be ungrammatical. Thus, the Pattern I and II in (7), where the preceding verb is affirmative, are correctly predicted to be ungrammatical. However, the fact that the Pattern III and IV, in which the preceding verb contains a negative, are possible cannot be explained under his analysis, since he regards such patterns as ill-formed.

To see whether sentences with NPIs belonging to the Patterns III and IV can be grammatical or not, we need to consider the following sentence, which belongs to the Pattern III, i.e. [negative V+α affirmative V+α] .

- (22) ??[Ku phathi-ey **amwuto** **an-o-tunci** o-tunci]
 The party-Loc none Neg-come-Suf come-Suf
 na-nun sangkwan an-hay.
 I-Top care not-do
 ‘Whether no one comes to the party or someone comes, I don’t care.’

As shown in the interpretation of (22), the sentence can be understood only when the VSR clause is interpreted as to whether no one comes to the party or someone comes. Specifically, we cannot get any reading in such a way that the agent of the following affirmative verb, *o-tunci*, is the NPI, *amwuto*. Hence, we suggest that sentence (22) is not possible, which does not mean all Pattern III sentences are impossible.

Though the sequence in (23), *an-o-tunci mal-tunci*, is a case of Pattern III, they can occur with the NPI as follows:

- (23)=(6) [Ku phathi-ey **amwuto** **an-o-tunci** mal-tunci]
 The party-Loc none Neg-come-Suf stop-Suf
 na-nun sangkwan an-hay.

I-Top care not-do
 ‘Whether no one comes to the party, I don’t care.’

To account for the grammatical difference between (22) and (23), we propose that though the preceding verb and the following one of the VSR basically may have a bi-clausal structure or constitute a syntactic compound, the two verbs with different NEG values like (22) should be analyzed as a bi-clausal structure only while the preceding verb and the *mal-2* like (23) constitute a syntactic compound only.

If this proposal is adopted, the grammatical differences between the two follow: (22) is predicted to be ungrammatical because (22) constituting as bi-clausal structure violates the Clause-mate Constraint. The only chance we can get a reading from (22) is to construe the agent of the following affirmative verb as *pros* like *nwu-ka* ‘someone’ in the bi-clausal structure. On the other hand, (23) is correctly predicted to be grammatical because the preceding negative verb and *mal-2* constitute a syntactic compound so that the NPI and the negative verb co-occur within a clause, resulting in observing the Clause-mate Constraint.

Lastly, it seems to be possible that NPIs can appear in the sentences of Pattern IV, where the VSR consists of two negative verbs as in (24).

(24) [Ku phathi-ey **amwuto** **an-o-tunci** **mos-o-tunci**]
 The party-Loc none Neg1-come-Suf Neg2-come-Suf
 na-nun sangkwan an-hay.
 I-Top care not-do
 ‘Whether no one comes or can’t come to the party, I don’t care.’

Sentence (24) is possible because they observe the Clause-mate Constraint regardless of whether the NPI and the two negative verbs can form a syntactic compound or the two negative verbs constitute a bi-clausal structure.

3. A Constraint- and Construction-based Analysis

3.1 Implementing the Generalizations on the VSR into HPSG

We claim that the verbs in the VSR can freely occur either in the preceding position or in the following one regardless of their NEG value as long as they share the same verbal suffix forms such as *-tun(ka)*. Furthermore, NPIs may occur within the VSR construction if they occur with a negative predicate within the same clause. To support our claim, we have provided various properties of the VSR construction especially as to the possibilities of the occurrence of the verbs in the construction with respect to the NEG value, the characteristics of *mal-* and the distributional behaviors of NPIs in the VSR in the previous section. In so doing, we could observe the idiosyncratic properties of the VSR construction on verb-sequence patterns in (15), two different types of the verb *mal-* in (19), and the distributional behaviors of NPIs with respect to the CRV patterns in (7).

To implement such observations into current HPSG, we need to postulate a construction rule for the VSR and a few lexical constraints on *mal-*, assuming the Clause-mate Constraint so as to deal with distributional behaviors of NPIs. Specifically, we posit two different lexical entries for *mal-* as follows:

(25) *mal-*1:

$$\langle mal-, \left[\begin{array}{l} \text{SYN} \left[\begin{array}{l} \text{HEAD} \left[\begin{array}{l} \text{POS } verb \\ \text{VFORM } \alpha \\ \text{AUX } + \\ \text{NEG } + \end{array} \right] \\ \text{VAL} \left[\begin{array}{l} \text{SPR } \langle [1]NP \rangle \\ \text{COMPS } \langle [2]V \left[\begin{array}{l} \text{VFORM } -ci \\ \text{SPR } [1] \\ \text{SEM } | \text{INDEX } S_1 \end{array} \right] \rangle \end{array} \right] \end{array} \right] \\ \text{ARG} - \text{ST } \langle [1], [2] \rangle \\ \text{SEM} \left[\begin{array}{l} \text{MODE } prop \\ \text{INDEX } S_0 \\ \text{RESTR } \langle \left[\begin{array}{l} \text{RELN } stop \\ \text{ARG } S_1 \\ \text{SIT } S_0 \end{array} \right] \rangle \end{array} \right] \end{array} \right] \right] \rangle$$

(26) *mal-2*:

$$\langle mal-, \left[\begin{array}{l} \text{SYN} \left[\begin{array}{l} \text{HEAD} \left[\begin{array}{l} \text{POS } verb \\ \text{VFORM } \alpha \\ \text{AUX } + \\ \text{MC } - \\ \text{NEG } \beta \end{array} \right] \\ \text{VAL} \left[\begin{array}{l} \text{SPR } \langle \mathbb{I}NP \rangle \\ \text{COMPS } \langle \mathbb{I}V \rangle \end{array} \right] \left[\begin{array}{l} \text{VFORM } \alpha \\ \text{NEG } \beta \end{array} \right] \\ \text{VAL} \left[\begin{array}{l} \text{SPR } \langle \mathbb{I} \rangle \\ \text{SEM } \mid \text{INDEX } S_1 \end{array} \right] \end{array} \right] \end{array} \right] \right] \rangle$$

$$\left[\begin{array}{l} \text{ARG} - \text{ST } \langle \mathbb{I}, \mathbb{I} \rangle \\ \text{MODE } prop \\ \text{INDEX } S_0 \\ \text{SEM} \left[\begin{array}{l} \text{RESTR } \left\langle \begin{array}{l} \text{RELN } be - listed \\ \text{ARG } \forall S \vee \neg S_1 \\ \text{SIT } S_0 \end{array} \right\rangle \end{array} \right] \end{array} \right]$$

The fact that the AUX *mal-1* with [NEG +] subcategorizes for a verbal complement whose verbal form is *-ci* is specified in the SYN(TAX) in (25). In addition, the SEM(ANTIC) part describes the lexical meaning of *mal-1*, which is to stop the event referred to by the preceding verb. On the other hand, the fact that *mal-2* selects its preceding verb with the same suffix, sharing with the same NEG value, is specified in the SYN of (26). The SEM value in (26) represents the meaning of *mal-2*, which is to refer to all the events except for that referred to by the preceding verb⁴.

In order to generate the VSR construction, we postulate the following so-called “VSR construction” rule:

⁴ The intended meaning of the notation, $\forall S \& \vee \neg S_1$ in (26), is the list of all situations except for the situation the preceding verb refers to. This lexical entry in (26) may be merged into *mal-1* in (25), which means the two types can be a lexical entry, *mal-*. However, for readers' readability, we assume there are two lexical entries for *mal-* in this paper.

(27) **The VSR Construction Rule (A Syntactic Compound Rule)**⁵

$$V \left[\begin{array}{c} \text{HEAD} \left[\begin{array}{c} \text{VFORM } \alpha \\ \text{NEG } \beta \end{array} \right] \\ \text{VAL } \boxed{} \end{array} \right] \rightarrow V \left[\begin{array}{c} \text{HEAD} \left[\begin{array}{c} \text{VFORM } \alpha \\ \text{NEG } \beta \end{array} \right] \\ \text{MORPH } \mid \text{STEM } \gamma \\ \text{VAL } \boxed{} \end{array} \right] \quad V \left[\begin{array}{c} \text{HEAD} \left[\begin{array}{c} \text{VFORM } \alpha \\ \text{NEG } \beta \end{array} \right] \\ \text{MORPH } \mid \text{STEM } \delta \\ \text{VAL } / \boxed{} \end{array} \right]$$

(Where $\alpha \in \text{-kena, -tun}(ci), \text{tun}(ka)\dots$)

The VSR rule enables us to get a syntactic compound. The VSR, however, in which it does not satisfy the constraints in (27), can be regarded as a bi-clausal structure. In this case, the bi-clausal structures can be generated in terms of the Coordination Rule in HPSG.

As for the Clause-mate Constraint, we assume that we have an informal syntactic constraint as follows:

(28) **The NPI Clause-mate Constraint** (Informal Version)

NPIs as a functor in the *head-functor* structure select a head with [NEG +] within a clause.

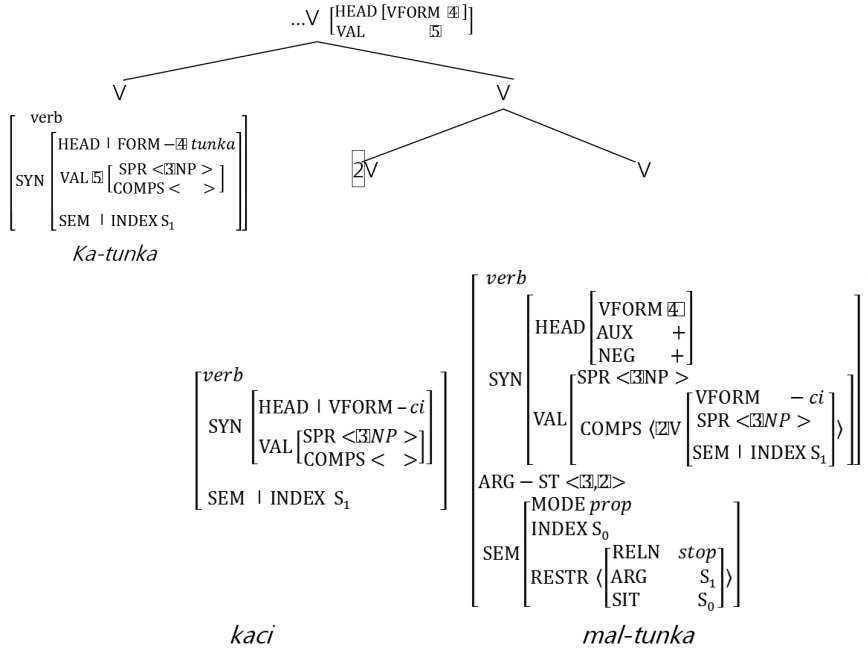
This constraint will work properly if NPIs occur with a head verb (phrase) with [NEG +] in a local tree, i.e. a *head-functor* structure. Otherwise, the clause with NPIs is ruled out.

3.2 How Our Analysis Works

Once these tools are adopted in HPSG, the properties of the VSR construction can be sufficiently accounted for. To prove it is so, we demonstrate how our theory analyzes the VSR construction with a few examples in this section.

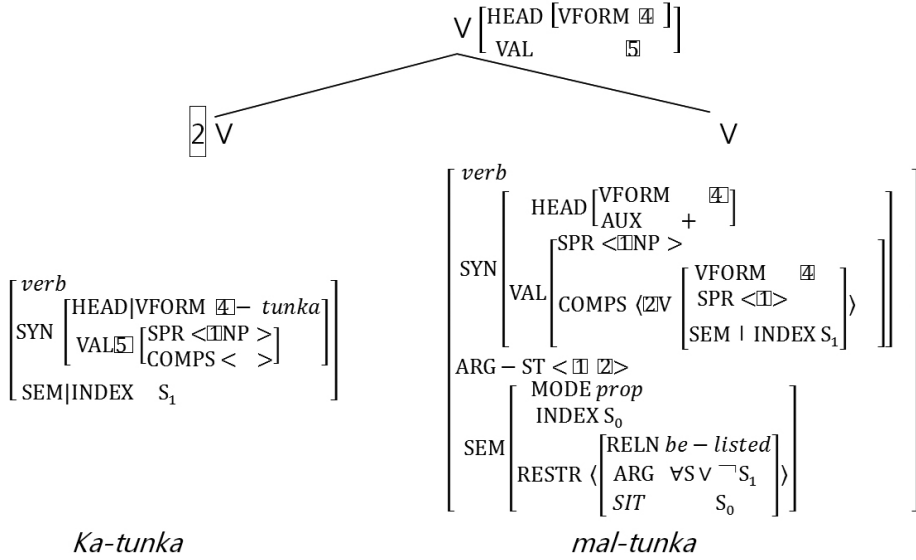
First of all, we already have proposed that there are two *mal*-s in Korean, namely *mal*-1 in (25) and *mal*-2 in (26). Under this theory, the *mal*-1 in *ka-tunka kaci mal-tunka* ‘whether (you) go or not’ can be represented as in (29).

⁵ As mentioned in the note 2, the semantic contrast or salient factors can be specified in the two daughters in the SEM part, instead of specifying two different STEM values in the MORPH. The notion / in front of 1 refers to ‘default’ value.

(29) *ka-tunka kaci mal-tunka*

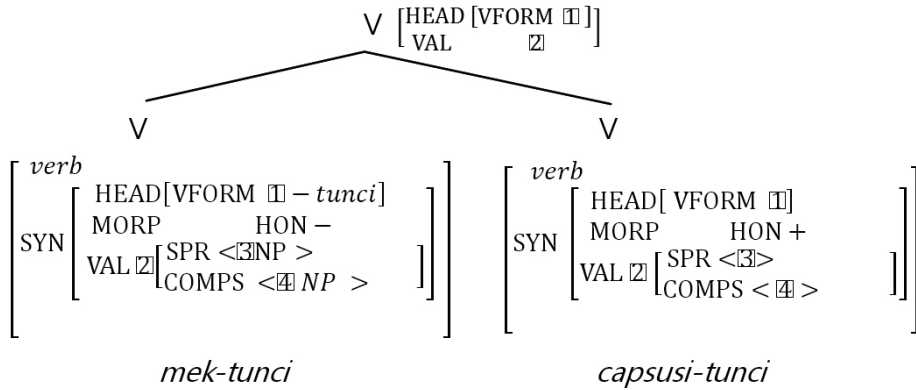
The AUX verb, *mal-tunka*, in the bottom part of the tree configuration is realized in accordance with the lexical information in (25) and the Vs in the top local tree all share with the suffix α , i.e. VFORM *tunci-*, in terms of the VSR rule in (27). Hence, the strings *ka-tunka kaci mal-tunka* are predicted to be well-formed.

The strings with the verb *mal-2* in *ka-tunka mal-tunka* also are predicted to be well-formed as shown in (30) because the two verbs, *ka-tunka* and *mal-tunka*, constitute a syntactic compound in terms of the VSR rule and the realized AVM for *mal-tunka* is guaranteed by the lexical information of *mal-2* in (26).

(30) *ka-tunka mal-tunka*

So far, we have shown how our theory can distinguish the sentences with *mal-1* from those with *mal-2* by presenting the two tree diagrams above.

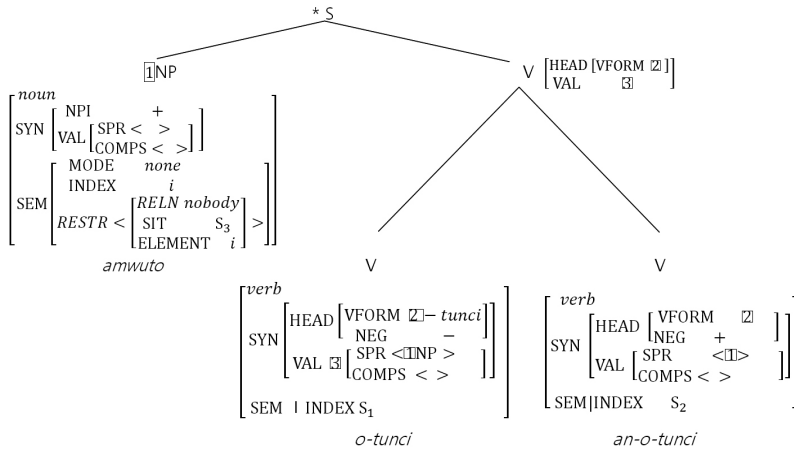
From now on, we are going to show how this theory can analyze the four patterns of the VSR construction with or without an NPI. The example sentence of Pattern I is *Tangshin-i pap-ul mek-tun capsusi-tun na-nun sangkwon an-hay-yo* in (9). The partial representation of (9) is as follows:

(31) *mek-tun capsusi-tun*

This pattern involving two repeated verbs is possible only when they are morphologically different. The two verbs in the sentence, *mek-tun* and *capsusi-tun*, have different morphological forms due to the HON(orific) value though the meanings of the two are similar. In addition, the local tree in (31) is licensed by the VSR rule. Thus, this analysis correctly predicts the sentences belonging to the Pattern I to be allowed.

The Pattern II of the VSR exhibiting the sequence [affirmative verb+a negative verb+a] is possible but that with NPIs is impossible. The impossibility of the Pattern II with NPIs just follows under this analysis. The tree configuration in (32) is the representation of the strings, *amwuto o-tunci an-otunci* ‘whether anyone comes or not’, which belong to the Pattern II.

(32) *amwuto o-tunci an-otunci*



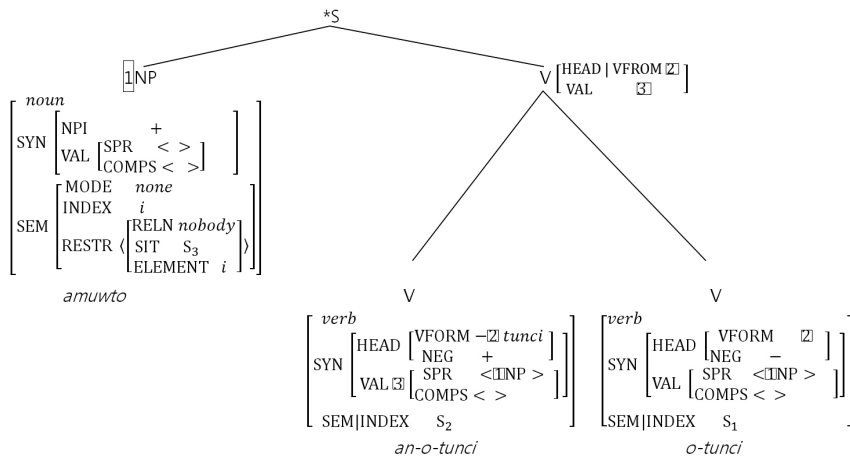
The local tree in the bottom part cannot be licensed by the VSR syntactic compound rule due to the fact that the two verbs do not share the same NEG value. The strings even in the bi-clausal structure are predicted to be ungrammatical because the co-occurrence of the NPI with an affirmative verb violates the Clause-mate Constraint in (28) in the first CP.

Pattern III of the VSR exhibiting the sequence [negative verb+a affirmative verb+a] may have two types: the first type consists of the negative verb and its repeated verb without a negative as in (33), and the second comprises of the

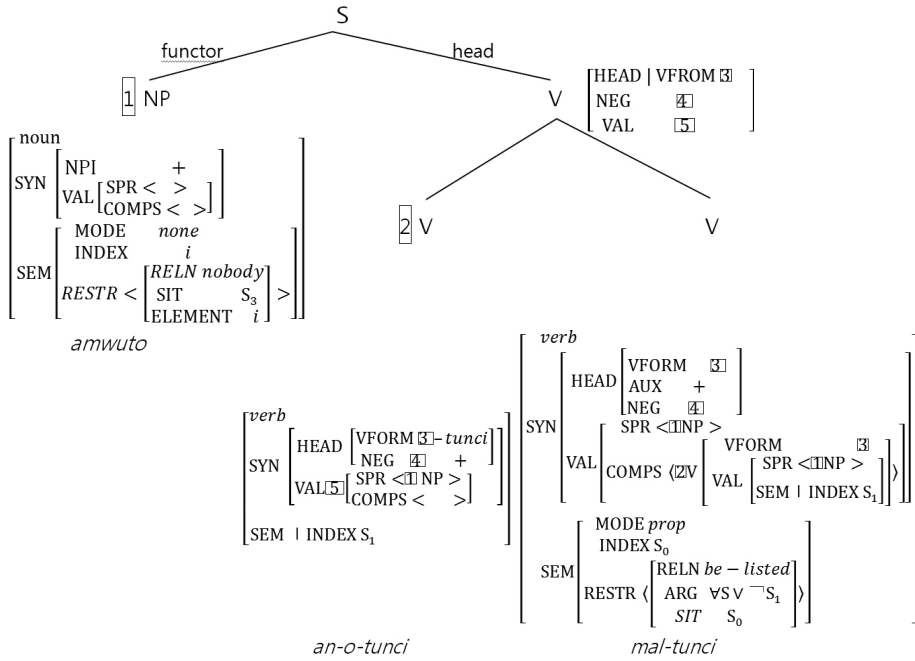
negative verb and *mal-2* as in (34).

The strings like *amwuto an-o-tunci o-tunci* as the first type of Pattern III with an NPI can be represented as shown in (33). Similar to Pattern II, because of the fact that the two daughters have different NEG values, the strings cannot constitute a syntactic compound by the definition of VSR Rule in (27). In a bi-clausal structure, they are impossible since the NPI and the affirmative verb in the final CP do not co-occur in terms of the Clause-mate Constraint.

(33) *amwuto an-o-tunci o-tunci*

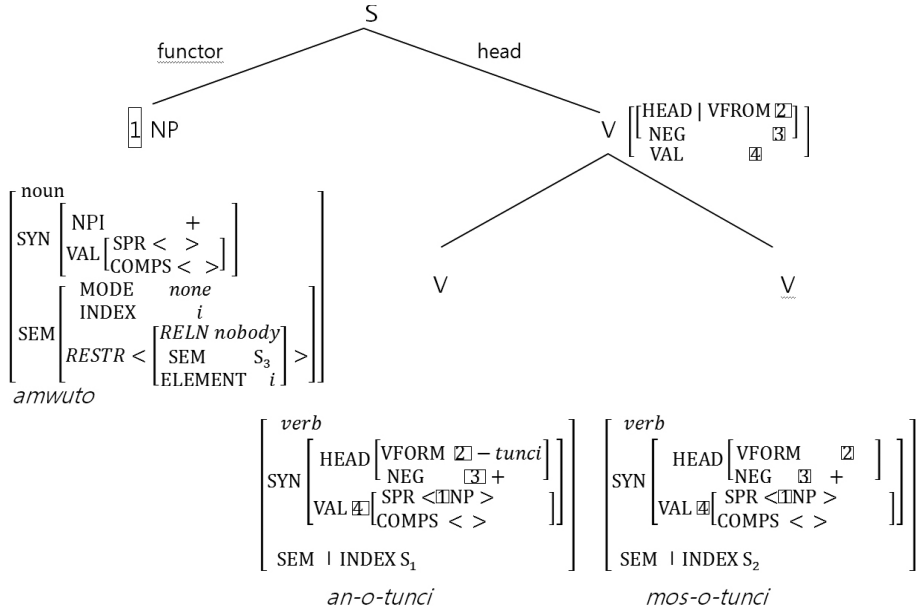


On the other hand, the strings like *amwuto an-o-tunci mal-tunci* as the second type of the Pattern III with an NPI can be represented as follows:

(34) *amwuto an-o-tunci mal-tunci*

The strings, *amwuto an-o-tunci mal-tunci*, are possible under this analysis. The local tree in the bottom part is licensed as a syntactic compound in terms of the VSR rule and the lexical information of *mal-2*. Since the NEG value of the mother in the local tree is positive (+), the NPI in the top local tree of the clause satisfies the Clause-mate Constraint. Hence, the strings are well-formed.

Finally, the strings for Pattern IV with an NPI, *amwuto an-o-tunci mos-o-tunci*, are also well-formed. Under our analysis, they are represented as follows:

(35) *amwuto an-o-tunci mos-o-tunci*

When the NPI occurs with the two negative verbs in a bi-clausal structure, the strings are predicted to be well-formed because the NEG value of each verb is positive so that they can observe the Clause-mate Constraint. In a syntactic compound, the strings are also regarded as legal since both negative verbs share the same NEG value, +.

4. Conclusion

There are various Verbal Suffix-Repetition constructions in Korean, where suffixes such as *-kena/ tun(cu)/ tun(ka)* are attached to the verbs. Functionally, this construction may appear either as an adjunct or as a CP complement headed by verbs like *kwansimeps-* ‘don’t care’. To account for the latter type of VSR construction, which is called CRV construction, Lee (2011) claims that the CRV behaves differently from the VSR construction functioning as an adjunct in that the CRV only allows Pattern II, which disallows any NPI within it.

Unlike Lee (2011), we claim that the verbs in the VSR can freely occur either

in the preceding position or in the following one regardless of their NEG value so long as they share the same verbal suffix forms such as *-tun(ka)*. Furthermore, NPIs may occur within the VSR construction if they occur with a negative within the same clause. To support our claim, we have provided various properties of the VSR construction especially as to the possibilities of the occurrence of the verbs in the construction with respect to the Neg value, the characteristics of *mal-* and the distributional behaviors of NPIs in the VSR. In doing so, we could observe the idiosyncratic properties of the VSR construction on verb-sequence patterns in (13), two different types of the verb *mal-* in (15), and the distributional behaviors of NPIs with respect to the VSR patterns in (7). On the basis of the observations, we have proposed the two lexical entries for *mal-* in (25) and (26), the VSR Construction Rule as a syntactic compound rule in (27), and the Clause-mate Constraint in (28) in current HPSG. We have shown that given these tools, the idiosyncratic properties of the VSR constructions are sufficiently accounted for under this constraint- and construction-based approach.

In fact, our analysis can be extended to analyze the VSR functioning as an adjunct without any additional tools. In conclusion, we suggest that the CRV should be merely a subtype of the VSR construction in Korean. We believe that the constraint- and construction-based analysis can be a desirable solution to give precise explanations for various complex constructions.

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