
Case Marking in Korean Auxiliary Verb Constructions

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21.1 Introduction

This paper deals with case marking in auxiliary verb constructions (AVCs) in Korean, and investigates how the case marking pattern in AVCs can be explained in terms of structural case resolution in the spirit of Pollard 1994, Heinz & Matiassek 1994, and Przepiórkowski 1999. There have been numerous studies on the theory of case marking in Korean, including Kang 1986, Kim, Y.J. 1990, Hong 1991, Lee 1992, Chung 1994, and Lee 1994. There also have been many works on the structure of Korean AVCs (Cho 1988, Kim, M.K. 1990, No 1991, Sells 1991, 1998, Chung 1993, Kang 1998). Yet it has not been attempted to examine diverse case marking patterns that arise from various combinations of auxiliary verbs. Previous analyses have been focused on simple case alternation phenomena with the auxiliary verb *siph-* ‘want’ (Gerdtts & Youn 1989, Chang & Cho 1991, and Kim & Maling 1996) and many claim that such case alternation is caused by structural ambiguity that the *siph-* construction exhibits. Within the HPSG framework, Yoo 1993 and Bratt 1996 discuss the basic mechanism of case marking in AVCs under the assumption that auxiliary verbs combine with a main verb to form a complex predicate (Chung 1993,1998).

In this paper, a new set of data involving various combinations of auxiliary verbs is presented to point out problems for both transformational analyses based on head movement and previous HPSG analyses in which the final auxiliary verb solely determines the case of the complements of the whole complex predicate. This paper shows that while most auxiliary verbs “inherit” the case marking property of

the preceding verb, the auxiliary verbs *siph-* ‘want’ and *ha-* ‘act like’ have an additional property of assigning nominative and accusative case, respectively, to their complements. The actual case assignment by these auxiliary verbs is made possible, however, depending on what other kind of auxiliary verbs they are combined with. Based on the complex predicate analysis of AVCs, this paper proposes that complicated case patterns in AVCs can be accounted for by classification of verbs/auxiliary verbs via distinct feature values and by the mechanism of structural case resolution.

21.2 Case in Auxiliary Verb Constructions

AVCs in Korean are formed with a main verb followed by one or more auxiliary verbs.

- (1) a. *Nay-ka sakwa-lul mek-nun-ta.*
I-NOM apple-ACC eat-PRES-DECL
‘I eat an apple.’
- b. *Nay-ka sakwa-lul mek-e po-ass-ta.*
I-NOM apple-ACC eat do.as.a.try-PST-DECL
‘I tried to eat an apple.’
- c. *Nay-ka sakwa-lul mek-e po-ci anh-key*
I-NOM apple-ACC eat do.as.a.try not
toy-ess-ta.
come.to-PST-DECL
‘(Lit.) I came to not try to eat an apple.’

When an auxiliary verb combines with a verb or another auxiliary verb, it requires a particular verbal ending on the preceding predicate. This is shown in (2), which lists auxiliary verbs that may combine with transitive verbs and are used in relatively high frequency. (Cf. Nam & Ko 1993, Seo 1994, Kim 1996, Sohn 1996, Kang 1998.)

- (2) Auxiliary verbs in Korean
- a. *-e/a* : *po-* ‘try, do as a try’, *cwu-* ‘do as a favor’, *noh-* ‘do in advance’, *twu-* ‘do in advance’, *chiwu-* ‘do resolutely’, *pe-li-* ‘do completely’, *tay-* ‘do repeatedly’, *nay-* ‘do thoroughly’, *ha-* ‘act like’ *ka-* ‘be getting’, *o-* ‘gradually come to/get’, *ci-* ‘come to’
- b. *-ko*: *siph-* ‘want’, *iss-* ‘be in the process of’, *na-* ‘have finished doing’, *mal-* ‘end up doing’
- c. *-ci*: *anh-* ‘not’

d. *-key: toy-* 'come to'

Moreover, each auxiliary verb has selectional restrictions on preceding predicates in terms of a syntactic category or semantics. For example, *cwu-*, *tay-*, *nay-*, and *iss-* do not combine with adjectives, and *noh-* and *twu-* do not combine with adjectives or intransitive verbs without cognate objects. While both *chiwu-* and *pe-* have a meaning associated with removal, *chiwu-* cannot combine with stative verbs with abstract objects (e.g., **al-a chiwu-ta* 'know resolutely'). (Cf. Kang 1998)

In AVCs, the complement NP(s) usually bear the case that the main verb would assign. This is illustrated by (1) and (3).

- (3) a. *Nay-ka paym-i mwusep-ta.*
I-NOM snake-NOM afraid-DECL
'I am afraid of a snake.'
- b. *Nay-ka paym-i mwusew-e ci-ess-ta.*
I-NOM snake-NOM afraid come.to-DECL
'(Lit.) I have become afraid of a snake.'
- c. *Nay-ka paym-i mwusep-ci anh-key toy-ess-ta.*
I-NOM snake-NOM afraid not come.to-DECL
'(Lit.) I have become not afraid of a snake.'

In (1b,c), accusative case assigned by the main verb *mek-* 'eat' is retained, while in (3b,c), nominative case assigned by the psych verb *mwusep-* 'afraid' is maintained.

On the other hand, when the auxiliary verb *siph-* 'want' is involved, case alternation between Acc and Nom is observed.

- (4) a. *Nay-ka sakwa-lul/sakwa-ka mek-ko siph-ta.*
I-NOM apple-ACC/apple-NOM eat want-DECL
'I want to eat an apple.'
- b. *Nay-ka sakwa-lul/sakwa-ka mek-e po-ko siph-ta.*
I-NOM apple-ACC/apple-NOM eat as.a.try want-DECL
'I want to try to eat an apple.'

Moreover, the auxiliary verb *ha-* 'act like', which is only attached to psych verbs, changes case marking of the preceding verb (No 1991).

- (5) *Nay-ka paym-ul mwusew-e ha-n-ta.*
I-NOM snake-ACC afraid act.like-PRES-DECL
'I am afraid of snakes.'

The auxiliary verb *ha-* also combines with *siph-* predicates and may affect the case of the main verb.

- (6) a. Nay-ka sakwa-lul/*sakwa-ka mek-ko siph-e
 I-NOM apple-ACC/apple-NOM eat want
 ha-n-ta.
 act.like-PRES-DECL
 ‘(Lit.) I act like wanting to eat an apple.’
- b. Nay-ka paym-ul/*paym-i mwusew-e-ha-ko
 I-NOM snake-ACC/snake-NOM afraid-act.like
 siph-ta.
 want-DECL
 ‘(Lit.) I want to act like being afraid of snakes.’

The examples in (4-6) show that the case of an NP complement in AVCs is not solely determined by the main verb, and suggest that the role of *siph-* and *ha-* in case marking should be examined. In the following section, we will review some previous analyses on these phenomena.

21.3 Previous Analyses

21.3.1 Derivational approaches

Chang & Cho (1991) propose that case alternation in *siph-* constructions and *ha-* psych predicate constructions can be accounted for by positing head movement of a main verb into a higher auxiliary verb. For the structure of AVCs, they assume that auxiliary verbs *siph-* or *ha-* take VP complements. Then they claim that head movement of a main verb is obligatory when the hosting auxiliary verb has no lexical meaning (e.g. *ha-* in (5)), and it is optional, otherwise (e.g. *siph-* in (4)). According to them, when head movement occurs, the case of the complement is determined by the host auxiliary verb. Thus a *siph-* predicate assigns Nom and a *ha-* predicate assigns Acc. However, this analysis posits many serious problems. Most importantly, this analysis yields multiple structures for most AVC examples, because head movement is optional when an auxiliary verb has a lexical meaning. Since almost all auxiliary verbs have some semantic content (probably including *ha-*), when more than one auxiliary verb appears, each of them has an option for head movement. Consequently, many different structures are possible for one sentence, even if there is no case alternation involved. Furthermore, it would wrongly predict that examples such as (1c) have case alternation, because when head movement occurs, the auxiliary verb *toy-* will be able to assign Nom as well. In addition, they cannot account for (6b), because both *mwusep-* and *ha-* may move to *siph-*, and the resulting *siph-* predicate may assign Nom to the complement.

Kim & Maling (1996) adopt a head movement approach to the *siph-*

construction as well. In their analysis, the *siph-* construction is structurally ambiguous: *siph-* takes an Asp(ect)P headed by *-ko* as its complement, and has an additional structure as a result of head movement. Their analysis is based on the following structural schema:

- (7) [[[[[[NP V₂]_{VP2} *-ko*]_{AspP2} *siph-*]_{VP1} Asp₁]_{AspP1} T]_{TP} Mood]_{MoodP}

According to them, when *-ko*, the head of a AspP, is [-complete], denoting an incomplete event, the main verb remains inside a VP and assigns Acc to its complement. On the other hand, when *-ko* is [0complete], denoting an unrealized event, head movement of a verb (V₂) occurs to form a verbal complex *V-ko-siph*. When a verbal complex with *siph-* is formed, V₂ is not associated with its own Aspect, so Acc is not assigned. Instead, Nom is assigned to the complement NP by the matrix Infl, due to the Nom assigning property of the complex predicate headed by *siph-*.

Kim & Maling argue for syntactic ambiguity of the *siph-* construction on two grounds. First, they argue that the two structures (i.e., without and with head movement) exhibit different behaviors with respect to coordination and gapping. Consider the following coordination example:

- (8) a. Cheli-nun pap-ul cis-ko ppallay-lul ha-ko
 Cheli-TOP rice-ACC cook-CONJ laundry-ACC do
 siph-ess-ta.
 want-PST-DECL
 ‘Cheli wanted to cook rice and do the laundry.’
- b. *Cheli-nun pap-i cis-ko ppallay-ka ha-ko
 Cheli-TOP rice-ACC cook-CONJ laundry-ACC do
 siph-ess-ta.
 want-PST-DECL
 ‘Cheli wanted to cook rice and do the laundry.’

They explain that while (8a) is an instantiation of a VP (or AspP) coordination, (8b) cannot be generated by coordination, since a nominative complement appears only when a verbal complex is formed via head movement. However, this cannot be strong evidence for structural ambiguity, because, if we assume that an untensed *-ko* clause (or VP) is an adjunct, following Kim (2000), (8) can be analyzed as involving an adjunct VP, rather than a coordinated structure. (Cf. Manning et al. 1999.)

- (9) a. Cheli-nun [pap-ul cis-ko] ppallay-lul ha-ko
 Cheli-TOP rice-ACC cook-CONJ laundry-ACC do
 siph-ess-ta.
 want-PST-DECL
 ‘Cheli wanted to cook rice and (then) do the laundry.’
- b. Cheli-nun ppallay-lul [pap-ul cis-ko] ha-ko
 Cheli-TOP laundry-ACC rice-ACC cook-CONJ do
 siph-ess-ta.
 want-PST-DECL
 ‘Cheli wanted to cook rice and then do the laundry.’

Example (9b) shows that the bracketed phrase in (9a) can be analyzed as an adjunct. Therefore, the ungrammaticality of (8b) can be accounted for regardless of head movement, because the sequence *pap-i cis-ko* can never form an adjunct phrase.

Another argument for the dual structure analysis comes from difference in scope of aspect/time adverbials. According to them, scopal difference occurs in (10), because, in (10a), there are two possible VPs to be modified, while in (10b) the adverbial only modifies the whole complex predicate.

- (10) a. Na-nun pamsay swul-ul masi-ko siph-ess-ta.
 I-TOP all.night liquor-ACC drink want-PST-DECL
 ‘To drink all night was my desire.’
 or ‘All night long, I had a desire to drink.’
- b. Na-nun pamsay swul-i masi-ko siph-ess-ta.
 I-TOP all.night liquor-NOM drink want-PST-DECL
 ‘All night long, I had a desire to drink.’
 Not available: ‘To drink all night was my desire.’
 (Kim & Maling 1996: 141)

However, scope ambiguity with aspect/time adverbials is not always correlated with structural ambiguity. For example, in (11), though it is not possible to posit two different constituent structures, the time adverbial still have two possible scope readings.

- (11) Emeni-ka ai-ekey ppalkan os-ul olay-tongan
 mother-NOM child-to red cloth-ACC long-during
 ip-hi-ess-ta.
 wear-CAUS-PST-DECL
 ‘Mother dressed the child with red dress for a long time.’
 or ‘Mother made the child wear red dress for a long time.’ (Bratt 1996:180)

More importantly, even in (10b), a slightly different word order allows narrow scope reading, as shown in (12).

- (12) Na-nun swul-i pamsay masi-ko siph-ess-ta.
 I-TOP liquor-NOM all.night drink want-PST-DECL
 ‘To drink all night was my desire.’ or ‘All night long, I had a desire to drink.’

Therefore, there is no convincing evidence that case alternation in *siph*-constructions should be accounted for in terms of structural ambiguity.¹

Kim & Maling’s analysis posits empirical problems as well. First, if *-ko* [0complete] triggers head movement of V resulting in a complex predicate *V-ko-siph*, it is not explained why Nom is also available in (13).

- (13) a. Nay-ka sakwa-lul/sakwa-ka mek-e po-ko
 I-NOM apple-ACC/apple-NOM eat have.a.try
 siph-ta.
 want-DECL
 ‘(Lit.) I want to have a try at eating an apple.’
 b. Na-nun sakwa-lul/sakwa-ka mek-e chiwu-ko
 I-NOM apple-ACC/apple-NOM eat do.resolutely
 siph-ta.
 want-DECL
 ‘I want to get through with eating an apple.’
 c. Na-nun Cheli-lul/Cheli-ka ttayli-e cwu-ko
 I-NOM Cheli-ACC/Cheli-NOM hit do.as.a.favor
 siph-ta.
 want-DECL
 ‘I want to hit Cheli.’

In (13a), for example, *po-ko* is incorporated with *siph-*, but cannot assign Nom to the complement of *mek-*, which is not part of the verbal complex.

Second, as Kim & Maling note, the sentences in (14) are left unexplained. (Kim & Maling 1996:165)

¹Sells (2002) independently argues that the Acc/Nom case on NP complement is not correlated to the different syntactic structures. He provides examples similar to (12), in which scope ambiguity is exhibited regardless the case marking on the complement, when the negation particle *an* ‘not’ or the event quantifier *cacwu* ‘often’ appears between the complement and the *siph-* complex predicate.

- (14) a. Na-nun paym-ul/*paym-i mwusewe-ha-ko
 I-TOP snake-ACC/snake-NOM afraid-act.like
 siph-ta.
 want-DECL
 'I want to be afraid of a snake.'
- b. Na-nun wuli cip-ul/*cip-i calangsulewe-ha-ko
 I-TOP our house-ACC/house-NOM proud-act.like
 siph-ta.
 want-DECL
 'I want to be proud of our house.'

Since they treat *ha-* as an affix, *mwusewe-ha-ko* and *calangsulewe-ha-ko* in (14) form a verbal complex with *siph-* respectively. Then it is unexplained why Nom cannot be assigned by the verbal complex. Furthermore, they cannot account for why case alternation does not occur in (15) in spite of formation of the verbal complex *mek-ko-siph-e-ha* via head movement of the main verb.

- (15) Nay-ka sakwa-lul/*sakwa-ka mek-ko siph-e-
 I-NOM apple-ACC/apple-NOM eat want
 ha-n-ta.
 act.like-PRES-DECL
 'I want to eat an apple.'

21.3.2 Non-derivational approaches

Within the framework of HPSG, Yoo (1993) and Bratt (1996) discuss the basic mechanism of case marking in Korean AVCs under the assumption that a main verb followed by an auxiliary verb forms a complex predicate (Chung 1993). Yoo assumes that Nom and Acc can be either lexically or structurally assigned in Korean. (Cf. Heinz & Matiasek 1994.) In Yoo (1993), case alternation with *siph-* is explained by two different lexical entries, one of which specifies lexical nominative case [lnom] on the complement. Furthermore, examples with psych verbs (e.g., (3a)) and their non-psych counterparts containing *ha-* (e.g., (5)) are accounted for by assuming that psych verbs assign lexical nominative case to their complements, while the *ha-* form verbs, which are derived from psych verbs, assign lexical accusative case, [lacc].

However, Yoo (1993) has a problem in more complicated examples. When *ha-* is analyzed as a [lnom] assigner, the example in (16) cannot be accounted for, since all the examples involving *ha-* are predicted to have accusative complements.²

²The same kind of problem arises in Chung (1998) that also assumes lexical

- (16) a. Ku-nun pam-i/*pam-ul twulyep-key toy-ko siph-e
 he-TOP night-NOM/night-ACC afraid become want
 ha-n-ta.
 act.like-PRES-DECL
 ‘(Lit.) He acts like wanting to become afraid of night.’
- b. Ku-nun ton-i/*ton-ul philyoha-ci anh-key toy-ko
 he-TOP money-NOM/-ACC need not come.to
 siph-e ha-n-ta.
 want act.like-PRES-DECL
 ‘(Lit.) He wants to come to be not in need of money.’

The examples in (16) will raise problems for Bratt (1996) as well, who assumes that structural case is basically determined by the [AG(ENTIVE)-PR(EDICATE)-SIS(TER)] value of the predicate. Following Kim, Y.J. (1990), Bratt assumes that predicates with agent subjects assign Acc to its complement, and those with non-agent subjects, Nom case. Therefore, in (16), the [AG-PR-SIS +] of *ha-* will wrongly predict that the complement is assigned Acc. Furthermore, in order to explain the case alternation with *siph-* in (4), *siph-* will have to be specified as [AG-PR-SIS ±]; however, this does not explain (17) as well as (14), in which no alternation is observed.

- (17) Ku-nun paym-i/*paym-ul muwsep-ci anh-key toy-ko
 he-TOP snake-NOM/snake-ACC afraid not become
 siph-ta.
 want-DECL
 ‘(Lit.) He wants to become not afraid of snakes.’

We take the case non-alternation in (16) to be crucial evidence that indicates that the complements of the complex predicates headed by *ha-* is neither always assigned structural accusative case by its [AG-PR-SIS +] property nor assigned lexical accusative case. Such unexpected case patterns cannot be simply accounted by the presence of *siph-* or *ha-*, and we will argue that they can receive a proper explanation when the preceding auxiliary verbs are taken into account.

21.4 More Facts on Case Marking with *Siph-*

In this section, we will consider more examples involving *siph-* to investigate what is responsible for unexpected non-alternation with *siph-*, and unexpected nominative case in *ha-* constructions. As shown in (4),

assignment of accusative case for *ha-*.

when *siph-* immediately follows a main verb that normally assigns Acc, case alternation occurs. However, when *siph-* is preceded by a main verb that normally assigns Nom, this does not happen. Although examples of this kind are not common, due to incompatibility of *siph-* with transitive psych verbs (e.g. *coh-* ‘like’), the following example with *toy-* exemplifies it:

- (18) a. Nay-ka tayphyo-ka toy-ess-ta.
I-NOM representative-NOM become-PST-DECL
‘I became a representative.’
- b. Nay-ka tayphyo-ka/*tayphyo-lul toy-ko siph-ta.
I-NOM representative-NOM/-ACC become want-DECL
‘I want to become a representative.’

Thus we cannot say that *siph-* has an intrinsic property of assigning both Nom and Acc case. Instead, it can be said that while *siph-* allows the main verb to maintain its case marking property, it may also have an additional property as a psych predicate that enables the complement of the *siph-* complex predicate to bear nominative case, which would take a Acc form otherwise.

What is more interesting is that when *siph-* follows another auxiliary verb, case alternation is not always exhibited, even if the main verb is an Acc assigner. Compare the case alternation examples with *siph-* in (19-20) with non-alternation ones in (21- 23).³

³The examples in (21-23) become more acceptable when the nominative complements receive (contrastive) focus. When the *-i/-ka* marked NPs receive focus, they get focus interpretations. The difference in interpretation with and without focus is clearly shown in examples like (ii).

- (i) a. ?Na-nun KU CIP-I (cengmallo) phal-ci anh-ko siph-ta.
‘It is the house that I want not to sell.’
- b. ?Na-nun (talun kakey mal-ko) SECEM-I wunyengha-key toy-ko siph-ta.
‘It is a bookstore that I want to get to run.’
- (ii) a. Na-nun sey haksayng-ul citoha-key toy-ko siph-ta.
I-TOP three student-ACC advise come.to want
‘I want to get to advise three students./ What I want is to get to advise three students.’
- b. Na-nun SEY HAKSAYNG-I citoha-key toy-ko siph-ta.
‘It is three students that I want to get to advise.’

While it is an interesting issue to pursue how to explain the function of *-i/-ka* as a focus marker, it is outside the scope of this research. See Yoon (2001) for some current discussion on case markers and their focus function.

- (19) a. Na-nun sakwa-lul/sakwa-ka mek-e po-ko
 I-NOM apple-ACC/apple-NOM eat do.as.a.try
 siph-ta.
 want-DECL
 'I want to try to eat an apple.'
- b. Na-nun sakwa-lul/sakwa-ka mek-e po-ko siph-ci
 I-NOM apple-ACC/apple-NOM eat do.as.a.try want
 anh-ta.
 not-DECL
 'I don't want to try to eat an apple.'
- (20) a. Na-nun Cheli-lul/Cheli-ka ttayli-e cwu-ko
 I-TOP Cheli-ACC/Cheli-NOM hit do.as.a.favor
 siph-ta.
 want-DECL
 'I want to hit Cheli.'
- b. Na-nun swukcey-lul/?swukcey-ka mili ha-y
 I-TOP homework-ACC/homework-NOM beforehand do
 twu-ko siph-ta.
 do.in.advance want-DECL
 'I want to get homework done beforehand.'
- c. Na-nun ipwul-ul/?ipwul-i phye-e noh-ko
 I-TOP bedding-ACC/bedding-NOM unfold do.in.advance
 siph-ta.
 want-DECL
 'I want to make the bed.'
- (21) a. Na-nun cip-ul/?*cip-i phal-ci anh-ko siph-ta.
 I-TOP house-ACC/house-NOM sell not want-DECL
 'I want not to sell a house.'
- b. Na-nun phyenci-lul/?*phyenci-ka ponay-ci anh-ko
 I-TOP letter-ACC/letter-NOM send not
 siph-ta.
 want-DECL
 'I want not to send a letter.'
- (22) a. Na-nun secem-ul/?*secem-i wunyengha-key
 I-TOP bookstore-ACC/bookstore-NOM run
 toy-ko siph-ta.
 come.to want-DECL
 '(Lit.) I want to get to run a bookstore.'

- b. Na-nun khemphyuthe-lul/?*khemphyuthe-ka sa-key
 I-TOP computer-ACC/computer-NOM buy
 toy-ko siph-ess-ta.
 come.to want-PST-DECL
 '(Lit.) I want to get to buy a computer.'
- (23) a. Nay-ka (kuttay-nun) ccikay-lul/*ccikay-ka
 I-NOM then pot.stew-ACC/pot.stew-NOM
 kkuli-ko iss-ko siph-ta.
 boil be want-DECL
 '(Lit.) I want to be boiling a pot stew (at that time).'
- b. Nay-ka (kuttay-nun) phiano-lul/*phiano-ka chi-ko iss-ko
 I-NOM then piano-ACC/piano-NOM play be
 siph-ta.
 want-DECL
 '(Lit.) I want to be playing the piano (at that time).'

In these examples, auxiliary verbs *anh-* 'not', *toy-* 'come to', and *iss-* 'be in the process of' show different patterns from other auxiliary verbs such as *po-* 'do as a try', *cwu-* 'do as a favor', *noh-* 'do in advance', *twu-* 'do in advance', *chiwu-* 'do resolutely', *pele-* 'do completely', *tay-* 'do repeatedly', and *nay-* 'do thoroughly' in case alternation with *siph-*.⁴Examining various combinations among auxiliary verbs, we observe that while the majority of auxiliary verbs such as *po-*, *cwu-*, *noh-*, *twu-*, *chiwu-*, *pele-*, *tay-*, and *nay-* do not affect case alternation when they are used before *siph-*, the auxiliary verbs *anh-*, *toy-*, and *iss-* prevent the complements of the main verbs from manifesting case alternation when they are followed by *siph-*.

The contrast between (19-20) and (21-23) has not been discussed in literature, and no previous analyses, whether derivational or non-derivational, can account for the difference. As will be discussed in section 5, we argue that there exist differences between the two groups of auxiliary verbs and it should be taken into account in case marking in AVCs.

Another environment in which case alternation does not occur is when *siph-* is followed by the auxiliary verb *ha-* 'act like' as in (24). Just as when *ha-* combines with simple psych verb (e.g., in (5)), if

⁴The informants that I consulted agreed with the contrast between (19-20) and (21-23), and my proposal is based on these judgments. However, it should be noted that minor revisions in my analysis can also account for the speakers who find no such contrast, if there are any.

siph- is followed by *ha-*, it loses the property as a psych predicate that licenses a nominative complement.

- (24) a. Nay-ka sakwa-lul/*sakwa-ka mek-ko siph-e
 I-NOM apple-ACC/apple-NOM eat want
 ha-n-ta.
 act.like-PRES-DECL
 ‘I want to eat an apple.’
- b. Nay-ka paym-ul/*paym-i mwusew-e ha-ko
 I-NOM snake-ACC/snake-NOM afraid act.like
 siph-ta.
 want-DECL
 ‘I want to be afraid of a snake.’

As shown in (24b), case alternation does not occur, even when a *ha-* predicate is followed by the psych verb *siph-*. Since it is an idiosyncratic property of *ha-* that it combines only with psych predicates and affect the case marking property of their complements, this kind of examples will have to be explained in terms of the lexical property of *ha-*.

21.5 The Proposed Analysis

21.5.1 Proposal

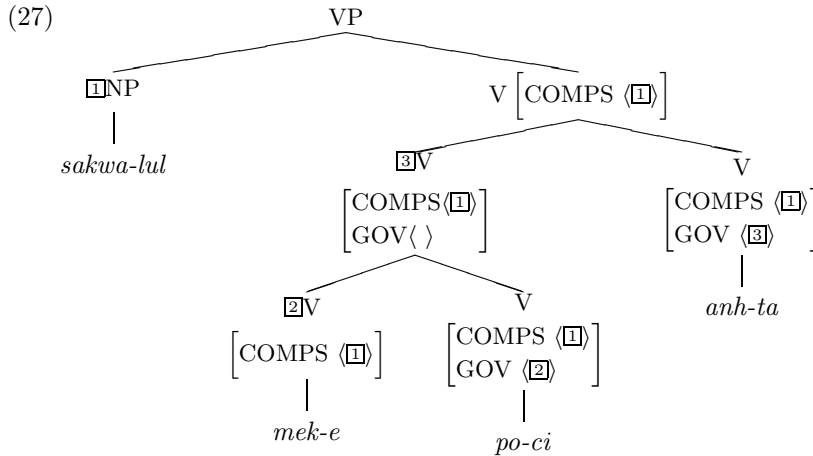
For the account of AVCs, we employ a complex predicate analysis of AVCs, following Hinrichs & Nakazawa (1989, 1994) and Chung (1993, 1998). Hinrichs & Nakazawa propose the notion of argument composition to explain German AVCs, by which an auxiliary verb “attracts” the arguments of the verb or the complex predicate it combines with. This idea is manifested in the description of the German auxiliary verb *wird* in (25).

- (25) *wird* ‘will’: [SUBCAT *append*(\square , <V[SUBCAT \square]>)]

Based on Hinrichs & Nakazawa’s mechanism of argument composition, Chung proposes that an auxiliary verb selects its governee verb via the GOV(ERNEE) feature, and that the valence values of the governing verb and the governee verb are structure-shared. The following (26) exemplifies the lexical entry of an ordinary auxiliary verb *po-* ‘do as a try’:

- (26) [SUBJ \square
 COMPS \square
 GOV < V[VFORM *e*, SUBJ \square , COMPS \square] >]

In Chung, when an auxiliary verb combines with a verb, a complex predicate of the sort *complex-word* is formed syntactically. Since an auxiliary verb, which is the head of the *complex-word-structure*, may combine with either a simplex verb or a complex verb, more than one auxiliary verb can follow a main verb. Accordingly, the whole sequence of a main verb and auxiliary verb(s) form a complex predicate, in which the final auxiliary verb is the head. This is illustrated in (27).



Before getting into the account of case marking in AVCs, discussion of theoretical assumptions on the general mechanism of case marking is in order. Following Pollard 1994, Heinz & Matiasek 1994, Yoo 1993, and Przepiórkowski 1999, who argue for the notion of structural case in HPSG, we explain case marking in Korean in terms of structural case assignment. Furthermore, we maximally utilize the mechanism of structural case marking, so that nominative and accusative case is only structurally assigned. Accordingly, the type hierarchy of case values can be simplified, eliminating the distinction between lexical vs. structural nominative case and between lexical vs. structural accusative case.

In this paper, psych predicates (including *siph-*) are analyzed as structural case assigners. In addition, in order to account for problematic examples like (16), we treat *ha-* ‘act like’ as an auxiliary verb assigning structural case, rather than a derivational affix assigning lexical case. The most important reason for such assumption is that delimiters such as *-man* ‘only’, *-to* ‘also’, or *-nun* ‘Contrastive Topic’ may occur between the main verb and *ha-*, just as in the cases of other auxiliary verbs. Therefore, the present analysis contrasts to Yoo (1993) and Chung (1998) that assign lexical nominative case to the complements

of psych predicates, and lexical accusative case to the complement of a complex predicate headed by *ha-*.

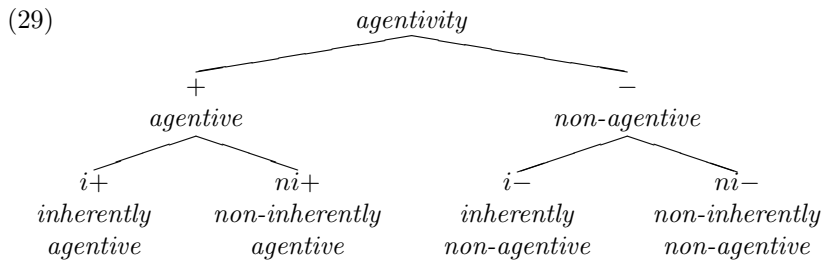
For determination of structural case values, we assume that predicates have [Agentive +/-] values ([AG±], henceforth), roughly depending on whether they have Agent subjects or not (Kim, Y.J. 1990, Bratt 1996). The distinction between [AG+] verbs and [AG-] ones also corresponds to Wechsler & Lee's (1996) division of verbs into two groups, i.e., verbs with an external argument and verbs without one. While it is arguable whether the [Agentive] is the most appropriate term for the distinction that has been recognized in literature, we assume that this line of classification is necessary for the account of Acc vs. Nom complements of verbs.

As a general principle of structural case resolution in Korean, we employ the Case Principle in (28), revising and incorporating the ideas in Yoo (1993), Bratt (1996), and Wechsler & Lee (1996):

- (28) Case Principle (for Korean)
 For an unresolved structural NP that is a daughter of a phrase α ,
 i) it is [acc], if it is a COMPS-DTR of α whose head is [AG+],
 and
 ii) it is [nom], if it is a SUBJ-DTR of α , or a COMPS-DTR of α whose head is [AG-].

It should be noted that (28) can be easily restated in non-configurational terms along the lines of Przepiórkowski (1999) as well. For AVCs, nothing seems to hinge on the choice between a configurational or non-configurational approach to case assignment.

In order to account for the complicated pattern of case marking in AVCs, this paper proposes a fine-grained classification of the [AG] value in the type hierarchy. This is shown in (29).⁵



⁵In (29), the values such as +, *i+*, and *ni+* are used respectively as shorthand for the full value names directly below, i.e., *agentive*, *inherently agentive*, and *non-inherently agentive*, etc.

As for non-auxiliary verbs, the AG value can be inherently (or lexically) determined considering their argument structure and CONT value. Thus verbs with agentive subjects (e.g., *mek-* ‘eat’, *phal-* ‘sell’, *kolu-* ‘select’, and *ttayli-* ‘hit’) will be specified as [AG i+], while verbs that are non-agentive (i.e., with no external argument) are [AG i-] (e.g., *coh-* ‘like’, *mwusep-* ‘be afraid’, *philyoha-* ‘need’, and *toy-* ‘become’).

On the other hand, determination of [AG] values of auxiliary verbs is less straightforward. One possibility is to assume that auxiliary verbs, just like main verbs, are assigned their own [AG] values in the lexicon. In this case, auxiliary verbs like *anh-*, *toy-* and *iss-* would be [AG i-], since they do not have their own agentive external argument in their semantic interpretation. However, this approach immediately fails to predict the case marking patterns in AVCs, because, as shown in (30), complex predicates headed by these auxiliary verbs have accusative complements when the main verbs are agentive ones.

- (30) a. *Nay-ka sakwa-lul mek-ess-ta.*
 I-NOM apple-ACC eat-PST-DECL
 ‘I ate an apple.’
- b. *Nay-ka sakwa-lul mek-ci anh-ass-ta.*
 I-NOM apple-ACC eat not-PST-DECL
 ‘I did not eat an apple.’
- c. *Nay-ka sakwa-lul mek-key toy-ess-ta.*
 I-NOM apple-ACC eat come.to-PST-DECL
 ‘I came to eat an apple.’

In order to avoid such problems, we propose that auxiliary verbs are basically “transparent” with respect to the [AG] value, so they “inherit” the [AG] value of their governee verbs. Furthermore, we argue that the [AG] value of auxiliary verbs, while being basically “inherited” from the preceding predicates, needs to reflect differences among auxiliary verbs. In our view, case alternation and non-alternation exhibited in (19-23) is related to the property of the auxiliary verbs involved, more specifically, to the way auxiliary verbs inherit [AG] values from the embedded predicates.

Considering the meaning and combinatorial properties of various auxiliary verbs, we can identify two different classes. One group of auxiliary verbs such as *po-* ‘try, do as a try’, *cwu-* ‘do as a favor’, *noh-* ‘do in advance’, *twu-* ‘do in advance’, *chiwu-* ‘do resolutely’, *pe-li-* ‘do completely’, *tay-* ‘do repeatedly’, and *nay-* ‘do thoroughly’ have agentive meaning. They combine with agentive verbs in most cases, and maintain their meaning as an agentive predicate in the combination

with agentive verbs. Sells (1993, 1998) argues verbs like *po-* and *cwu-* are control verbs that assign a role to their highest argument, and that this role is coindexed with the subject of the governed predicate. While the control verb relation detected in these predicates may be a very ‘weak’ one as Sells notes, we can still identify some verb relation that is associated with these predicates. Then, for this group of auxiliary verbs that retain their agentive property in the combination with agentive verbs, we can assume that they have the same [AG] values with the embedded verbs. Thus, the [AG] value of this group of auxiliary verbs can be specified as in (31).

$$(31) \quad \left[\text{AG } \square, \text{GOV} \langle \text{V}[\text{AG } \square] \rangle \right]$$

In contrast, another group of auxiliary verbs such as *anh-* ‘not’, *toy-* ‘come to’, and *iss-* ‘be in the process of’, *ci-* ‘come to’, *ka-* ‘be getting’, *o-* ‘gradually come go/get’ are non-agentive since they do not bear their own external argument. Semantically, these auxiliary verbs can be typically represented as a weak, supplementary verb relation that takes a proposition as their argument. Thus, for example, *mek-ci anh-ta* can be expressed as ‘not’(eat’(x,y))’, *mek-key toy-ta* as ‘come-to’(eat’(x,y))’ and *mek-ko iss-ta* as ‘in-progress’(eat’(x,y))’.⁶ For this second group of auxiliary verbs, whose meaning is non-agentive, their [AG] values cannot be determined by their non-agentive property. Most of these auxiliary verbs combine both agentive or non-agentive verbs and their case marking property is inherited from their governee verbs, as shown in (30) and (32).

- (32) a. *Nay-ka paym-i mwusep-ta.*
 I-NOM snake-NOM afraid-DECL
 ‘I am afraid of a snake.’
- b. *Nay-ka paym-i mwusep-ci anh-ta.*
 I-NOM snake-NOM afraid not-DECL
 ‘I am not afraid of a snake.’
- c. *Ku-nun paym-i mwusep-key toy-ess-ta.*
 He-TOP snake-NOM afraid come.to-DECL
 ‘He became afraid of a snake.’

Since their non-agentive property does not directly determine their [AG] value, we assume that their [AG] values are only non-inherently agentive or non-agentive. Therefore, the [AG] value of the second group of auxiliary verbs can be specified as in (33).

⁶Alternatively, we can characterize these auxiliary verbs as event-modifiers, as Peter Sells points out to me (p.c.).

(33) [AG $ni\alpha$, GOV<V[AG α]>]

In (33), α is used as a variable over the boolean type values, i.e., + or -. Therefore, when the governee verb is [AG +] (i.e., [AG $i+$], [AG $ni+$], or [AG +]), the auxiliary verb is [AG $ni+$], and when the governee verb is [AG -] (i.e., [AG $i-$], [AG $ni-$], or [AG -]), the auxiliary verb is [AG $ni-$].

On the other hand, the two auxiliary verbs *siph-* and *ha-* should be treated specially, since their semantic contribution is directly related to the agentive/non-agentive property. Unlike other auxiliary verbs that are just “transparent” with respect to the case marking property of governee verbs (cf. (1), (3), (30), and (32)), *siph-* and *ha-* may affect the case marking pattern of complex predicates containing them, as shown in (4-6). We assume that this is because *siph-* and *ha-* may have a lexically assigned, inherent [AG] value, in addition to the [AG] value that comes from the governee verb.

The auxiliary verb *siph-* expresses a non-agentive relation, so when it inherits its [AG] value from the governee verb, it behaves like the second group of auxiliary verbs. (See (34a).) When it combines with an inherently agentive verb, however, it may exhibit its own non-agentive property as a psych predicate, thus having the [AG $i-$] value. Accordingly, the dual lexical entry of *siph-* can be represented as in (34).

(34) *siph-*
 a. [AG $ni\alpha$, GOV<V[AG α]>]
 b. [AG $i-$, GOV<V[AG $i+$]>]

Meanwhile, *ha-* ‘act like, show signs of some emotion’ is agentive in its meaning, so it can be taken to belong to the first group of auxiliary verbs. (See (35a).) However, when it combines with a lexically non-agentive psych verb, it exerts its inherent property as an agentive predicate, thus satisfying the entry in (35b).

(35) *ha-*
 a. [AG \square , GOV<V[AG \square $ni\alpha$]>]
 b. [AG +, GOV<V[AG $i-$]>]

In (35), the governee verb of *ha-* is restricted to [AG $ni\pm$] and [AG $i-$], since *ha-* never combines with ordinary, non-psych verbs which are [AG $i+$]. In the following section, we will show how various AVC examples can be accounted for by the lexical entries and theoretical assumptions discussed so far.

21.5.2 How the analysis works

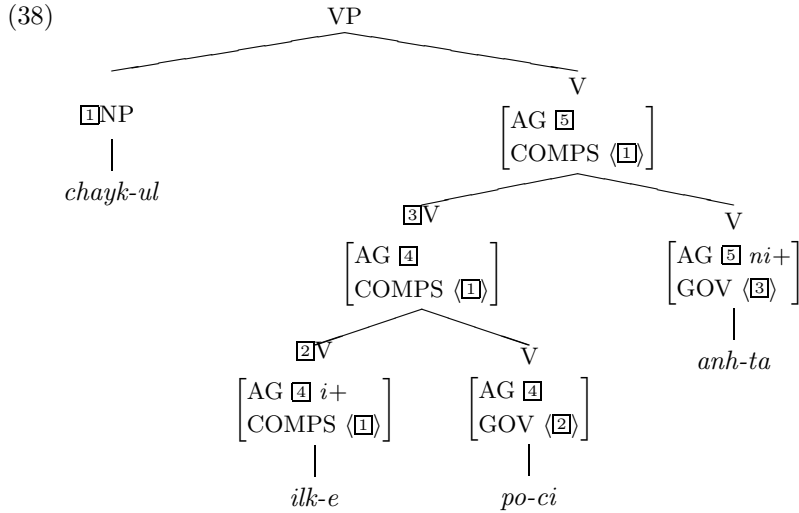
In a sentence with a simplex verb, the case value of the complement is determined by the [AG] value of the verb and the Case Principle in (28). For example, in (36), the two NPs, which are specified as NP[*str*] in the lexicon, are realized as NP[*nom*] and NP[*acc*] respectively in a sentence, by (28). This is because the first NP is a SUBJ-DTR of S and the second NP is a COMPS-DTR of VP whose head is [AG +].

- (36) a. *Nay-ka chayk-ul ilk-ess-ta.*
 I-NOM book-ACC read-PST-DECL
 'I read a book.'
- b. *Nay-ka chayk-ul ilk-ess-ta.*
 NOM ACC [AG *i+*]

When a main verb is followed by an ordinary auxiliary verb, the case value of the complement is not changed, as shown in (37).

- (37) a. *Nay-ka chayk-ul/*-i ilk-e po-ass-ta.*
 ACC [AG *i+*] [AG *i+*]
 (by 31)
- b. *Nay-ka chayk-ul/*-i ilk-e po-ci anh-ass-ta.*
 ACC [AG *i+*] [AG *i+*] [AG *ni+*]
 (by 31) (by 33)

In (37a), the auxiliary verb *po-* has the [AG *i+*] value, since it should satisfy the constraint on the AG value in (31). On the other hand, since auxiliary verbs like *anh-* are subject to (33), *anh-* in (37b) gets [AG *ni+*]. As the (final) auxiliary verb is the head of a complex predicate, and the [AG] feature is assumed to be a HEAD feature, the [AG] values of the verbs in (37b) are specified as in (38).



In (37a), the complex predicate is [AG *i+*], and the one in (37b) is [AG *ni+*]. However, since both [AG *i+*] and [AG *ni+*] are subtypes of [AG +] in the type hierarchy (29), the Case Principle requires both complements in (37) to be [acc].

Next, when *siph-* combines with ordinary transitive verbs, it may have either [AG *ni+*] or [AG *i-*] value, due to the dual property described in (34). Accordingly, either Nom or Acc is allowed.

- (39) Nay-ka sakwa-lul/-ka mek-e po-ko siph-ta. (= (19a))
 ACC [AG *i+*] [AG *i+*] [AG *ni+*] (by 34a)
 NOM [AG *i+*] [AG *i+*] [AG *i-*] (by 34b)

On the other hand, when *siph-* combines with a non-agentive verb as in (40), the whole complex predicate is just [AG *ni-*], since (34b) does not apply.

- (40) Nay-ka tayphyo-ka/*-lul toy-ko siph-ta. (= (18b))
 NOM [AG *i-*] [AG *ni-*] (by 34a)

Moreover, case alternation does not occur when *siph-* follows a complex predicate with *ha-*.

- (41) Nay-ka paym-ul/*-i mwusew-e ha-ko siph-ta. (= (6b))
 ACC [AG *i-*] [AG +] [AG *ni+*]
 (by 35b) (by 34a)

The problematic example (16a) can be also accounted for by adequate inheritance of AG values in the complex predicate structure.

- (42) Ku-nun pam-i/*-ul twulyep-key toy-ko siph-e ha-n-ta.
 NOM [AG i-] [AG ni-] [AG ni-] [AG ni-]
 (by 33) (by 34a) (by 35a)

Likewise, a more complicated example where case alternation does not occur can be explained by the partial and total inheritance of [AG] values, as shown in (43).

- (43) Nay-ka ccikay-lul/*-ka kkuli-ko iss-ko siph-ta. (= (23a))
 ACC [AG i+] [AG ni+] [AG ni+]
 (by 33) (by 34a)

21.6 Concluding Remarks

We have argued that complicated case marking patterns in AVCs can be accounted for by recognizing different classes of auxiliary verbs and proper specification of auxiliary verbs in terms of the [Agentive] feature values. This approach enables us to deal with idiosyncratic properties of *siph-* and *ha-* lexically, while maintaining the general mechanism of structural case assignment. Since the use of the [Agentive] feature and a case principle has been independently motivated for Korean case marking, this analysis does not employ any new device adopted only for the case marking in AVCs. Furthermore, the proposed analysis provides explanation for the examples that are problematic for existing derivational/non-derivational analyses, without positing ambiguous structures or stipulating the case principle.

In this paper, we have focused on case marking of complements of predicates. On the other hand, current works such as Wechsler & Lee (1996), Kim & Maling (1996), Przepiorkowski (1999), and Lee (1999) convincingly argue that the domain of direct case marking should be extended to certain adverbials. In particular, Wechsler & Lee show that adverbials interpreted as situation delimiters (i.e., adverbials of duration, frequency, and path length that temporarily quantifies a situation) should be treated in the same ways as ordinary complements with respect to case assignment. According to Wechsler & Lee, situation delimiters are extensive measures that must satisfy the condition of ADDITIVITY.⁷ Within the HPSG framework, case marking of adverbials can be accounted for by assuming that adjuncts are added to the COMP(LEMENT)S list and that the NPs in the COMPS list are subject to the Case Principle (Bouma et al. 2001, Przepiorkowski 1999). Drawing upon Wechsler & Lee's proposal, we can say that among

⁷(i) Additivity (\oplus is the concatenation operator)
 $m(x \oplus y) = m(x) + m(y)$, if x and y do not overlap.

adjuncts that are added to the COMPS list, only the ones that are [AD-DITIVITY +] are marked as structural NPs (i.e., NP[*str*]).⁸ Then these adverbial NP[*str*]s would have case values by the Case Principle (28). This line of assumptions will account for simple examples as in (44), and the AVC examples in (45), which is from Kim & Maling (1996:148).

- (44) Nay-ka cacenke-lul hansikan-ul tha-ss-ta.
 I-NOM bicycle-ACC one.hour-ACC ride-PST-DECL
 'I rode a bicycle for an hour.'
- (45) a. Na-nun cacenke-lul hansikan-ul tha-ko siph-ess-ta.
 I-TOP bicycle-ACC one.hour-ACC ride want-PST-DECL
 'I wanted to ride a bicycle for an hour.'
- b. Na-nun cacenke-ka hansikan-i tha-ko siph-ess-ta.
 c. *Na-nun cacenke-ka hansikan-ul tha-ko siph-ess-ta.
 d. *Na-nun cacenke-lul hansikan-i tha-ko siph-ess-ta.

While the case pattern of duration/frequency adverbials is parallel to that of complements in many examples, they do not always coincide with each other. As some current research suggests, a comprehensive discussion of adverbial case marking should take into account semantic factors as well. (Cf. Lee 1999) Furthermore, it should be noted that focus may well be another factor that affects adverbial case marking patterns, when we consider examples like (46).⁹

- (46) a. Ku-ka chongli-ka twu pen-i/*pen-ul
 he-NOM prime.minister-NOM two times-NOM/-ACC
 toy-ess-ta.
 become-PST-DECL
 'He became Prime Minister twice.'
- b. Ku-ka TWU PEN-UL chongli-ka toy-ess-ta.
 'He became Prime Minister twice.'

Whatever explanation is given to such non-syntactic factors, we believe that it would be one that can interact with the syntactic domain of case marking such that it can be equally well applied to the AVCs.

⁸See Lee (1999) for the use of the [ADDITIVITY] feature.

⁹In this regard, it is interesting to note that Kim & Maling (K&M 1996:149) also mention that the example in (45c) is ameliorated when the adverbial is focused as in (i).

- (i) ?Na-nun cacenke-ka HANSIKAN-UL tha-ko siph-ess-ta.

However, even a very sketchy answer to these questions requires concrete understanding of syntax-semantics interaction and focus assignment mechanism in the grammar, and we leave this issue for future research.

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