Mixed Categories and Argument Transfer in the Korean Light Verb Construction

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1. Introduction

Korean has a productive light verb construction (LVC) in which a Sino-Korean noun appears as the object of the verb *ha-ta*.

(1) a. John-i Tom-kwa tayhwa-lul ha-yess-ta
John-Nom Tom-with talk-Acc do-past-Dec
'John talked with Tom.'

b. John-i yenge-lul kongpu-lul ha-yess-ta
John-Nom English-Acc study-Acc do-past-Dec
"John studied English"

As suggested by Grimshaw and Mester (1988) for the analysis of the corresponding Japanese verb *suru*, *ha-ta* 'do' is 'light' in that it is partially or completely devoid of its own θ-marking capacities. In (1a), the arguments *John* and *Tom* are semantically selected, not by *ha-ta* but by the Sino-Korean noun (hereafter the MAIN PREDICATE) *tayhwa* 'talk', and similarly in (1b) the arguments *John* and *yenge* 'English' are selected by the main predicate *kongpu* 'study'. This can be verified by the fact that the identical arguments appear in the corresponding noun phrases without *ha-ta* as given in (2).

(2) a. John-uy Mary-wa-uy tayhwa
John-Gen Mary-with-Gen talk
'John's talk with Mary.'

b. John-uy yenge-uy kongpu
John-Gen English-Gen study
"John's study of English"

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However, in the LVC the cases appearing on these arguments resemble verb-assigned rather than noun-assigned case. In Korean, arguments of verbs are marked with the nominative marker *–i* or *-ka*, accusative marker *–(l)ul,* or a postposition (e.g. *-(k)wa* 'with'). For example, every argument in the sentences in (3) is marked with a verbal case, because they are dependents of a verb.

(3) a. John-i Mary-wa mana-ass-ta
John-Nom Mary-with meet-Pst-Dc
'John met with Mary'

b. Kuntay-ka tosi-lul pusu-ess-ta
army-Nom city-Acc destroy-Pst-Dc
'The army destroyed the city'

In contrast, syntactic dependents of a noun receive the genitive case *–uy*, either on the noun or stacked on a postposition, as in (2) above. Sentence (4) is ungrammatical because dependents of the head noun are marked with verbal cases.

(4) *[John-i Tom-wa tayhwa-ka] ciru-ha-yess-ta
John-Nom Tom-with talk-Nom boring-do-Pst-Dc
'John's talk with Tom was boring'

The question, then, is how the arguments in (1) are marked with verbal cases although they are semantic arguments of the main predicate which appears to be a noun.

Two main types of analyses have been proposed. The first type is the *argument transfer* analysis proposed by Grimshaw and Mester (1988) for the very similar Japanese LVC. In that approach, the LV inherits arguments from the main predicate and gives cases to the semantic dependents of the main predicate. This corresponds to HPSG *argument attraction* as in Hinrichs and Nakazawa (1994), inter alia. The second type of approach is the *mixed category* analysis in Manning (1993), Sells (1991) and Sells (1995). In these analyses, the main predicate belongs to a mixed Noun+Verb category, hence assigns verbal cases to its own semantic arguments. Substantial independent cross-linguistic motivation exists for both argument transfer (Abeille et al. (to appear), Hinrichs and Nakazawa (1994)) and mixed categories (Choi (1999), Malouf (1998, 2000)). We argue that *both* approaches are needed for the Korean LVC. Specifically, we claim that only oblique arguments (e.g., *Tom-kwa* in (1a)) are transferred, optionally, while accusative case (e.g., *yenge-lul* in (1b)) is assigned by a mixed category main predicate. In addition, we argue

that the subject is thematically controlled by the LV's subject through complex predicate formation.

2. Previous Analyses

In their discussion of the Japanese LVC, Grimshaw and Mester (1988) consider that the LV *suru* is responsible for the verbal case marking of *murabito* 'villager' in (5).[1]

(5) John-wa murabito-ni [[ookami-ga kuru-to]-no keikoku]-o shita
J-Top villager-to wolf-Nom come-Comp-Gen warn-Acc suru
"John warned the villagers that the wolf was coming.' (Japanese)
Grimshaw and Mester (1988)

In (5) the topicalized subject *John-wa* and postpositional phrase *murabito-ni* 'to villager' are outside the NP headed by the main predicate. They are marked with verbal cases. Grimshaw and Mester propose that (5) involves the argument transfer process as illustrated in (6).

(6) a. Input: keikoku (agent, goal, theme) + suru ( ) <Acc>
b. Output: keikoku (Theme) + suru (Agent, Goal)
Grimshaw and Mester (1988)

According to the process in (6), the LV does not assign any semantic role but rather absorbs the θ-grid of the main predicate. As a result, the semantic arguments of the main predicate occur in the complement positions of the LV.

Grimshaw and Mester's approach is not free from problems. First, there are constructions in which semantic arguments of the main predicates are marked with verbal cases, but there is no LV at all, as shown in (7) (see also Manning (1993) for Japanese correlates).

[1] As in Korean, nominal case marked arguments take the genitive marker *–no*. Hence, if *murabito* were a complement of a noun, it would appear as *murabito-ni-no* 'villager-to-Gen'.

(7) Chelswu-ka mulihak-ul yenkwu-cwung …
Chelswu-Nom physics-Acc research-during
'While Chelswu was doing research on physics'

The construction in (7) has only a main predicate but no LV. If the LV is responsible for the verbal Case markings such as accusative or postposition markings (without genitive), as suggested in Grimshaw and Mester, the data in (7) cannot be explained.

Constructions with two Sino-Korean main predicates, one of them in the complement of the other, also pose a problem for the argument transfer approach:

(8) Hankuk-i [[tampae-lul suip-ul] kaepang-ul] ha-yess-ta
Korea-Nom tobacco-Acc import-Acc open-Acc do-Pst-Dc
'Korea opened (the tobacco market to) the import of tobaccos'
Chae (1996)

As shown by the bracketing, *tampae* 'tobacco' is a semantic argument of main predicate *suip* 'import' and *tampae-lul suip-ul* 'tobacco import' is the semantic argument of the higher main predicate *kaepang* 'open'. As a result, if the LV is responsible for the accusative case on *tampae-lul* 'tobacco', the argument transfer process as in (6) must be a complicated non-local process as illustrated in (9).

(9) a. Input: kaepang (agent, theme$_1$[suip (theme$_2$[tampae])]) + hata ( ) <Acc>
b. Output: kaepang + suru (Agent, theme1, theme2)

On the other hand, if the main predicate itself assigns accusative case, then (8) is unproblematic. We turn to this alternative view next.

Problems such as those raised in (7) and (8) have caused many scholars to conclude that the verbal noun itself is responsible for the verbal case marking (Sells (1991), Manning (1993), Park (1995) and Chae (1996)). Specifically, Manning (1993) and Sells (1991) suggest that the main predicate in Japanese LVCs is not a noun but a disjunction of verb and noun, allowing the main predicate to be compatible with either verb-like or noun-like behavior.

Building on Sells (1991), Manning posited that the main predicate is a disjunctive category V/N. Modifiers and complements of the predicate resolve the disjunction to V or N, depending as they are appropriate to V or N. For example, in (7) above, the V/N *yenkwu*

'research' is resolved to V when it combines with the NP *mulihak-ul* 'physics-Acc'. This correctly predicts that any higher dependents added to this structure must also be appropriate dependents of V: in (7) the subject must be in nominative rather than genitive case.

V- and N-dependents can co-occur in a single construction. In (10) the adjective *culcuwun* 'pleasant' is an N-dependent, while the arguments *John* and *Bill* receive verbal case (V-case):

(10) John-i Bill-kwa culkuwun tayhwa-lul ha-yess-ta.
John-Nom Bill-with pleasant talk-Acc do-Pst-Dc
"John had a pleasant talk with Bill"

To allow for such mixtures between Verbal and Nominal dependents in a single clause, Manning posits that N-dependents only *check* for the N feature in V/N, without resolving, thus permitting higher dependents to be verbal.

But the contrast between (10) and (11a) is problematic for this view.

(11) a. *John-i yenge-lul elyewun kongpu-lul ha-yess-ta
John-Nom English-Acc difficult study-Acc do-Pst-Dc
'John did a difficult study of English'

b. John-i nonmun-ul kyeklyelhakey/*kyeklyelhan pipan-chwung
John-Nom thesis-Acc severely/severe criticism-during …
'while John severely criticize the thesis, …

If the adjective *elyewun* 'difficult' merely *checks* the category feature, then Manning predicts that both (10) and (11) should be acceptable; while if the adjective *resolves* the category feature then both (10) and (11) should be unacceptable. This contrast is explained by the alternative account we present below.

In this section, we have shown that neither the argument transfer approach nor the mixed category approach alone can solve all the problems raised by the LVC. In the next section, we will suggest a solution in which argument transfer and mixed category work in cooperation.

3. An Argument Transfer and Mixed Category Approach

3.1. Light Verbs and Semantic Control

In their argument transfer analysis, Grimshaw and Mester (1988) assume that the LV assigns no θ-roles to its complements. However, in this section we will argue that the Korean the LV assigns a thematic role to its subject[2]. In addition, the subject is not transferred from main predicate. Rather, the LV controls the unexpressed subject of the main predicate. However, this control relation is *thematic control,* which obtains at the semantic level (CONTENT) rather than in complement structure (VALENCE or ARG-ST).

Evidence for the subject thematic control can be found from the fact that the LV *ha-ta* selects only non-stative main predicates. Attempts to combine it with stative main predicates consistently fail, as shown in (12b).

(12) a. non-stative main predicates:

kongpu-lul hata/ tayhwa-lul hata/ pipan-ul hata / suip-ul hata
study-Acc talk-Acc criticism-Acc import-Acc

b. stative main predicates:

*kyumson-ul hata/ *coyong-ul hata/ *solcik-ul hata/ *pilyo-lul hata
humble-Acc quiet-Acc frank-Acc need-Acc

(The English transitive LV 'do', as in *Do something!*, has a similar restriction to non-statives: *What John did was {run / *know the answer}*. See Dowty (1979)).

Some lexicalized compounds can be formed with statives:

(13) *kyumson-hata* 'be humble'; *coyong-hata* 'be quiet'; *solcik-hata* 'be frank'; *pilyo-hata* 'need'

In contrast to the strict semantic selection illustrated in (12), the synthetic forms in (13), which are formed in the lexicon, do not observe this restriction. Thus it is in the process of syntactic combination of *hata* with its dependents that the restriction to non-statives

[2] We also believe that the same argument can be made for Japanese LV *suru*.

applies. This means that *hata* itself has semantic content— however 'light' that content may be— and that this content is relevant to this verb's selection of dependents. In other words, *hata* assigns θ-roles (pace Grimshaw and Mester 1988).

Specifically, we assume that *ha-ta* assigns a generalized Actor proto-role to the subject (see Dowty (1991) and Davis (1996)). This subject controls the unexpressed subject of the main predicate. However, unlike the syntactic control relation in equi verb constructions, which involve structure-sharing of VALENCE list items (see Pollard and Sag (1994)), this control relation is highly sensitive to the thematic structure of the downstairs predicate. To see this, compare the behavior of *ha-ta* with that of another Korean LV, *toy-ta*. While *ha-ta* targets the Actor proto-role (hereafter the ACTOR) of the main predicate for control, *toy-ta* targets the Patient proto-role (hereafter the UNDERGOER):

(14) a. *kicha-uy tochak-i ciyen-(ul) ha-yess-ta
train-Gen Arrival-Nom delay-Acc do-Pst-Dc
'Arrival of the train was delayed.'
b. kicha-uy tochak-i ciyen-(i) toy-ess-ta
train-Gen Arrival-Nom delay-Acc toy-Pst-Dc

(15) a. *Hwanglyongsa-nun cencayng-ttay sosil-(ul) ha-yess-ta
Hwanglyong.temple-Top war-during burning.down-Acc do-Pst-Dc
'Hwanglyong temple was burnt down during a war'
b. Hwanglyongsa-nun cencayng-ttay sosil-(i) toy-ess-ta
Hwanglyong.temple-Top war-during burning.down-Nom toy-Pst-Dc

The main predicates in (14) and (15) have subjects with the UNDERGOER role. As a result, those main predicates combine with *toy-ta*, which targets the UNDERGOER role.

Williams (1985) noted a similar phenomenon in English:

(16) a. $John_i$ performed [an operation (ACT_i, UND)].
b. $John_i$ underwent [an operation (ACT, UND_i)]. Williams (1985)

The noun *operation* has two semantic arguments, ACTOR (who operates) and UNDERGOER (who is operated on). The main verb *perform* targets the ACTOR as its controllee. Not surprisingly, the main verb *undergo* targets the UNDERGOER as its

controllee. Although not noted by Williarms, the same thematic control relation is observed between English LVs *do* and *have* as illustrated in (17).

(17) a. John$_i$ did [an operation (ACT$_i$, UND)].
b. John$_i$ had [an operation (ACT, UND$_i$)].

Now, let us formulate approximate lexical signs of the LV *ha-ta* and *toyta*. First, both *ha-ta* and *toyta* select for a nominal main predicate whose subject has the same index as the subject of *ha-ta* or *toyta*. Second, the CONTENT features of the LVs specify the semantic properties of the subject such as ACTOR and UNDERGOER. We assume, for simplicity, that the CONTENT value of the LV unifies with that of its main predicate complement. This is illustrated in (18).

(18) The first draft of the lexical sign of LVs

a. *ha-ta*

$$\begin{bmatrix} \text{SUBJ } \langle \text{NP}_i \rangle \\ \text{COMPS} \quad \boxed{a} \oplus \left\langle \text{NP} \begin{bmatrix} \text{SUBJ } \langle \text{NP}_i \rangle \\ \text{CONTENT } \boxed{1} \end{bmatrix} \right\rangle \\ \text{CONTENT } [1][\text{ACT i}] \end{bmatrix}$$

b. *toy-ta*

$$\begin{bmatrix} \text{SUBJ } \langle \text{NP}_i \rangle \\ \text{COMPS} \quad \boxed{a} \oplus \left\langle \text{NP} \begin{bmatrix} \text{SUBJ } \langle \text{NP}_i \rangle \\ \text{CONTENT } \boxed{1} \end{bmatrix} \right\rangle \\ \text{CONTENT } [1][\text{UND i}] \end{bmatrix}$$

The unification of the semantic values captures the thematic control relation between subject of the LV and that of the main predicate. It also designates the right argument, ACTOR or UNDERGOER, as the controllee. The main predicates *ciyen* ‘delay’ in (14) and *sosil* ‘burning down’ in (15) have only an UNDergoer argument, while the *tayhwa* ‘talk’ in (1) takes an ACTor argument:

(19) a. Partial sign for the unaccusative main predicate such as *ciyen* or *sosil*:

$$\begin{bmatrix} \text{SUBJ } \langle \text{NP}_i \rangle \\ \text{CONTENT}[\text{UND i}] \end{bmatrix}$$

b. Partial sign for main predicate such as *tayhwa*:

$$\begin{bmatrix} \text{SUBJ} & \langle \text{NP}_i \rangle \\ \text{CONTENT} & [\text{ACT} \ i] \end{bmatrix}$$

Turning now to case properties of the LVC, our analysis provides a solution on the basis of previous work on Korean case. According to Wechsler and Lee (1996), Korean case assignment rule is dependent on the semantic properties of verbs (see also Kang (1986)):

(20) a. i. Argument structures that lack an external argument tend to be [+stative].
ii. Argument structures that have an external argument tend to be [–stative].
b. Accusative case appears only on those dependents that have an external co-argument. (cp. Burzio's Generalization)
c. Passive is suppression of the external argument.
(Wechsler and Lee (1996))

According to (20a), the ACTOR subject of the LV *ha-ta* is more likely an external argument (recall that the *ha-ta* LVC must be non-stative). From (20b), this explains why *hata* assigns accusative case to the main predicate, as in (21a). On the other hand, if the external argument (i.e. ACTOR) is suppressed, as in (21b), then we expect the construction to employ the LV *toy-ta*, since this LV takes an UNDERGOER subject; and we expect this LV to lack the ability to assign accusative case. Both expectations are met in (21b):

(21) a. John-i yenge-lul kongpu-lul ha-yess-ta
John-Nom English-Acc study-Acc do-past-Dc
'John studied Engilsh'
b. Yenge-ka kongpu-ka cal toy-n-ta
English-Nom study-Nom well toy-past-Dc
'English is studied well.'

In contrast to (21a), the main predicate in (21b) is nominative marked. In the account of Wechsler and Lee (1996), this reflects the rules in (20b) and (20c): the main predicate does not have an external co-argument.

In (19a), the unaccusative-like main predicate has a CONTENT feature in which the least oblique argument is the UNDERGOER which is not qualified as an external

argument[3]. Hence, in the Korean case rule in (20), the only case that is compatible with the main predicates, *ciyen* 'delay' and *sosil* 'burning down' is the nominative case.

3.2. Oblique Argument Transfer

Unlike Grimshaw and Mester (1988), for whom all arguments can optionally transfer to the LV, we argue that only oblique arguments but not accusative case marked arguments can transfer. The first piece of evidence for this view involves Korean relative clauses. Quite generally, and independently of LVCs, a head cannot be relativized in Korean, leaving its complements behind, regardless of whether those complements are accusative objects or obliques .

(22) a. John-i cip-ulo ka-ki-lul wenha-yess-ta
John-Nom house-to go-Nml-Acc want-Pst-Dc (Nml = 'nominalizer')
'John wanted to go home.'

b. *[John-i cip-ulo t wenha-n] ka-ki
John-Nom house-to want-Rel go-Nml
(lit. 'The going that John wanted home.')

Now observe the contrasting behavior of LVCs between (23a) and (23b) (cp. (1a) and (1b) above):

(23) a. John-i Tom-kwa $[t]_{NP}$ ha-n tayhwa
John-Nom Tom-with t do-Rel talk
'the talk John had with Tom'

b. *John-i [yenge-lul $t]_{VNP}$ ha-n kongpu
John-Nom English-Acc t do-Rel study
'the study John did of English'

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[3] In Korean, many unaccusative like predicates have external arguments, hence assign accusative case.

(i) pihayngki-ka chulak-ul ha-yess-ta
plane-Nom fall-Acc do-Pst-DC
'An airplane crashed'

In contrast to general assumption, in Korean, *chulak* 'fall' is considered as a proto-agentive predicate in that it denotes a movement. Only a few unaccusative-like predicates belong to the type of the structure in (19a). See Hong (1991) for more detailed discussion.

By our assumption accusatives such as *yenge-lul* in (23b) cannot transfer, so the extraction of the main predicate as in (23b) would strand an accusative NP complement, and is therefore disallowed for the same reason as (22b). On the other hand, the grammatical result in (23a) follows from our assumption that *Tom-kwa* in (1a) has transferred, becoming a complement of the LV. Since the extraction of the main predicate does not strand any complement, (23a) is grammatical.

Second, in Korean a pronoun cannot replace a noun alone, leaving its complements, as shown in (24).

(24) a. John-i cip-ulo ka-ki-lul wenha-yess-ta.
John-Nom house-to go-Nml want-Pst-Dc
John wanted to go home.

b. *John-i cip-ulo kukes-ul wenha-yess-ta.
John-Nom house-to it-Acc want-Pst-Dc
(e.g. What about walking?) John wanted to do it to his house.

Now observe the contrasting behavior when we substitute a pronoun for the main predicate in (1a) and (1b):

(25) a. John-i Tom-kwa $[\text{kukes-ul}]_{NP}$ ha-yess-ta
John-Nom Tom-with it-Acc do-Pst-Dc
(e.g. What about talking?…) 'John did it with Tom'

b. *John-i $[\text{yenge-lul kukes-ul}]_{VNP}$ ha-yess-ta
John-Nom English-Acc it-Acc do-Pst-Dc
(e.g. What about studying?…) 'John did it of English'

In our view, a pronoun cannot substitute for main predicate *kongpu* 'study' in (25b) because its accusative complement cannot be transferred[4].

[4] Further evidence that obliques but not direct arguments transfer to the LV *ha-ta* comes from sentential nominalization constructions formed with the deverbal nominalizer *–ki* (see (i)). The oblique *emeni-eykey* 'mother-Dat' can be transferred, as shown in (ii), while the direct argument *phyenci-lul* 'letter-Acc' cannot, as shown in (iii).

(i) [Mary-ka emeni-eykey phyenci-lul ssu-ki-nun] mayil hay-yaha-n-ta.
Mary-Nom mother-Dat letter-Acc write-Nml-Top daily do-should-Dc
'As for Mary writing a letter to mother, she should do it every day.'

We revise the LV sign as follows:

(26) The second draft of lexical sign of *ha-ta*:

$$\begin{bmatrix} \text{SUBJ } \langle \text{NP}_i \rangle \\ \text{COMPS} \left\langle \text{PP } \boxed{1}, \ldots \text{PP } \boxed{n}, \text{NP} \begin{bmatrix} \text{SUBJ } \langle \text{NP}_i \rangle \\ \text{COMPS} \langle \boxed{1}, \ldots \boxed{n} \rangle \\ \text{CONTENT } \boxed{0} \end{bmatrix} \right\rangle \\ \text{CONTENT } \boxed{0} \begin{bmatrix} \text{REL } \textit{event} \\ \text{ACTOR i} \end{bmatrix} \end{bmatrix}$$

As shown in (26), any number of oblique (PP) complements can transferred from the main predicate to the LV. Any remaining obliques are discharged as complements of the main predicate.

3.3. Mixed VN Category

The notion of a mixed category has occasionally been proposed to account for constructions in which a word exhibits some properties of each of two categories. For example, the word *painting* heading the bracketed gerundive construction in (27) mixes properties of verb and noun. Like a verb, it takes an NP complement (*his daughter*) and an adverb as modifier (*deftly*). Like a noun, it takes a possessive NP (*Brown's*) as specifier and its projection appears in an NP position in the sentence.

(27) [Brown's deftly painting his daughter] is a delight to watch.
(Malouf (2000))

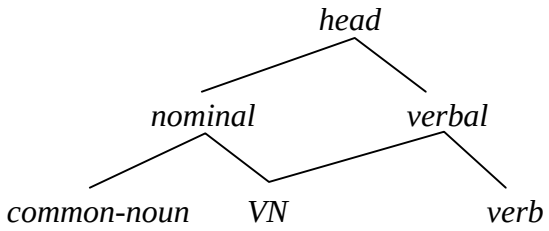
The most extensive recent defense of mixed categories is found in Malouf (1998). Choi (1999) applies Malouf's proposals to the Korean sentential nominalization construction shown in brackets here:

(ii)	[Mary-ka	phyenci-lul	ssu-ki-nun]	emeni-eykey	mayil	hay-yaha-n-ta.
	Mary-Nom	letter-Acc	write-Nml-Top	mother-Dat	daily	do-should-Dc
(iii)	*[Mary-ka	emeni-eykey	ssu-ki-nun]	phyenci-lul	mayil	hay-yaha-n-ta.
	Mary-Nom	mother-Dat	write-Nml-Top	letter-Acc	daily	do-should-Dc

(28) [Kim-i ppali/*ppalun tochakha-yess-um-i] hwaksilhata
Kim-Nom quickly(adv)/quick(adj) arrive-Pst-Nml-Nom is.obvious
"It is obvious that Kim arrived quickly." Choi (1999)
(lit. 'Kim quickly arriving is obvious.')

Following Malouf, Choi posited two abstract lexical types, *Nominal* and *Verbal*. Nominalized word such as *tochakha-yess-um-i* in (28), belong to the type VN (verbal noun), in accordance with the partial type hierarchy in (29).

(29)



The properties declared by these types are given informally as follows:

(30) Type declarations

nominal:	receive case
verbal:	assign V-case; modified by Adverb
verb:	don't receive case
common-noun:	assign N-case; modified by Adjective

The resulting properties of the three maximal types are as follows:

(31)

	assigns	modified by	receives case?
common-noun:	N-case	Adj	yes
verb:	V-case	Adv	no
VN:	V-case	Adv	yes

The nominalized element in (28) has the three VN properties given above: it assigns V-case (*Kim-i* 'Kim-NOM'), it is modified by an adverb (*ppali* 'fast'), and it receives case (Nominative marking on *tochakha-yess-um-i* 'having arrived').

Returning now to the LVC, we propose that the Sino-Korean main predicate belongs to the category *nominal*, hence it is ambiguous between the categories *VN* and

common-noun. Depending on which of these two maximal types it belongs to, it can be modified by either an adjective or adverb, as shown in (32).

(32) a. John-i Tom-kwa [elyewun$_{Adj}$ tayhwa-lul]$_{CNP}$ ha-yess-ta
John-Nom Tom-with difficult talk-Acc do-Pst-Dc
'John had a difficult talk with Tom.'

b. John-i Tom-kwa [elyepke$_{Adv}$ tayhwa-lul]$_{VNP}$ ha-yess-ta
John-Nom Tom-with with.difficulty talk-Acc do-Pst-Dc
'John talked with Tom with difficulty.'

Recall from section 2 that the contrast between (33a) and (33b) (= (10) and (11a)) is problematic for Manning (1993).

(33) a John-i Bill-kwa [culkuwun$_{Adj}$ tayhwa-lul]$_{CNP}$ ha-yess-ta.
John-Nom Bill-with pleasant talk-Acc do-Pst-Dc
'John had a pleasant talk with Bill'

b. *John-i [yenge-lul elyewun$_{Adj}$ kongpu-lul]$_{VNP}$ ha-yess-ta.
John-Nom English-Acc difficult study-Acc do-Pst-Dc
'John did a difficult study of English'

c. John-i [yenge-lul elyepke$_{Adv}$ kongpu-lul]$_{VNP}$ ha-yess-ta
John-Nom English-Acc with.difficulty study-Acc do-Pst-Dc
'John did a study of English with difficulty'

This contrast is now explained. In (33a) the main predicate is a *common-noun*, hence is modified by an adjective. The PP is transferred to the LV. In (33b) the NP complement *yenge-lul* 'English-Acc' cannot be transferred, but neither can it receive its V-case from the main predicate, which must be a *common-noun* due to the adjective modifying it. Replacing the adjective with an adverb yields an acceptable sentence (33c), as expected. Note that the contrast between (33a) and (33b) is problematic not only for the pure mixed category approach, but also for the pure argument transfer approach. Neither approach distinguishes between oblique and direct complements.

Finally, the adjunct clauses presented in (7) and (11b) may be assumed to have main predicates of category *VN*, allowing them to be modified by an adverb and to assign V-case even in the absence of a LV. The Japanese correlate of the construction in (7) and (11b) alternates between common-noun and VN category:

(34) a. John-ga ronbun-o hihan-go(?*ni) heya-o deta
John-Nom article-Acc criticism-after-at room-Acc left
'John left the room after criticizing the article.'

b. John-ga ronbun-no hihan-go-(ni) heya-o deta
John-Nom article-Gen criticism-after-at room-Acc left
'John left the room after criticizing the article.'

On the present analysis, accusative assigning *hihan* in (34a) is a *VN* since it assigns V-case (accusative) without a LV, while *hihan* in (34b) is a *common noun* in that it selects for N-case (genitive). Apparently the postposition *–ni* in Japanese appears only on a *common-noun*, not on a *VN*.

4. Case and argument transfer

HPSG practitioners may have noted a technical problem with our solution. The transferred arguments appear in both the VALENCE list of the LV *ha-ta* and the VALENCE list of the main predicate. The CASE feature is normally assumed to be part of the SYNSEM field, causing a conflict between the CASE assigned by main predicate and by the LV, assuming that VALENCE is a list of *synsem* objects. Simply taking CASE out of *synsem* will not solve the problem, since in argument transfer, the oblique (adpositional) cases are 'preserved' under transfer, while the genitive case assigned by the nominal main predicate is not preserved. The relevant generalization is that case depends on where the NP is realized in the phrase structure: raised items get case appropriate to the LV, while untransferred items get case appropriate to the main predicate.

A solution for this problem was proposed by Przepiórkowski (1998). On this view VALENCE features are lists of objects of sort *argment*, for which two attributes are posited, the *synsem*-valued ARGUMENT attribute and the binary REALIZED attribute.

(35)
$$\begin{bmatrix} \textit{argument} \\ \text{ARGUMENT } \textit{synsem} \\ \text{REALIZED } \textit{bool} \end{bmatrix}$$

Arguments that are expressed within the maximal phase of their head are marked [REALIZED +], whereas unsaturated arguments such as raisees are marked [REALIZED

–]. Raising unifies only the *synsem*, and case is lexically assigned only to [REALIZED +] dependents. Under these assumptions, we posit the lexical sign of the LV *ha-ta*:

(36) The Lexical Sign of *ha-ta*

$$\begin{bmatrix} \text{SUBJ } \langle \text{NP}_i \rangle \\ \text{COMPS} \left\langle [\text{ARG } \boxed{1} \text{PP}], \ldots [\text{ARG } \boxed{n} \text{PP}], (\text{V})\text{NP} \begin{bmatrix} \text{SUBJ } \langle \text{NP}_i \rangle \\ \text{COMPS} \langle [\text{ARG } \boxed{1}], \ldots [\text{ARG } \boxed{n}] \rangle \\ \text{CONTENT } \boxed{0} \end{bmatrix} \right\rangle \\ \text{CONTENT } \boxed{0} \begin{bmatrix} \text{REL } \textit{event} \\ \text{ACTOR i} \end{bmatrix} \end{bmatrix}$$

In (36), the postpositional arguments are transferred from the main predicate as indicated by the *synsem*-values. The transferred arguments each specify a REALIZED value as + whereas the VALENCE list items of the main predicate specify REALIZED values as –. Now, let us give an example in construction with the main predicate *tayhwa* in (1a):

(37) The LV *ha-ta* in (1a)

$$\begin{bmatrix} \text{SUBJ } \langle \text{NP}_i \rangle \\ \text{COMPS} \left\langle \begin{bmatrix} \text{ARG } \boxed{1} \text{PP[kwa]}_j \\ \text{REAL +} \end{bmatrix}, \text{NP} \begin{bmatrix} \text{SUBJ } \langle \text{NP}_i \rangle \\ \text{COMPS } \left\langle \begin{bmatrix} \text{ARG } \boxed{1} \\ \text{REAL -} \end{bmatrix} \right\rangle \\ \text{CONTENT } \boxed{2} \end{bmatrix} \right\rangle \\ \text{CONTENT } \boxed{2} \begin{bmatrix} \text{REL } \textit{talk} \\ \text{ACTOR i} \\ \text{GOAL j} \end{bmatrix} \end{bmatrix}$$

5. Conclusion

In this paper, we have suggested that the main predicates in Korean LVCs belong to either a mixed *VN* or *common noun* category. By a mixed category approach, we could explain why the main predicate can take verbal complements without a LV while showing external nominal distribution. Second, we have shown that main predicates which are common nouns partially or completely transfer their argument structures to LVs, following Grimshaw and Mester (1988). However, in contrast to Grimshaw and Mester, we have suggested that only oblique arguments such as postpositional and dative arguments can be

transferred. As a consequence, the main predicates in a double accusative construction belong to the mixed category *VN*, explaining why they require adverbial rather than adjectival modifiers. We have also suggested (pace Grimshaw and Mester 1988) that a LV semantically selects for its subject, and thematically controls the unexpressed subject of the verbal noun, the ACTOR (with *ha-ta*) or UNDERGOER (with *toy-ta*). Thus, we could explain why LVs cannot co-occur with certain types of verbal nouns such as *ciyen* ('delay') and *sosil* ('burnt down') in Korean.

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