

Grammatical Interfaces in Korean Internally Headed Relative Clause Constructions*

Jong-Bok Kim
(Kyung Hee University)

Kim, Jong-Bok. 1999. Grammatical Interfaces in Korean Internally Headed Relative Clause Constructions. *Linguistic Research* 17, 19-37. Language is interwoven with various grammatical information. The so-called Korean internally headed relative clauses (IHRC) is not an exception in this respect. This paper looks into the basic properties of Korean IHRCs and claims that Korean IHRCs are not truly IHRCs but noun complement constructions. In addition, the paper argues that a better analysis for Korean IHRCs is the one that allows tight interactions among grammatical components as well as constraints on the constructions in question. (Kyung Hee University)

1. Introduction

One of the main characteristics of Korean and Japanese relative clauses is that they do not display any overt English-like relative pronouns. Examples (1)a and (1)b are typical examples of Korean and Japanese relative clauses where the relative clause precedes the head noun, reflecting the head-finalness in both languages.

- (1) a. John-i [[e talli-nun] Tom-ul] cap-ass-ta. (Korean)
John-NOM run-REL Tom-ACC catch-PAS-DECL
b. John-ga [[e hasittekita] Tom-o] tukamaeta. (Japanese)
John-NOM run-REL Tom-ACC catch-PAS-DECL
'John caught Tom who was running.'

Culy (1990) and Cole (1987) observe that not all, but most of the

* I thank Chung Chan, Byung-Soo Park, and an anonymous reviewer of this journal for valuable comments and suggestions.

natural languages with the so-called IHRCs (internally headed relative clauses) show (a) a high degree of nominal constructions, such as factive, perception, and knowledge or belief noun complement constructions, (b) SOV order, and (c) the *pro* drop phenomenon. Given these observations, we may expect that Korean and Japanese, which have all these three aspects, may have IHRCs. To our expectation, there are sentences that behave like IHRCs in Korean and Japanese. Sentences (2a) and (2b) are the IHRC counterparts of (1a) and (1b), respectively.

- (2) a. John-i [Tom-i talli]-nun] kes]-ul cap-ass-ta. (Korean)
 John-NOM Tom-NOM run-REL Nmlz-ACC catch-PAS-DECL
 b. John-ga [[Tom-ga hasittekita] no]-o tukamaeta. (Japanese)
 John-NOM run-REL Nmlz-ACC catch-PAS-DECL

Unlike the examples in (1), the head noun of the relative clause in (2a) and (2b) is buried inside the relative clause. The semantic argument of the matrix predicate *catch* in (2a) and (2b) is the subject NP, *Tom*, in the embedded sentence.

The distributions of such IHRCs are not that free. In Korean, IHRCs can canonically appear in the object position of the matrix predicate, while in Japanese they can occur as the subject in a certain context.¹

- (3) As the subject of the matrix predicate:
 * [[Tom-i talli-nun] kes]-i na-uy chinkwu-i-ta.
 Tom-NOM run-PNE Nmlz-NOM I-GEN friend-COP-DECL
 '(intended) Tom who was running is my friend.'

¹There appear to exist IHRCs in the subject position:

- (i) a. Ku ai-ka eli-n kes-i yenge-lul cal hanta
 that child-NOM young-PN Nmlz-NOM english-ACC well do
 'The child, though young, speaks English well'
 b. mul-i nemchi-n kes-i alay chung-eulo hulessta
 water-NOM overflow-PN Nmlz-NOM down stairs-LOC flow
 'The water that overflow went down toward downstairs.'

However, in both languages, the indirect and the oblique object positions do not allow IHRCs.²

(4) As the oblique object of the matrix predicate:

* John-i ku chayk-ul [Tom-i talli-nun kes]-eykey cwuessta.
 John-NOM that book-ACC Tom-NOM run-REL Nmlz-GOAL gave
 '(intended) John gave the book to Tom who was running.'

The occurrence of IHRCs is also strictly subject to the semantics of matrix predicates. The predicates allowing IHRCs as their objects are usually action verbs (*eat, take, catch, meet, etc.*)

- (5) a. John-un [sakwa-ka cayngpanuy-ey iss-nun kes]-ul mekessta.
 John-TOP apple-NOM plate-on exist-REL Nmlz-ACC ate
 'John ate the apple that was on the plate'
 b. John-un [Tom-i pokto-lul talli-e ka-nun kes]-ul mannassta.
 John-TOP Tom-NOM corridor-ACC run-COMP go-REL Nmlz-Acc met
 'John met Tom who was running in the corridor.'

These highly restrictive behavior casts doubt on whether these constructions are really similar to the IHRCs we found in languages like Navajo, Lakhota, Dogon, and so forth (Culy (1990), Williamson (1987), and Cole (1987), and others).

In this paper, I will argue that the so-called IHRCs in Korean and Japanese are not relative clauses but noun complement structures. In addition, I will argue that both the head-movement analysis in Ito (1986) and Williamson (1987) and the rule schema in Culy (1990) suffer from problems. Instead, I present a lexicalist and constraint based analysis where the possibility of IHRCs is highly dependent upon the lexical constraints on each lexical head. Further, the present analysis shows the importance of interfaces among syntactic, semantic, and pragmatic information.

² In Japanese, an IHRC can appear as the indirect object of the matrix predicate in a rare case.

2. Syntactic and Semantic Aspects of *Kes*

2.1 Syntactic Aspects

One overt surface difference between the typical relative clause and the head-internal relative clause is the presence of *kes* in Korean and *no* in Japanese, as in the examples (1) and (2). The first thing we need to look into is the syntactic and semantic nature of these elements.

The categorial issue of *kes* has been a controversial issue. Like Japanese *no*, there are three main views: assuming it is a complementizer, a nominalizer, or a noun. Of these three views, the weakest argument is to take this element as a complementizer. One immediate argument against this view comes from the fact that a case marker follows *-kes*.

- (6) Tom-i [Mary-ka papola-nun kes]-ul alassta
 Tom-Nom Mary-NOM stupid-REL Nmlz-ACC knew
 'Tom knew that Mary is stupid'

Also if this element were a complementizer, there would be no reason for it not to appear in the external relative clause. However, this is not the case.

- (7) a. [Enehak-ul kongpwuha-nun (*kes)] haksayng
 linguistics-ACC study-REL (*Nmlz) student
 'student who study linguistics'
 b. [Enehak-ul kongpwuha-nun kes]-i elyep-ta.
 linguistics-ACC study-REL Nmlz-Nom difficult-DECL
 'It is difficult to study linguistics.'

Assuming the prenominal ending (REL) is a complementizer, one might argue that this behaviour is due to a Double Complementizer Filter. This line of argument is flawed, however, since consecutive occurrence of these two elements is normally allowed as in (7)b. This fact also provides an argument against the view that that *kes* is a nominalizer. If we assume that the prenominal ending is a complementizer and that *kes*

is a nominalizer, we would need to account for how the nominalizer can take a CP as its complement and becomes an NP.

Culy (1990) assumes, without concrete evidence, that Japanese *no* is a nominalizer, mostly in order to depend his generalization that having other nominalization constructions is a necessary condition for a language to have IHRC constructions. But, if we regard the prenominal ending as a suffix and *kes* as a nominalizer in Korean, we have difficulties in explaining what is the function of this suffix, and why this suffix should be attached to a verbal element before the nominalization.³

The view I defend in this paper is that the nominalizer *kes* is similar to the English word *thing* or to the pronoun *one* in English. One positive piece of evidence for this position is its distributional behaviour: *kes* usually occurs in the position of a nominal head.

- (8) a. *pissan kes / pissan chayk*
 expensive thing/expensive book
 b. *John-i mikwuk-ey kassta-nun sasil/kes-ul alassni?*
 John-NOM America-LOC went-REL fact/Nmlz-ACC know-Q
 'Did you know (the fact) that John went to America?'

Another piece of evidence comes from the fact that there are cases where a real noun can appear in this position with syntactic and semantic behavior similar to that of IHRCs.⁴

- (9) a. *John-i [Tom-i tomangka-nun kes/swunkan]-ul capassta.*
 John-NOM Tom-NOM runaway-REL Nmlz/moment-ACC caught
 b. *Kyongchal-i [totwuk-i mwulken-ul hwumchi-nun kes/hyoncang]-ul capassta.*
 police-NOM thief-NOM things take-away Nmlz/spot caught

³ In Korean there are two other true lexical and phrasal nominalizers: *ki* and *um*. They basically exhibit different behavior from *kes*.

⁴ In the following section, I will consider the semantics of these constructions in more detail.

Korean *kes* also shows different syntactic behavior from Japanese *no*: unlike Japanese *no*, Korean *kes* cannot be used as a genitive marker. In Japanese, the genitive function of *no* can be transformed into the pronoun or nominalizer as in (11)b as traditionally assumed, but Korean *kes* cannot not.

- (10) a. Mary-uy chayk-un ppalkahta. Tom-uy chayk-un kenta (Korean)
 Mary-GEN book-TOP red Tom-GEN book-TOP black
 'Mary's book is red. Tom's book is black.
 b. Mary-no hon-wa akai. Tom-no hon-wa kuroi (Japanese)
 Mary-GEN book-TOP red Tom-GEN book-TOP black
- (11) a. Mary-uy chayk-un ppalkahta. Tom-uy kes-un kenta (Korean)
 b. Mary-no hon-wa akai. Tom no (*no) kuroi (Japanese)

The second difference is that Japanese *no* cannot take a demonstrative as its specifier, while Korean *kes* can.

- (12) a. i chaek 'this book' (Korean)
 b. i kes 'this one'
 c. kono hon 'this book' (Japanese)
 d. *kono no 'this one'

These two properties of Japanese *no* indicate that it is a nominalizer. However, it is unlikely that Korean *kes* is also a nominalizer, for it behaves differently from Japanese counterpart *no*, as just described.

2.2 Semantics of *-kes*

There are mainly three uses of the noun, *kes*. First it is used to refer to an object or a previous sentence in question.

- (13) a. ce kes/i-kes 'that thing/this thing'
 b. ce chayk-un John-uy kes-ita.
 that book-TOP John-GEN thing-DCL
 'That book is John's.'

c. Onul Gorvy-ka wuli hakkyo-ey ontey.

Today Gorvy-NOM our school-LOC come

Ku kes-ul al-ko iss-ess-ni?

that fact-ACC know-COMP exist-Past-Q

'Today, Gorvy will come to our school. Did you know the fact?'

The *kes* in (13)a refers to an object provided by a given context, and in (13)b it refers to the antecedent *chayk* in the same sentence. The noun also can be used to refer to a propositional content in a previous sentence as (13)c. Now note the following examples.

(14) a. [John-uy yompil-nun cohci-man] Tom-uy kes-un napwuta.

John-GEN pencil-TOP good-COND Tom-GEN thing-TOP bad

'John's pencil is good, but Tom's is bad.'

b. *John-uy maumssi-nun cohci-man Tom-uy kes-un napwuta.

John-GEN heart-TOP good-COND Tom-GEN thing-TOP bad

'(literally) John's heart is good, but Tom's is bad'

The concrete/abstract dichotomy plays an important role in the determination of what *kes* can refer to. The examples (14) show that the noun can refer only to a concrete object, like *pencils*, not an abstract entity like *heart*. And from this restriction, it follows that *kes* cannot be used in directional or locative NPs.

(15) a. Tom-uy cip-un kuh-ci-man Mary-uy kes-un cakta.

Tom-GEN house-TO P big-COMP-COND Mary-GEN thing-TOP small

'Tom's house is big, but Mary's is small'

b. *John-uy chaek-ul Tom-uy cip-ey twuessci

John-GEN book-ACC Tom-GEN house-LOC put

Mary-uy kes-ey twuci anassta.

Mary-GEN thing-LOC put not

'(I) left John's book in Tom's house, not Mary's'

c. *Mary-nun John-uy cip-ulo kassciman
 Mary-TOP John-GEN house-GOAL went

John-uy kes-ulo kaci anassta.

John-GEN thing-GOAL go not

'Mary went to John's house, but not John's'.

The noun *kes* can be used in subject or object position, since these two grammatical positions can be used to refer to concrete objects. However, this pronoun is unacceptable in goal, directional, or locative NPs. The reason is that these positions denote abstract space, not concrete objects. This observation is interesting, since in Korean and Japanese only subject and object can be the internal head of IHRCs. This fact seems to provide a partial answer to the question of why Japanese and Korean have only subject/object IHRCs.

Also the ability of what the noun *kes* can refer to seems to give us a partial answer to why Korean and Japanese only the object position is highly unmarked position for IHRCs. As we have seen, the semantically empty noun *kes* should be coindexed with or referring to concrete and nonagentive object, and it is the object position in which the thematically or semantically nonagentive and concrete argument can unmarkedly appear.

A second case is where *kes* subcategorizes for a factive clause as its complement. Though it can occur with a factive (presuppositional) predicate, it cannot appear with nonfactive predicates like *misunderstand* and *misapprehend*. In these examples, the factive noun, such as *sasil* and the noun *kes* can be used as complementary distribution as in (16).⁵

- (16) a. Tom-un [Mary-ka papola-nun sasil/kes-ul hoysangha-yess-ta.
 Tom-TOP Mary-NOM stupid-REL fact/thing-ACC recall-PST-DCL
 'Tom recalled (the fact) that Mary is stupid'

⁵ Unlike Japanese counterpart *no*, Korean *kes* is rather free in occurring with nonfactive predicates.

- b. *Tom-un [Mary-ka papola-nun sasil/kes-ul] ohayhayessta.
 Tom-TOP Mary-NOM stupid-REL fact/thing-ACC misunderstand-PST-DCL
 'Tom misunderstood the fact that Mary is stupid'

Another case is where it occurs with non-presuppositional predicates, such as, verbs of seeing (see), verbs of helping (help), verbs of stopping (stop).

- (17) a. Tom-un [John-i ton-ul hwumchye ka-nun kes]-ul poassta.
 Tom-TOP John-NOM money steal-COMP go-REL thing-ACC saw
 b. Tom-un [John-i ilha-nun kes]-ul towassta.
 Tom-TOP John-NOM work-REL thing-ACC helped

These examples are very similar to the IHRC construction. The prominent readings for these sentences are 'Tom saw John who was stealing the money' and 'Tom saw John steal the money,' respectively. Interestingly, in these examples, the noun *kes* cannot be replaced by a factive noun, like *sasil* 'fact', as in IHRCs.

Let's consider the following examples:

- (18) a. John-i [Tom-i talli-nun kes/swunkan]-ul capassta.
 John-Nom Tom-Nom run-REL thing/moment-ACC caught
 b. kyongchal-i [Tom-i somaycikiha-nun kes/hyenchang]-ul capassta.
 police-NOM Tom-NOM pickpocket-REL thing/place-ACC caught

If the noun *kes* is used in these examples, instead of the nouns of time and place, then the sentences are interpreted as IHRCs. Instead, if we replace *kes* by *swunkan* in (18)a and *hyenchang* in (18)b, we will have in a sense metaphorical readings like 'caught the moment Tom is running' and 'caught the place Tom is pickpocketing', or emphatic readings like 'caught Tom at the very moment he is running' and 'caught Tom at the very place Tom is pickpocketing'. These latter readings are the same as the readings we get in canonical IHRCs.

In sum, we have seen that *kes* is syntactically a noun, but it is semantically an empty noun that should be coindexed with an appropriate object within the relative clause. This object could either be

an individual or a proposition.

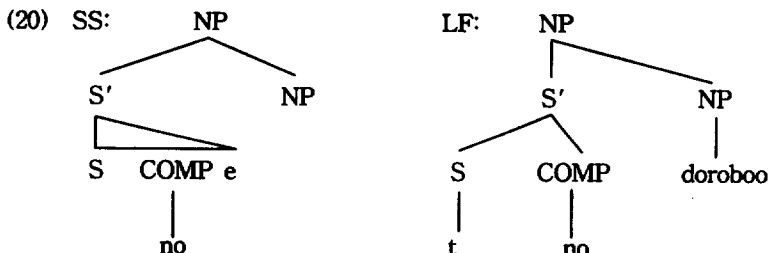
3. Previous Syntactic Analyses

For Japanese IHRC constructions, Ito (1985) adopts a head-movement analysis where the internal head NP in the embedded sentence moves into the head position in LF. Under his analysis, the sentence (19) has the SS and LF structures in (20).

- (19) *omawari-wa [doroboo-ga akiya-kara mono-o hakobidasiteiru]-no*
 policeman-TOP thief-NOM empty-house things-ACC carry-out
tsukarnaeta.

caught

'The police caught the thief who was taking things out from an uninhibited house'.



As noted by Culy (1990), this analysis has two serious defects: (a) on purely theory-internal ground it has to make the implausible assumption that there is a movement that replaces the existing empty category in SS by the moved NP - the internal head - in LF (*doroboo*, and (b) the resulting structures also violate the Theta Criterion or the chain-formation condition. When the movement occurs in LF, the head noun that already received its own theta-role from the embedded predicate will move into a theta position again. Since the target position of the NP movement also gets a theta role from the matrix predicate, this violates the Theta Criterion.

Another piece of evidence against this movement analysis, when applied to Korean, comes from the syntactic status of *kes* that we have argued for in the previous section. The syntactic and semantic facts we

have examined show that *kes* cannot be a complementizer, or a nominalizer. If this were a noun, it would occupy the head noun position of the relative clause. Then there is no place that the internal head can move into.

The third argument against this movement analysis is a phonological fact. If applying Ito's analysis to Korean IHRCs, we will have the following schema.

(21) S' [S[.....] *kes*] e [ul] ...

Into the null empty noun position, the internal head will be moved at the interpretation level, LF. It is a well-known fact that if there is a trace between two adjacent elements, there will be no phonological phenomenon like 'wanna' contraction in English. Contrary to this assumption, there is a resyllabification process between *kes* and the accusative marker *ul*.

(22) *kes-ul* => *ke-sul*

Culy (1990) provides rather a different structure for IHRCs. Assuming no syntactic movement analysis, he provides an exocentric schema for IHRCs.

(23)

$$\begin{array}{c}
 \text{NP}_i \\
 | \\
 \dots \text{N}'_{i\dots} \\
 | \\
 \text{S}_i \\
 | \\
 \dots \text{NP}_{i\dots}
 \end{array}$$

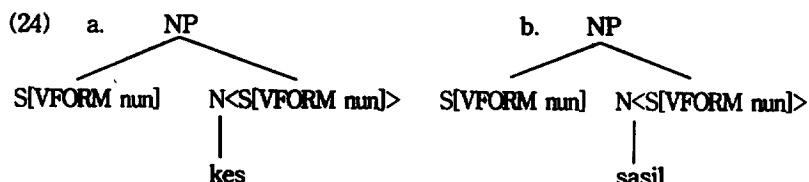
The elements that can occur as the sister of *N'* are determiners, case markers, and particles like plural markers. This exocentric structure is also inapplicable to Korean or Japanese structure. In Culy's (1990) term, *N* is a nominalizer that selects for a fully saturated sentence. Whether this nominalization process occurs in the lexicon or in the syntax, this

nominalizer will be the head of the whole NP. Culy's exocentric rule is neither compatible with Korean and Japanese IHRCs.

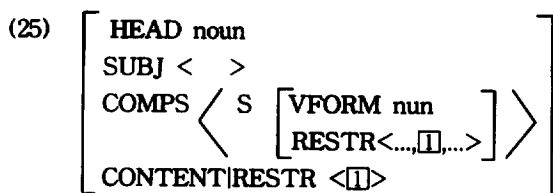
4 A Constraint-Based Approach

4.1 Syntax

As discussed in the previous section, Korean *kes* is a noun selecting a sentential complement as a factive construction:



In this analysis, the noun, *kes*, functioning as the head of the NP, subcategorizes a sentence with the verb form, *nun*. The noun is thus similar to the English demonstrative pronoun, *one*, in that it can select for a determiner as its specifier and refer to an object or an event in question. All these information will be specified in its lexical entry:



This lexical entry specifies that *kes* syntactically selects a sentence whose VFORM value is *nun*. In terms of semantics, it has no semantic value by itself but inherits the semantic value from the restriction set of its sentential complement S thru structure-sharing.

4.2 Semantics

The lexical entry in (25) could provide us with proper semantics for

IHRC constructions. There could be two cases for the interpretation of *kes* in IHRCs as noted:

- (26) a. John-i [Tom-i talli-nun kes]-ul capassta.
 John-Nom Tom-Nom run-REL thing-ACC caught
 'John caught Tom who was running.'
- b. kyongchal-i [Tom-i somaycikiha-nun kes]-ul mollassta.
 police-NOM Tom-NOM pickpocket-REL thing-ACC not.know
 'The police did not know Tom was pickpocketing.'

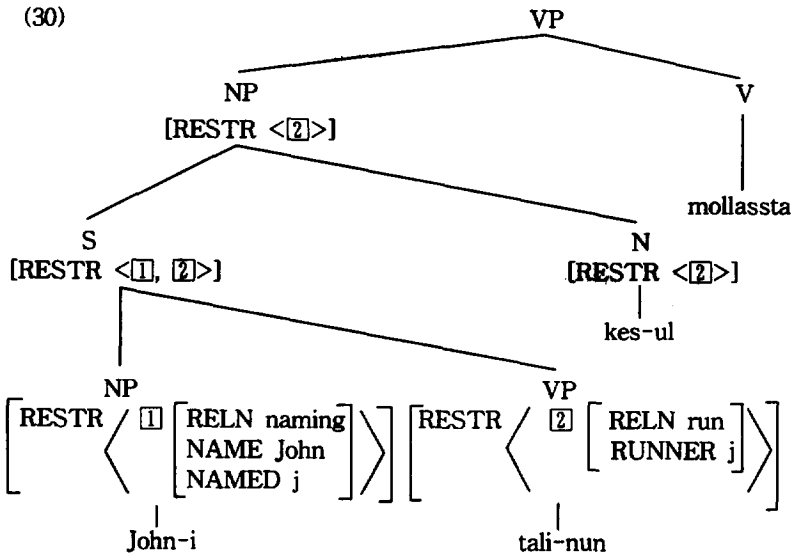
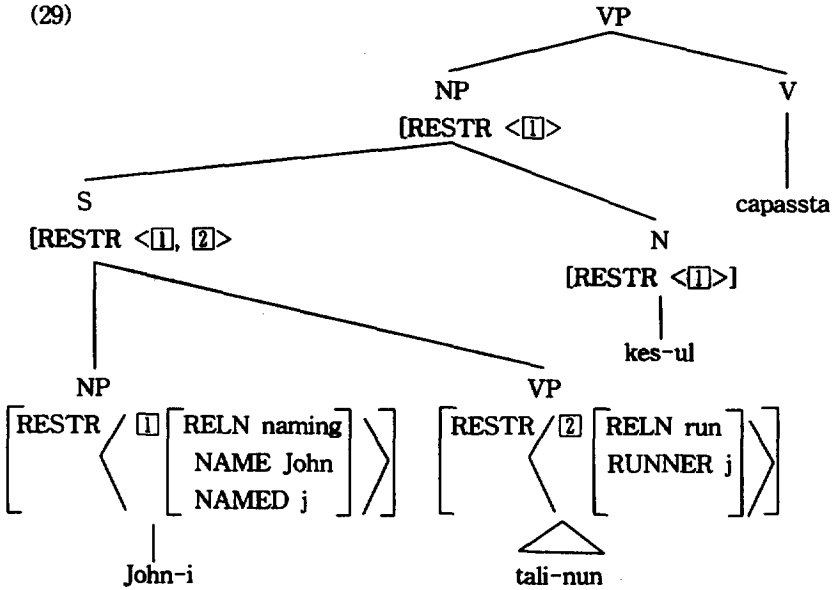
(26)a has an entity reading whereas (26)b an event reading, the reading of which is dependent on the type of the matrix verb. In other words, the predicate *capassta* 'caught' semantically requires its object to be an individual, whereas the object of the verb *mollassta* 'not.know' could be either an event or an individual. These semantic constraints are encoded in their lexical entries:

- (27)

PHON capassta HEAD verb SUBJ <NP _i > COMPS <NP _j > CONT RESTR	<	RELATION catch ARG1 i[MODE ref] ARG2 j[MODE ref]	>
---	---	--	---
- | | | | |
|--|---|---|---|
| PHON mollassta
HEAD verb
SUBJ <NP _i >
COMPS <NP _j >
CONT RESTR | < | RELATION not.know
ARG1 i[MODE ref]
ARG2 j[MODE sit/ref] | > |
|--|---|---|---|

It is lexically specified that the object argument of *capassta* 'catch' denotes a referential individual whereas that of *mollassta* 'non.know' denotes either a referential or a situational. This lexical requirement will

ensure *kes* to be properly coindexed with one of its semantic restrictions. For example, we will assign different semantic structures to the sentences in (26)a and (26)b:



As represented in the structures, the meaning of *kes* in (29) is identical with the noun phrase whereas the one in (30) is coindexed with the sentential complement's predicate. The violation of this coindexation relation would violate the constraints in their lexical entries.

The interaction between the lexical information of *kes* and that of the main predicate can provide a straightforward answer to various cases:

- (31) a. ku'ai-ka eli-n kes-i yenge-lul cal hanta
 the child young-PN thing-NOM English-ACC well do
 'The child, though young, speaks English well'
- b. Na-nun [elemi-ka konghang-ey tochak-ha-n kes-ul] cip-ulo mosiassta
 I-TOP mother-NOM airport-LOC arrived-PN thing-ACC home-LOC guided
 'I honorably took to home my mom who arrived at the airport.'

The subject of the predicate 'speaks' could be only an animate human, whereas the object of *mosita* 'take' could be only an honored individual since it lexically requires its object to be honored.

- (32) *Na-nun [tongsayng-i konghang-ey tochak-ha-n kes-ul] cip-ulo mosiassta
 I-TOP brother-NOM airport-LOC arrived-PN thing-ACC home-LOC guided
 'I drove to home my brother who arrived at the airport.'

The ungrammaticality of this could not be expected unless we admit the crucial role of the main predicate in selecting the value of *kes*.

4.3 Pragmatics

Now consider an example with an transitive embedded clause.

- (33) Tom-i [John-i sakwa-lul ssa-n kes]-ul mek-ess-ta.
 Tom-NOM John-NOM apple-ACC buy-PNE Nmlz-ACC eat-PAST-DCL
 'Tom ate the apple that John bought.'

For a case like this, *kes* cannot be identified with the subject *John*. It should be the object that plays the role of the predicate's object. Here

we need to reconsider what the noun *kes* can basically refer to. We observed that it usually refers to a concrete object and that it normally doesn't refer to human beings. When it refers to human beings, the meaning will be anomalous or derogative. Hence, it is the lexical nature of *kes* that it binds with a non-human index when both human and non-human indexes are available. In the HPSG that represents context dependent information in the feature CONTEXT, we can easily formalize this constraint with the feature HUMAN as shown in (34).

- (34)
$$\left[\begin{array}{l} \text{HEAD noun} \\ \text{SUBJ } \langle \quad \rangle \\ \text{COMPS } \left\langle \begin{array}{l} \text{S} \left[\begin{array}{l} \text{VFORM nun} \\ \text{RESTR} \langle \dots, \square \text{[HUMAN -]}, \dots \rangle \end{array} \right] \end{array} \right\rangle \\ \text{CONTENT|RESTR } \langle \square \rangle \end{array} \right]$$

In addition to this pragmatic information, we need to add several other pragmatic conditions, such as Kuroda's Relevance Condition and simultaneity condition. Here I will just discuss the latter condition.⁶

- (35) a. Tom-un [sakwa-ka cayngpan-uy-ey iss-nun kes]-ul mekessta.
 Tom-TOP apple-NOM tray-top-LOC exist-PN thing-ACC ate
 'Tom ate the apple that was on the tray.'
 b. *Tom-un [sakwa-ka eche cayngpan-uy-ey iss-nun kes]-ul mekessta.
 Tom-TOP apple-NOM yesterday tray-top-LOC exist-PN thing-ACC ate

The difference between these two sentences is that in the IHRC of (35)b there is a time adverb *yesterday*. The existing condition is that the two events described by the matrix and the embedded clause should be in the identical temporal location. This fact also can be formalized in the HPSG system with the specification of the context information.⁷ One

⁶The Relevancy condition says that for a headless relative clause to be acceptable, it should be interpreted as pragmatically in such a way as to be directly relevant to the pragmatic content of its matrix clause. This condition is corresponding to the case when the noun *kes* binds a wrong index, which I have already discussed.

⁷Culy (1990) convincingly argued that a language will have IHRCs iff it is also

simple way to formalize this would be to add a constraint on the lexical entry of *kes*:

- (36)
$$\left[\begin{array}{l} \text{HEAD noun} \\ \text{SUBJ } \langle \quad \rangle \\ \text{COMPS } \left\langle \begin{array}{l} \text{S} \left[\begin{array}{l} \text{VFORM noun} \\ \text{RESTR} \langle \dots, \text{[1][HUMAN-]}, \dots, \text{[2][temporal-relation]}, \dots \rangle \end{array} \right] \\ \text{CONTENT|RESTR } \langle \text{[1]}, \text{[2][temporal-relation]} \rangle \end{array} \right. \right. \end{array} \right]$$

This revised lexical entry for *kes* specifies that the temporal relation of the sentential complement is identical to its own temporal relation. Since there could be only one temporal relation in a proposition, we would not allow cases like (35)b that bear two different temporal relations.

5. Conclusion

Various phenomena imply that Korean/Japanese IHRCs are different from those in Navaho, Lakhota, Dogon, and the like. One clear difference comes from an overt structural difference. In Korean and Japanese, an overt (pro)noun should follow the embedded IHRC.⁸ This structural difference makes it hard to adopt either Culy's exocentric rule or a head movement analysis. The semantics and the matrix predicate also controls the distribution of IHRCs in both languages. Also unlike these languages, Korean or Japanese does not observe the indefiniteness constraint: proper nouns can be the internal head. The IHRCs in the two languages also observe such pragmatic constraints as relevancy condition and simultaneous condition.

All these facts show us that IHRCs in Korean and Japanese are

has other similar nominalized sentences with independency properties, such as control and tense information. That is, the matrix clause cannot impose any tense condition on its embedded clause. Then this kind of simultaneity condition on Korean and Japanese IHRCs is an exception or they are not IHRCs as I have argued.

⁸ Williamson (1987) also noted that in Lakohta, there are cases where a pronoun occupies this position.

basically different from IHRCs in other languages: They are externally headed relative clauses. The present analysis, couched upon the tight interactions among lexical constraints, gives a streamlined analysis of capturing these basic properties.

References

- Chung, C. 1999. Peripheral Phenomena from Core Grammars: Korean Internally Headed Relatives. In this volume.
- Chung, C. 1999. Complex noun, multiple inheritance and internally headed reactivation in Korean. *BLS* 29.
- Chung, D. 1996. On the structure of the so-called head internal relative Construction. *Proceedings of the Pacific Asia conference on Language, Information and Computation*, 11: 393--402.
- Cole, Peter. 1987. The Structure of Internally Headed Relative Clauses. *Natural Language and Linguistic Theory* 5, 277-302.
- Culy, C. 1990. *The Syntax and Semantics of IHRCs*. Ph.d. Diss. Stanford University.
- Hoshi, K. 1994. The Head-internal Relative Clause in Japanese: an empty head noun approach. *Japanese and Korean Linguistics* 5.
- Jhang, S.E. 1991. Internally-headed Relative Clauses in Korean. *Harvard Studies in Korean Linguistics*, 4: 269-280.
- Kim, J.B. 1998. On the Mixed Properties of Pseudo Relative Clause Constructions. *Proceedings of the 11th International Conference on Korean Linguistics*, 83-93.
- Kim, Y.B. 1996. Internally headed relative clause constructions in Korean. *Proceedings of the Pacific Asia Conference on Language, Information and Computation*, 11: 403--413.
- Ito, J. (1986) Head-Movement at LF and PF: The Syntax of Head-Internal Relatives in Japanese. In *University of Massachusetts Occasional Papers in Linguistics* 11.
- Kuroda, S.-Y. 1976. Headless Relative Clauses in Modern Japanese and the Relativity Condition. *BLS* 7.
- Park, B.S. 1994. Modification vs. complementation: the so-called internally headed relative clauses reconsidered. *Proceedings of the 1994 Kyoto Conference: A Festschrift for Professor Akira Ikeya*. 41--48.
- Pollard and Sag. 1993. *Head-Driven Phrase Structure Grammar*. Stanford, CSLI, and Chicago, University of Chicago Press.

- Tsubomoto, A. 1981. It's all no: Unifying function of no in Japanese. *CLS* 17:293-403.
- Uda, C. 1998. A Multiple Inheritance Analysis of the Internally-headed Relative Clause in Japanese. *Proceedings of the Pacific Asia Conference on Language, Information and Computation*, 12: 82--93
- Williamson, J. 1987. An Indefiniteness Restriction for Relative Clauses in Lakhota, In *The Representation of (In)definiteness*.

서울특별시 동대문구 회기동 1
경희대학교 문리과대학 영어학부
130-701
Email: jongbok@nms.kyunghee.ac.kr
전화: +82-2-961-0892

접수일자: 1999. 10. 6.

게재일자: 1999. 10. 19.