On the Mixed Properties of Pseudo Relative Clause Constructions*

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Abstract

Every linguistic construction is interdependent with others in one way or another. If we looked into only one side of the coin in describing a linguistic phenomenon, we would thus often miss certain important generalizations. This paper at first investigates basic properties of the so-called pseudo (or gapless) relative clause (RC) constructions in Korean and shows that the constructions have mixed properties of appositive clauses as well as canonical relative clauses. It shows that the constructions can be syntactically best analyzed as noun complement constructions (*contra* Yoon 1994, Shin 1996, and Cha 1997), even though they are more like canonical relative clauses in terms of semantics. The paper also sketches how these mixed as well as idiosyncratic properties of the constructions can be explicitly expressed thru the mechanism of hierarchical inheritance of type constraints (cf. Sag 1997).

1 Introduction

The presence of both a Korean relative clause (RC) and an appositive noun complement clause (NCC) is identically marked by a prenominal (PN) morphological marker:

(1) a. [nay-ka __ $_i$ ilk-**un**] chayk$_i$
I-NOM read-PN book
'the book that I read'

b. [nay-ka ku chayk-ul ilk-**un**] sasil
I-NOM the book-ACC read-PN fact
'the fact that I read the book'

However, one clear difference between these two types of clause is the existence of a putative gap that can be coindexed with the head noun; the putative gap in the canonical RC clause 1a coindexes with the head noun *chayk* 'book', but no element in the NC clause 1b coindexes with the head noun *sasil* 'fact'.

Besides these two types, there also exists another interesting type of complex noun phrase, the so-called pseudo (or gapless) RC constructions:

(2) a. [komu-ka tha-nun] naymsay
rubber-NOM burn-PN smell
'(literally) the smell such that rubber is burning',
'the smell that characterizes the burning of rubber'

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b. [thayphwung-i cinaka-n] huncek
typhoon-NOM passed.by-PN debris
'(literally) the debris such that a typhoon passed by'
'the debris that resulted from a typhoon's passing by'

In terms of semantics, the interpretation of 2a is similar to that of a relative clause; the phrase denotes the smell that comes out when rubber is burning. It seems to be odd to suppose that the head noun *naymsay* takes as its semantic argument the proposition that rubber is burning, as in the true appositive clause constructions. However, in terms of the absence of a putative gap within the clause, examples like 2 behave like the appositive clause. Further, there are more syntactic phenomena that lead us to treat the pseudo relative clause as the syntactic argument of the head noun, rather than as its modifier.

2 Properties as Noun Complement Clauses

2.1 Restrictions on the Types of Prenominal Ending

One clear property indicating that pseudo RCs are more like noun complement clauses (NCC) rather than canonical relative clauses comes from the possible type of prenominal ending on the predicate of the clause:

We can observe that the canonical RCs like 3a allow various prenominal endings, depending on its tense or aspect information. But in the standard appositive NCC like 3b, only the past tense prenominal ending is possible.

(3) a. ku chayk-ul ilk-nun/ilk-un/ilk-ul salam
that book-ACC read-Pres.PN/read-Past.PN/read-Fut.PN men
'the man who reads/read/will read the book'

b. ku chayk-ul *ilk-nun/ilk-un/*ilk-ul kiek
that book-ACC read-Pres.PN/read-PastPN/read-Fut.PN memory
'the memory that (I) read the book'

If we examine pseudo RCs, we observe that they allow only a limited set of pronominal endings.

(4) a. [komu-ka tha-nun/?tha-n/*tha-l] naymsay
rubber-NOM burn-Pres.PN/burn-Past.PN/burn-Fut.PN smell

b. [thayphwung-i cinaka-n/*cinaka-nun/*cinaka-l] huncek
typhoon-NOM passed.by-PastPN/passed.by-Pres.PN/passed.by-Fut.PN debris

The examples in 4 illustrate that the pseudo RC allows no future tense marker. The appositive NCC and the pseudo RC thus behave alike in that they both are sensitive to the types of prenominal ending.

2.2 Restrictions on the Types of Head Noun

Another NC clause property comes from the fact that there is a certain restriction on the permissible types of head noun.

The cannonical RC examples in 5 show that there is no strict restriction on the type of head noun:

(5) a. ku chayk-ul ilk-un haksayng/sensayngim/kwunin/taythonglyeng
that book-ACC read-PN student/teacher/soldier/president
'the student/teacher/soldier/president who read the book'

b. John-i isepeli-n sasil/soli
that book-ACC forgot-PN fact/sound
'the fact/sound that John forgot'

As shown in 5b, the canonical RC even allows the head nouns that usually occur in the appositive or pseudo RC.

The situation is different in apposotive clauses: only a handful of nouns combines with its sentential complement as shown in 6.

(6) ku chayk-ul ilk-un sasil/kyengwu/*somwun/*sahang/*sathay
that book-ACC read-PN fact/case/*rumor/*case/*situation
'the fact that (you) read the book'

Pseudo RCs are similar to NCCs in this respect; sentences 7a and 7b illustrate this point.

(7) a. sayngsen-i tha-nun naymsay/hyangki/??soli/*moyang/*huncek
fish-NOM burn-PN smell/incense/sound/*shape/*trace
'the smell of the fish's burning'

b. thayphwung-i cinaka-n huncek/?moyang/*soli
typhoon-NOM passed.by-PastPN debris/shape/sound

The possible head nouns in the pseudo RC constructions as given in 8 are restricted to perception nouns that are related to vision, auditory sense, taste, or nouns such as pictures, cooking, drug, and trace (record) whose denotation requires to invoke our perception.

(8) Head nouns allowed in the pseudo RCs:
naymsay 'smell', *soli* 'sound', *kwangkyung* 'scene', *hwuncek* 'trace', *soum* 'noise', *mosup*'figure' *mas*'taste', *kulim* 'picture', *ccikheki* 'leftover', etc

If only the limited number of head nouns is allowed in the pseudo RC, a better analysis would be the one assuming the head noun of the pseudo RC selects for its complement clause.

2.3 Restrictions on the Type of Prenominal Clause

In addition to the restrictions on the type of head noun, the pseudo RC constructions place constraints on the type of the prenominal clause. The canonical RC clause can denote either a positive or a negative proposition:

(9) a. John-i ilk-un chayk
John-NOM read-COMP book
'the book that John read'

b. John-i ilk-ci anh-un chayk
John-NOM read-COMP not-PN book
'the book that John did not read'

But the appositive and the psuedo RC alike do not allow its prenonimal clause to denote a negative proposition.[1]

[1] However, not every head noun places such a restriction on its adnominal clause. For example, the appositive clause with the head noun like *sasil* 'fact' could denote a negative proposition. This implies that we need a more fine-grained distinction in the type of appositive clauses.

i. [John-i chayk-ul ilk-ci anh-un] sasil
John-NOM chayk-ul read-COMP not-PN fact
'the fact that John did not read the book'

(10) a. *[John-i chayk-ul ilk-ci] anh-un kyonghom
John-NOM book-ACC read-COMP not-PN experience

b. *[komu-ka tha-ci] anh-nun naymsay
rubber-NOM burn-COMP not-PN smell

Whether we attribute this constraint to semantics or not, it seems to be clear that the psuedo RC and the appositive clause both places stricter constraints on its adnominal clause.

2.4 Coordination

Coordination data provide us with another supporting argument for the NCC treatment.

Sentences 11 show that it is possible to coordinate the same type of adnominal clause.

(11) a. [John-i cohaha-nun] kuliko [Mary-ka silheha-nun] os
John-NOM like-PN and Mary-NOM dislike-NOM clothes
'the clothes that John likes and Mary dislikes'

b. [John-i sakwa-lul mek-un] kuliko [Mary-ka maykcwu-lul masi-n] sasil
John-NOM apple-ACC eat-PN and Mary-NOM beer-ACC drink-PN fact
'the fact that John ate apples and Mary drank beer.

c. [sayngsen-i tha-nun] kuliko [komwu-ka tha-nun] naymsay
fish-NOM burn-PN and rubber-NOM burn-PN smell
'the smell of the fish's burning and the rubber's burning

Nothing is wrong to coordinate either two identical cannonical RCs as in 11a, appositive NC clauses as in 11b, or pseudo RCs as in 11c.

However, notice what happens if we conjoin two different types of adnominal clause: Neither can we conjoin a canonical RC and an appositive RC as shown in 12a, nor can a pseudo RC be conjoined with a canonical RC as illustrated in 12b.

(12) a. *[John-i __ cohaha-nun] kuliko [Mary-ka makcwulul masi-n] os
John-NOM like-PN and Mary-NOM dislike-NOM clothes
'the clothes that John likes and Mary dranks beer'

b. *[sayngsen-i tha-nun] kuliko [Mary-ka silheha-nun] naymsay
fish-NOM burn-PN and Mary-NOM dislike-PN smell
'(literally) the smell of the fish's burning and that Mary dislikes'

But an interesting point is that it is possilbe to conjoin a pseudo RC and a true appositive clause:

(13) [thayphung-i cinaka-n] kuliko [cip-i pwusueci-n] sasil
typhoon-NOM pass.by-PN and house-NOM destoryed-PN fact
'the fact that a typhoon passed by and the house was destroyed'

If the pseudo RC were taken to be a canonical relative clause which behaves differently in coordination, an additional mechanism would be required to capture its coordination behavior.

2.5 Optionality

Phenomena with respect to the optionality of an admoninal clause also tell us that a pseudo RC behaves like an appositive RC. Let us see what happens if we drop out the adnominal clause:

(14) a. [salamtul-i kicungha-n] chayktul-i yeki ceki-ey issta
people-NOM donate-PN books-NOM here there-LOC are
'The books that people donated are here and there.'

b. chayktul-i yeki ceki-ey issta.

(15) a. [salamtul-i cinaka-n] hwuncek-i palkhyentoyessta
people-NOM pass.by-PN trace-NOM discovered
'the trace has been discovered that people passed by.'

b. ??sasil-i palkhyentoyessta.

(16) a. [mwul-i hulu-nun] soli-ka nanta.
water-NOM flow-PN sound-NOM become
'We can hear the sound of water's flowing'

b. ??soli-ka nanta.

The sentences in 14 to 16 demonstrate that unlike the canonical RC, the omission of the appositive NCC and the pseudo RC makes them unnatural. The canonical RC can be dropped as illustrated in 14b. However, the omission of the appositive and pseudo RC requires questions like 17 to be followed to make the conversation 'informative' (cf. Grician's maxium of quantity) in a normal context:

(17) a. mwusun sasil-i palkhyentoyessni?
what fact-NOM discovered
'What kind of fact has been discovered?'

b. mwusun soli-ka na?
what sound-NOM come out
'What kind of sound comes out?'

The difference in the optionality of the adnominal clause again tells that the pseudo RC acts like a complement clause.

2.6 Stacking

Given the assumption that the pseudo RC is a type of noun complement clause brings a desirable prediction with respect to stacking phenomena.

Two canonical RCs can be stacked together, but neither two appositive clauses nor two pseudo RCs can, as shown in 18.

(18) a. [John-i mek-un] [Mary-ka kacyeo-n] sakwa
John-NOM eat-PN Mary-NOM bring-PN apple
'the apple that Mary brought that John ate'

b. *[John-i sakwa-lul mek-un] [Mary-ka maykcwu-lul masi-n] sasil
John-NOM apple-ACC eat-PN Mary-NOM beer-ACC drink-PN fact

c. *[sayngsen-i tha-nun] [komwu-ka tha-nun] naymsay
fish-NOM burn-PN and rubber-NOM burn-PN smell

Further, when we stack two different types, we observe that the canonical RCs needs to precede the other two types, the appositive RC and the pseudo RC.[2]

(19) a. [John-i sileha-nun] [Mary-ka maykcwu-lul masi-n] sasil
John-NOM dislike-PN Mary-NOM beer-AC drink-PN fact
'the fact that Mary drank beer that John disliks'

b. *[Mary-ka maykcwu-lul masi-n] [John-i sileha-nun] sasil

(20) a. [John-i sileha-nun] [komu-ka tha-nun] naymsay
John-NOM dislike-PN rubber-NOM burn-PN smell
'the smell of the rubber's burning that John dislikes'

b. ??[komu-ka tha-nun] [John-i sileha-nun] naymsay

Given that the pseudo RC is the complement of the head noun whereas the canonical RC is a modifier, this word order restriction would be a natural consequence.

3 Non-NCC(Noun Complement Clause) Properties

We have seen so far the properties of pseudo RCs that could be observed in the true appositive sentential complement. However, as claimed by Yoon (1994), Shin (1996), and Cha (1997) among others, there also seem to exist phenomena in which pseudo RCs behave differently from appositive clauses. This section deals with such phenomena.

3.1 Topic Marker

Cha (1997) suggests that the pseudo RC behaves like the ordinary RC but unlike the appositive NCC in that the two do not allow the topic marker (data from Cha 1997):

(21) a. *[Chelswu-nun mek-un] sakwa
Chelswu-TOP eat-PN apple

b. *[komwu-nun tha-nun] naymsay
rubber-TOP burn-PN smell

c. [Chelswu-nun nuc-un] sasssil
Chelswu-TOP late-PN fact

One thing that Cha's argument misses, however, is that unlike the canonical RCs, the pseudo RC has no plausible topic 'source' sentence (cf. Yoon 1994):

(22) a. Ku sakwa-nun [Chelswu-ka mekessta]
that apple-TOP Chelswu-NOM ate

b. *Ku naymsay-nun [komwu-ka thassta]
the smell-TOP rubber-NOM burned

[2] There exist cases like (i) which seem to be the stacking of two pseudo RCs:

i. [komu-ka tha-nun] [yekkeyw-un] naymsay
rubber-NOM burn-PN disgusting-PN smell
'the disgusting smell of the rubber's burning'

However, the difference in the grammaticality from 18b may be due to the function of *yekkeywu-un* 'disgusting'; it seems that this prenominal modifier behaves like a true adjectival element, not like a predicate whose subject is relativized.

As pointed by Kuno (1973), RCs and topicalization constructions are strongly related, though not in one to one mapping relation. Given that relative phrases have their topicalized counterparts, the contrast in 23 would support the pseudo RC is not a relative clause. The impossibility of the topic marker in the pseudo RC seems to come from the construction specific constraint that its head noun places on its clausal complement.

Rather than this similarity, there exists one obvious difference between the canonical RC and the pseudo RC: only the former allows the contrasitive (or focus) marker:

(23) a. Chelswu-nun mek-un sakwa
Chelswu-CONT eat-PN apple
'the apple that Chelswu, but not others, ate'

b. *thayphwung-un cinaka-n huncek
typhoon-CONT passed.by-PN debris
'(literally) the debris such that a typhoon, but not others, passed by'

The data suggest that the presence of the topic or focus marker in the canonical RC and the pseudo RC marks a difference between the two, rather than a similarity.

3.2 Indirect Noun Complement Clause

As set forth by Shin (1996), a second argument for the RC treatment of the pseudo RC seems to arise from the possibility of transforming clauses into the so-called 'indirect' noun complement clause by the addition of *-ko ha-(nu)n*.

(24) a. John-i tolao-n/tolawassta-**ko** **ha-nun** sasil
John-NOM return-PN/returned-COMP say-PN fact
'the fact that (people) say that John became insane'

b. mwul-i hulu-nun/*hulunta-**ko** **ha-nun** soli
water-NOM flow-PN/flow-COMP say-PN sound
'the sound of water's flowing'

Shin's argument for the RC treatment is based on the simple contrast between 24a and 24b: only the appositive clause like 24a can be turned into a so-called 'indirect' NCC with *-ko hanun*. However, this observation is misleading; even the predicate of a canonical RC can be changed into a 'indirect' form, as observed in 25.

(25) John-i salanghanta-**ko** **ha-nun** yein
John-NOM love-COMP say-PN woman
'the woman that people say John loves'

Further, Shin's observation neglects the fact that there exist two types of appositive clause: one that can be turned into indirect clauses and the other that cannot.

(26) a. John-i ku-lul paysinha-n/*paysinhayessta-**ko** **ha-nun** kyongwu
John-NOM he-ACC betray-PN/*betrayed-COMP say-PN case
'the case that John betrayed him'

b. John-i ku-lul *paysinha-n/pasinhayessta-**ko** **ha-nun** somwun
John-NOM he-ACC betray-PN/betrayed-COMP say-PN rumor
'the rumor that people say John betrayed him'

As observed in 26, not every head noun of the appositive clause allows its complement clause to have the indirect form. The impossibility of turning the pseudo RC into an indirect NC clause, thus, doesn't tell us anything about its status as a relative clause.

3.3 Semantics

Another argument to treat the pseudo RC as a canonical RC seems to come from its semantic properties.

3.3.1 Canonical RCs

A traditional idea of interpreting a canonical relative clauses is that the relative clause characterizes the head noun. For example, the relative clause in 27a is interpreted as in 27b.

(27) a. the man that loves Mary
b. λx[men$'(x)$ & love$'(x$,m)]

The interpretation in 27 means that the denotation of the phrase with the relative clause and the head noun it modifies is the interaciton of the set of properties possessed by the head noun *man* and the property of the relative clause, that is, the property of loving Mary. Such an analysis amounts to the one assuming the cannoical relative clause restricts the properties of the head noun.

3.3.2 Appositive Complement Clause

The semantics of an appositive complement clause is straightforward: the denotaiton of the NCC functions as the argument of the head noun that selects for it as its sentential argument. For example, the meaning of 28a could be represented as 28b.

(28) a. John-i ku chayk-ul ilk-un sasil
John-NOM the book-ACC read-PN fact

b. fact$'$(read$'$(j,b))

Unlike the interpretation for the canonical RCs, there is no free variable in the pseudo RCs, suggested by the absence of a putative gap in the clause.

3.3.3 Pseudo RCs

It appears that pseudo RCs follow neither patterns.

(29) mwul-i hulu-nun soli
water-NOM flow-PN sound
'the sound of water's flowing'

We could not assume that the proposition of water's flowing restricts the properties of sound because of the vacuous quantification as shown in 30.

(30) λx[flow$'$(w) & sound$'(x)$]

Neither can we attribute its semantics to the type of the appositive noun complement clause since no direct relation could be existed between *sound* and *water's flowing.*

(31) sound$'$(flow$'$(w))

What the sentence in 29 describes is one of the possibilities that could happen or result from the event of water's flowing. Adapting Yoon's idea, we could represent this as following (see Shin 1994 and Cha 1997 with slightly different interpretations)