Revisiting the Genitive Relative Construction in Korean:

Real GRC?*

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1. Introduction

"Genitive Relative Construction"(GRC) is the traditional term for

relative constructions, such as the (b) examples below, which

appear to contain a genitive subject instead of the usual

nominative subject.

(1) a. [ku   sinsa-ka   ip-un]   os-i   telepta
        the gentleman-NOM wear-REL clothes-NOM be dirty
        'the clothes that the gentleman is wearing are dirty.'

    b.   ku   sinsa-uy   ip-un   os-i   telepta
                   GEN

(2) a. [nay-ka sal-ten]   kohyang
        I-NOM   live (ASP) REL native village
        'the native village in which I was living'

    b.   na-uy sal-ten   kohyang
             GEN

The term GRC implies that there is an exact correlation

between the (a) and (b) examples in (1) and (2), in the sense that

(b) is semantically equivalent to (a), or perhaps even derived from

(a).[1]   This phenomenon may have been noticed by many Korean

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scholars implicitly, but seems to have been first explicitly introduced by authors such as Yang (1987), Kang (1988) and Yoon (1991).[2] This reluctance of authors to discuss GRCs might be thought to be due to the very subtle grammaticality judgments associated with this construction as mentioned by Yoon (1991: note 3), but I believe the real reason for this reluctance to be that GRCs do not exist. Instead, I will argue that a genitive NP followed by a relative clause can be coindexed with an empty pronominal ("pro") in the relative clause relatively freely depending on the context.

In this paper, I will discuss some problems with the aforementioned approaches, and try to solve them by providing an alternative analysis of GRCs within the HPSG framework.

2. The Background of the Introduction of GRC

Yang (1987) and Kang (1988) introduced GRCs as an "escape hatch" for certain cases of movement out of double relative clauses in Korean. Double relative clauses, which have two relative heads, as illustrated in (3), have usually been considered to violate island constraints.

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[2] Yoon (1991) differs from the other two authors in that, to avoid the problem of case marking, he proposes that the genitive NP in GRCs is base-generated instead of arising from movement. However, all three share the fundamental assumption that GRCs exist.

(3) *[[[[t_i t_j po-n]   os$_j$-i]   tele-un]   ku sinsa$_i$]
              see-PAST-REL clothes-NOM be dirty-REL the gentleman
    'Lit. the gentleman$_i$ that the clothes$_j$ that t_i saw t_j are dirty'

On standard transformational analyses, (3) has the following

structure:

(4)   [[[..t_i..]$_{IP1}$]$_{CP1}$..]$_{NP}$ ....]$_{IP2}$ O_i]$_{CP2}$ NP$_i$]
       └──────────────────────↑

In (4), the trace in the inner relative clause is related to

the coindexed empty operator and so it violates subjacency.

    However, there are many double relative constructions which

are often judged to be grammatical, such as the following.

(5)   [[[[t_i t_j ip-un]   os$_j$-i]   tele-un]   ku sinsa$_i$]
                 wear-REL clothes-NOM be dirty-REL the gentleman
    'Lit.the gentleman$_i$ [that the clothes$_j$ [that t_i wear t_j] are dirty]'

Example (5) would appear to have exactly the same structure as (3),

namely (4). Thus it too must violate subjacency. But it is still

grammatical.[3]

    To solve this problem, Yang (1987) and Kang (1988) suggest

that (5) is derived from (1b), which in turn is derived from (1a).

That is, they use the construction (1b) as an "escape hatch" to

make the movement possible in (5). More specifically, Yang (1987)

proposes that ku sinsa is CP adjoined as illustrated in (6a), so

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    [3] For this reason, linguists like Choe (1985), following the
claims of Kuno (1973) and Saito (1985) that Japanese relativization
does not involve Move alpha, concludes that Korean relativization
does not observe the island constraints. Instead she suggests,
following Huang (1982)'s analysis of Chinese, that Korean
relativization involves Move alpha at LF, a level in which island
constraints are not observed in general.

the later movement of *ku sinsa* out of the embedding NP in the double relative construction is possible without violating subjacency. Kang (1988), as illustrated in (6b), proposes that *ku sinsa* is NP adjoined, with the other arguments being the same.[4]
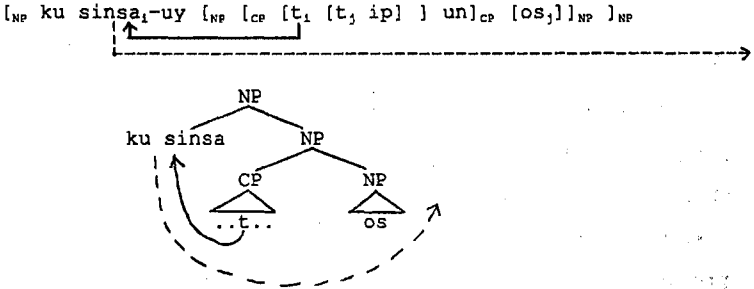
(6)a. D.W. Yang (1987) -- CP adjoined

$[_{CP}$ ku sinsa$_i$-uy $[_{CP}$ $[_{IP}$ t$_i$ $[_{VP}$ t$_j$ ip$]_{VP}$ $]_{IP}$ un O$_j]_{CP}$ $]_{CP}$ os$_j$
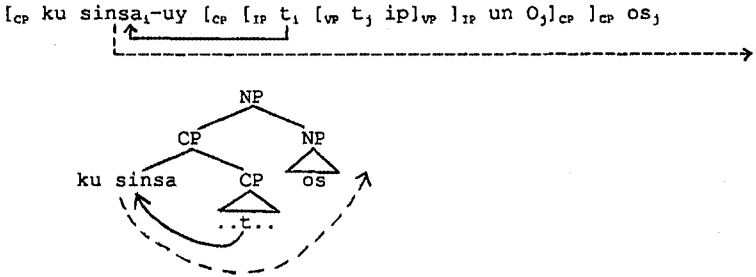
b. M.Y. Kang (1988) -- NP adjoined

$[_{NP}$ ku sinsa$_i$-uy $[_{NP}$ $[_{CP}$ $[t_i$ $[t_j$ ip$]$ $]$ un$]_{CP}$ $[os_j]]_{NP}$ $]_{NP}$

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[4] In this respect, Kang differs from Chomsky (1986), who prohibits NP adjunction to an NP. In addition to the difference of the position of adjunction, there is another diffence between Yang's and Kang's approaches. That is, whereas Yang (1987) proposes movement of an empty operator in Korean relativization, Kang (1988) suggests movement of the head noun, following Vergnaud (1974). Yang's approach is much more in line with mainstream transformational analyses since Chomsky's "On Wh-Movement"(1977).

In contrast to (5), according to their view, (3) is ill-formed, because the construction (7b) from which (3) would have to be derived is itself ungrammatical. In other words, the derivation of (7b) from (7a) is impossible. Thus (3), which is derived from (7b), is ungrammatical.

(7) a. [ku   sinsa-ka   po-n]   os-i   telepta
        the gentleman-NOM see-PAST-REL clothes-NOM be dirty
        'the clothes that the gentleman saw are dirty.'

    b. *ku   sinsa-uy   po-n   os-i   telepta
              GEN

In this fashion, Yang and Kang seem to succeed in explaining the Korean double relative constructions, which are apparently exceptional in the standard GB framework. However, this account is not without problems, as will be seen later in this paper.[5]

3. Arguments against GRCs

In this section, I will provide some arguments against the view that GRCs exist in Korean.

3.1. Problems with Double Relative Constructions

First, there are counterexamples to Yang (1987) and Kang (1988)'s

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[5] This paper focuses on GRCs, i.e., the constructions which have a genitive NP plus a relative clause plus a head NP. Therefore, we will leave the study of these double relative constructions for future study.

explanation for double relative constructions.   Consider the
following datum, which is from Kang (1988) himself.

(8) *[[$_{CP}$ [[$_{CP}$ t$_i$ t$_j$ ip-un]$_{CP}$ os$_j$-i]   saenghwalcengdo-lul
                       wear-REL clothes-NOM living-standard-ACC
             cwawuha-nun]$_{CP}$ sinsa$_i$]
             determine-REL   gentleman
     'Lit. the gentleman$_i$ [that the clothes$_j$ [that t$_i$ wear t$_j$]
     determines the living standard]'

The GRC hypothesis wrongly predicts that (8) should be grammatical.
To solve this problem, comparing (8) with (5), Kang employs the
notion of "event" from Higginbotham (1985), together with the
assumption that if the matrix clause contains an independent event,
then the movement out of the inner relative clause is impossible.
In addition, he assumes that most predicates have independent
events, whereas adjectives (stative verbs in my terminology) do
not.   Based on these assumptions, Kang concludes that (8) is
ungrammatical, since the predicate *saenghwalcengdo-lul cwawuha-*
'determine the living standard' constitutes an independent event
and so the higher CP functions as a bounding node blocking movement
out of the lower CP.   On the other hand, (5) is grammatical, since
the simple adjective (again stative verb in my terminology) *tele-*
'be dirty' does not constitute an independent event.

     If this is so, then what about the following GRC sentence?

(9)   [[[[t$_i$ t$_j$ ip-un]   os$_j$-i]   salamtul-uy nwun-ul
                   wear-REL clothes-NOM people-GEN eye-ACC·
             kkul-nun]   sinsa$_i$]
             attract-REL gentleman
     'Lit. the gentleman$_i$ [that the clothes$_j$ [that t$_i$ wear t$_j$]
     attract people's eyes']

Here the predicate *salamtul-uy nwun-ul kkul-* is not an adjective
and therefore presumably constitutes an independent event as in
(8). Nevertheless, (9) is grammatical. Such examples suggest that
the GRC hypothesis, even augmented with event-based explanation, is
wrong.

More crucial and direct evidence against the GRC hypothesis
are examples such as the following.

(10) a. [[[[t_i t_j po-n] os_j-i]   pissa-ass-ten]
                    see-PAST-REL clothes-NOM be expensive-PAST-REL
        John$_i$-un] (kukes-ul) sa-ciankhilo kyelcengha-ess-ta
                TOP (it-ACC)   buy-not   determine-PAST-DEC
      'Lit. John$_i$ [who the clothes$_j$ [that t_i saw t_j] were expensive]
      determined not to buy (it)'

    b.*[[John-uy po-n]   os-i]   pissa-ass-ta]
            GEN   DEC

The double relative sentence (10a) is judged to be grammatical by
most Koreans, but the GRC construction from which it is presumably
derived is impossible as shown in (10b). This fact alone seems to
be reason enough to reject the GRC hypothesis.

3.2. Problems with Constraining GRCs
Second, there are problems having to do with semantic or pragmatic
constraints on the acceptability of GRCs. Yang (1987) posits the
constraint that "the subject of a relative clause may be
genitivized if the relative clause describes a characteristic
property of its head NP in Korean", and Yoon (1991) proposes that
"the genitive noun phrases in GRCs are licensed by the

inalienability of the relative heads".[6] Both of these constraints

are used to explain the grammaticality of the constructions in

(11).

(11) a. John-uy ip-un   os
              GEN wear-REL clothes
          'the clothes that John wears'

     a'.*John-uy po-n   os
                 see-PAST-REL

     b. John-uy pwuleci-n   son
              GEN be broken-REL hand
          'Lit. the hand that John is broken'

     b'.*John-uy pwuleci-n chayksangtali
                           leg of the desk

According to Yang (1987) and Yoon (1991), (11a') is ungrammatical

because the verb *po-* 'see', unlike the verb *ip-* 'wear' in (11a),

does not describe the characteristic property of its head NP *os*

'clothes'. In other words, the characteristic property of *os*

'clothes' is not to be seen but to be worn. And, on the relevant

reading, (11b') is ungrammatical because the head NP *chayksangtali*

'leg of the desk' is not an inalienable part of the genitive NP

'John' (in this repect, they seem to regard *os* 'clothes' as an

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⁶ In addition, Yoon (1991) posits the following constraints:
(i)   The relative head nouns in GRCs cannot have specifiers.
(ii) The genitive noun phrase in GRCs must be either generic or
definite.
(iii) The acceptability of a GRC is dependent on properties of the
predicate of the relative construction.
(iv) The legitimacy of the genitive noun phrases in GRCs is
dependent on the thematic role of the noun phrase.
    All of these constraints can be derived from one or two
constraints I will give later in this paper, if we reject the GRC
hypothesis that a genitive NP followed by a relative clause is the
subject of the relative clause.

inalienable part of humans).[7] If this is so, then what about the
following examples?

(12) a. John-uy peli-n   yenphil
              throw away-REL pencil
          'the pencil which John threw away'

     b. John-uy cwup-un   ton
              pick up-REL money
          'money which John picked up (or found)'

In (12), the verb *peli-* 'throw away' does not describe the
characteristic property of the head NP *yenphil* 'pencil', nor does
the verb *cwup-* 'pick up (or find)' describe the characteristic
property of *ton* 'money'; rather, the characteristic property of
yenphil 'pencil' is to be used in writing and that of *ton* 'money'
is to be spent or earned.   In addition, neither *yenphil* 'pencil'
nor *ton* 'money' is usually considered to be an inalienable part of
'John'.   The grammaticality of such examples is not explained by
the GRC hypothesis.

   3.3. The Arbitrariness of the Relation of the Genitive NP to the
        Relative Clause
The third argument against the GRC hypothesis is that the genitive
noun phrase can correspond to an object as well as a subject of the
relative clause, and may even be grammatically unrelated to the
relative clause.   Consider the following data.

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[7] However, if we are not forced to have a reading in which
John is the subject of *pwuleci* 'be broken', (12b') is perfectly
grammatical.   It may mean either "John's desk leg that is broken
(by someone)" or "John's desk leg that is broken (by John)".

(13) a. ku ai-uy   khiwu-n   pwumo
        the child-GEN raise-REL parent
        'the parent who raised the child'

    b. na-uy mossalkekwu-nun chinkwutul
        I-GEN tease-REL   friends
        'the friends who are teasing me'

    c. na-uy panhangha-nun atul
        I-GEN defy-REL   son
        'the son who defies me(NP[dat] in Korean)'

    d. na-uy salangha-nun hananim
        I-GEN love-REL   God
        'God whom I love' or 'God who loves me'

    e. na-uy mescikey ci-un   cip
        I-GEN nicely   build-REL house
        'my house which somebody built nicely'
        or 'the house which I built nicely'

In fact Kang (1988) and Yoon (1991) recognize that genitive NPs can
correspond to objects in relative clauses, though they treat such
cases as exceptional. But the exceptional cases are much more
widespread than they recognize. In (13c), the genitive NP is
related to the indirect object; and (13d) and (13e) are ambiguous
about where the genitive NPs "come from". Furthermore, in (13e),
the genitive NP bears no grammatical relation to the relative
clause in the preferred reading. And it is possible for all of the
constructions in (13) to have corresponding double relative clauses
as shown (14).

(14)
a. [[t_i t_j khiwu-n]   pwumo$_i$-ka cwuk-un] ku ai$_j$
        raise-REL   parent-NOM die-REL   the child
   'Lit. the child$_j$ [that the parent$_i$ [that t_i raised t_j] died]'

b. [[t_i t_j mossalkekwu-nun] chinkwutul$_i$-i motwu isahaypeli-n] na$_j$
        tease-REL   friends-NOM   all   move-REL   I
   'Lit. I$_j$ [that the friends$_i$ [that t_i teased t_j] all moved away]'

c. [[t$_i$ t$_j$ panhangha-nun] atul$_i$-i cip-ul   nakapeli-n] na$_j$
        defy-REL   son-NOM home-ACC leave-REL   I
  'Lit. I$_j$ [that the son$_i$ [that t$_i$ defied t$_j$] left home]'

d. [[t$_i$ t$_j$ salangha-nun] hananim$_j$-i teisang concayha-cian-un] na$_i$
        love-REL   God-NOM   any more exist-not-REL   I
  'Lit. I$_i$ [that God$_j$ [that t$_i$ love t$_j$] does not exist any more]' or

   [[t$_i$ t$_j$ salangha-nun] hananim$_i$-i teisang concayha-cian-un] na$_j$
        love-REL   God-NOM   any more exist-not-REL   I
  'Lit. I$_j$ [that God$_i$ [that t$_i$ love t$_j$] does not exist any more]'

e. [[(someone) t$_i$ mescikey ci-un] cip$_i$-i   pwulthapeli-n]   na
                nicely build-REL house-NOM be burnt down-REL I
  'Lit. I [that the house$_i$ [that someone built t$_i$ nicely] is burnt
  down]' or

   [[t$_i$ t$_j$ mescikey ci-un]   cip$_j$-i   pwulthapeli-n]   na$_i$
        nicely   build-REL house-NOM be burnt down-REL I
  'Lit. I$_i$ [that the house$_j$ [that t$_i$ built t$_j$ nicely] is burnt down]'

3.4. Theoretical Problems with GRC Analyses

The adjunction approaches of Yang (1987) and Kang (1988) also have
some theory-internal problems. First, there is no relevant
genitive case assigner, since in the standard NP analysis only the
specifier and complement positions of N are assigned genitive case.
Second, there is a violation of case theory, since the chain
containing the genitive noun phrase and its trace has two cases,
[+NOM] and [+GEN].

Pointing out these problems, another advocate of the GRC
hypothesis, Yoon (1991), suggests the base generation approach
illustrated in (15).

Following Abney (1987), Yoon (1991) proposes that the genitive
NP in GRCs is base-generated in the SPEC of D where [+GEN] is
assigned by AGR in D. He further assumes that the genitive NP and

the empty argument of the head noun form a chain.[8] The genitive
NP getting case in the D-structure position inherits (or shares)
its theta role from the empty argument.

(15)

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                    DP
              /           \
        [+case]            D'
                      /         \
                    NP            D
                 /      \
               CP        NP
                       /     \
                   empty       N'
                   argument       \
                                    N
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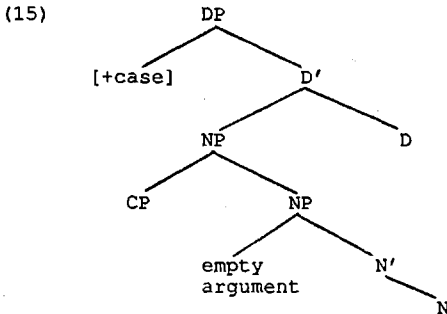
This approach also has a couple of problems. First, it is not
clear where the empty argument, which like the genitive NP is base-
generated, gets its theta role. The inference from the position of
the empty argument (i.e., it is in the internal argument position)
leads us to conclude that it gets its theta role from the head N.
But it is more appropriate for the empty argument to get its theta
role from the CP which is the relative clause (or more strictly
speaking, from the V in the CP).

The second problem is that with this approach, we cannot
explain the scrambling between a genitive NP and a relative clause

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[8] Traditionally a chain consists of an argument and its
traces. That is, chains arise from movement. So it is
questionable whether the genitive NP, which is base-generated, and
the empty argument of the head noun, which is also base-generated,
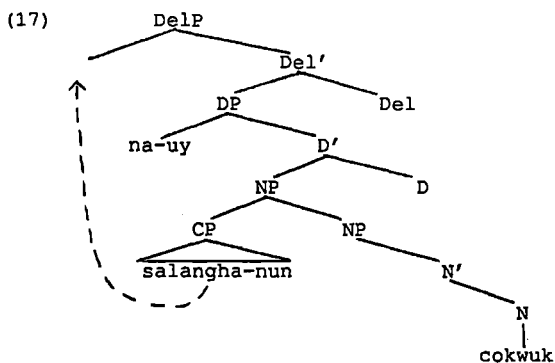can form a chain.

as in (16).[9]

(16) a. [John-i   yenphil-lo ssu-n]   pyenci
             NOM pencil-with write-REL letter
         'the letter which John wrote with a pencil'
     a'. *[yenphil-lo ssu-n] John-i pyenci

     b.   John-uy [yenphil-lo   ssu-n]   pyenci
             GEN pencil-with write-REL letter
         'the letter which John wrote with a pencil'
     b'. [yenphil-lo ssu-n] John-uy pyenci

     c.   na-uy [salangha-nun] cokwuk
          I-GEN love-REL   native contury
         'the native contury which I love'
     c'. [salangha-nun] na-uy cokwuk

As we can see in (16a'), when the NP is nominative, the scrambling

is impossible; but it is genitive, the scrambling is possible.

    However, if we read Yoon's (1990) dissertation carefully, we

can infer that the scrambling in the example constructions like

(16b' and c') can be explained. He posits a Del(imiter) Phrase

above DP in (15) as illustrated in (17). And the SPEC of this DelP

functions as a landing site for scrambling. Thus the scrambling in

the example construction (16c') can be explained in his structure,

since the scrambling occurs between just two constituents.

    However, what about a more general structure like (18), where

the scrambling occurs between three constituents, i.e., the

scrambling occurs in six different grammatical ways as shown in

(19)?

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    [9] The adjunction approaches of Yang (1987) and Kang (1988) do
not explain this scrambling phenomenon either. According to Gil
(1987), this scrambling phenomenon is also observed in Japanese
NPs.

(17)

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          DelP
         /    \
        /      Del'
       /      /    \
      ↑      DP      Del
      |     /  \
      |  na-uy   D'
      |        /   \
      |       NP     D
      |      /  \
      |    CP    NP
      \  salangha-nun    \
       \ _ _ /            N'
                         /  \
                             N
                             |
                          cokwuk
```

(18)   John-uy [salangha-nun] ku yeca
              GEN   love-REL   the woman
         'the woman whom John loves'

(19) a. John-uy [salangha-nun] ku yeca
     b. John-uy ku [salangha-nun] yeca
     c. [salangha-nun] John-uy ku yeca
     d. [salangha-nun] ku John-uy yeca
     e. ku John-uy [salangha-nun] yeca
     f. ku [salangha-nun] John-uy yeca[10]

Yoon cannot solve this problem unless he posits another unmotivated
phrase above DelP.

     On the basis of the array of arguments presented in this
section, it would appear that we have no choice but to reject the
GRC hypothesis.   In the next section, I develop an alternative
analysis which addresses all the problems with the GRC analyses
discussed above.

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[10] In (d), (e) and (f), in addition to the given reading, there
may be another reading which means 'the woman whom that John (not
this John) loves'.

4. A New Analysis and its Implementation in HPSG

I propose that there is in fact no distinct GRC construction.   In
other words, a genitive NP before a relative clause has no
grammatical relation to the subject position or any other position
of the relative clause.   What I assume instead is that a genitive
NP followed by a relative clause may happen to be coindexed with a
pro (phonetically empty pronominal argument) in the relative
clause, depending on the context.   To make my explanation explicit,
let us assume the following general structure for so-called GRCs.

(20)   NP[gen] $[...e_i...e_j...Vt]_{RC}$ N'

If we suppose for example that the verb within the relative clause
is transitive, there may be two empty categories (the subject and
the object).   And, here, the head noun will typically be coindexed
with one of the empty categories in the relative clause.   Then, the
genitive NP will be coindexed with the other empty category, which
is a pro.   So if the head noun is coindexed with e_j (the object in
the relative clause), the genitive NP will be coindexed with e_i
(the subject), and on the other hand, if the head noun is coindexed
with e_i (the subject), then the genitive NP will be coindexed with
e_j (the object).   Thus so-called GRCs correspond to the former
case. My point is that GRCs are just a special case of the general
structure in (20), with the specific (if any) coindexing determined

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by context.[11] That is why it is so difficult to capture general constraints on the acceptability of GRCs.

One more thing we must not fail to notice is that every genitive NP followed by a relative clause plus a head NP has the possessive reading with respect to the head NP.[12] In this respect, I assume that the structure under discussion is one in which a relative clause is inserted between a genitive NP and a head NP. This in turn leads us to predict that scrambling between the genitive NP and the relative clause is possible, as was shown in (16).

If we reject the GRC hypothesis and follow the approach just suggested, we can characterize the construction under discussion in terms of just two constraints.

One is Kuno (1976)'s functional constraint (21):

(21) A relative clause must be a statement about its head noun.

This is a constraint not only on the structure under discussion but also on relative clauses in general. With this constraint, we can explain the unacceptability of (8) on the ground that the relative

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[11] Thus there may be cases in which the genitive NP is not coindexed with any empty category in the relative clause, as shown (13e).

[12] Here, the term "possessive reading" is used in a broad sense, not in a narrow sense in which something "belongs to" something or something is an "inalienable part" of something. My term "possessive reading" includes all the possible readings available when a genitive NP is followed by an NP without an intervening relative clause.

clause in (8) *ip-un os-i saenghwalcengdo-lul cwawuha-nun* 'the clothes that are worn determines the living standard' is not a statement about the gentleman but about persons in general.

The second constraint is related to a processing effect.

(22) In a structure which has a genitive NP followed by a relative clause, the relative clause must be heavy enough (at least two syllables, and the longer it is, the more acceptable it is).

If a relative clause is short (here, one syllable), it may sound incomplete as a clause. So language users are likely to think that the relative clause (strictly speaking, the verb in the relative clause) should have overt arguments such as a subject NP or an object NP instead of the genitive NP. Thus the structure with a genitive NP followed by a relative clause which consists of one syllable sounds odd to many people. With this constraint, we can explain the ill-formedness of (11a'). If the relative clause becomes longer by adding some adverbs, the construction is grammatical as in (23).

(11a') *John-uy po-n   os
           GEN see-PAST-REL clothes

(23)   John-uy ecey   po-n   os
                yesterday see-PAST-REL

And interestingly enough, as discussed in footnote 9, (11b') is grammatical, contrary to the prediction of the GRC hypothesis. This is because we need not interpret *John* as the subject of

pwuleci- 'be broken', although it does have a possessive reading to the head NP *chayksangtali* 'leg of the desk'.

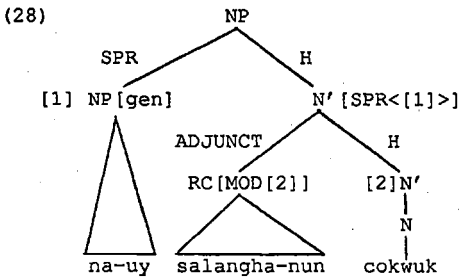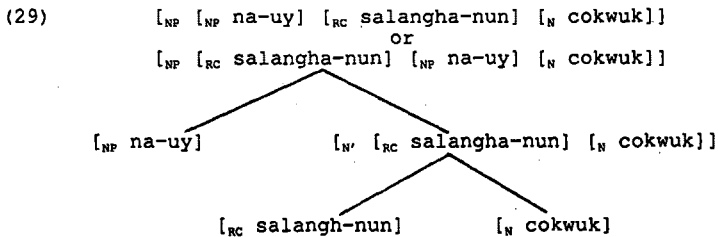From the arguments we have developed so far, we may summarize our observations and assumptions as follows.

(24)

a. GRCs do not exist.

b. A genitive NP always has the possessive reading with respect to the head NP.

c. A genitive NP followed by a relative clause can be coindexed with a pro in the relative clause.[13]

d. There are two constraints on the construction of a genitive NP plus a relative clause plus a head NP.

(i) A relative clause must be a statement about its head noun.

(ii) The relative clause must be heavy enough (at least two syllables, and the longer it is, the more acceptable it is).

e. Scrambling between a genitive NP and the following RC is possible.

This new approach to the facts under discussion can be formalized within the HPSG framework (Pollard and Sag, in press), in at least two ways.

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[13] This assumption is not without problems. That is, the problem arises whether a pro coindexed with the genitive NP can be replaced by its corresponding explicit pronoun. This substitution in the constructions under discussion is bad in most cases. To solve this problem, I assume following J. Yoon (this volume) that pro and overt pronouns do not have exactly the same distribution.

One analysis involves a flat structure as in (25).[14]

(25)

```
                 N'
            ╱    │    ╲
        NP[gen]  RC    N'
                       │
                       N
```

(26) LP Statement: X < head

Here we assume that NPs in Korean have flat structure, analogous to the flat (VP-less) structure for sentences proposed by Chung (1993).   And the LP statement in (26) accounts for scrambling automatically, since there is no precedence relation between NP[gen] and RC.   The most probable HPSG schema for licensing the structure in (25) seems to be a modified Head-Adjunct Schema as in (27).

(27) Head-Adjunct Schema: XP ---> YP*,   XP

                                     ADJUNCT HEAD

---

[14] Gil (1987) also assumes that Japanese-type languages have flat NP structures, unlike English-type languages. This is because in the former type of languages nouns may occur without overt marking of (in)definiteness; hence, bare nouns have roughly the same distribution as quantified nouns, nouns with demonstratives, pronouns, and proper nouns.   So there is no reason not to assign bare nouns to the same syntactic category as these other types of nominal expressions. Concomitantly, on Gil's analysis, there is no hierarchic treatment of "stacked" adjective constructions in this type of language.   These observations also apply to Korean.

An alternative HPSG analysis would adopt the word order domain approach suggested by Reape (1990). This approach rejects phrase structure as the basis of word order. Instead, it projects word order domains, allowing them to consist of elements which are -- in terms of the syntactic derivation -- not sisters and therefore couldn't be ordered with regard to each other in a strictly phrase-structure based approach, so that "sequence union" of domains may operate. The sequence union operation is a linear ordering operation informally defined as follows: When a nonhead expression and a head expression combine, parts of each expression can be intercalated as long as the precedence relations in both nonhead and head expression remain the same, i.e., as long as the LP statement holds. If we apply this sequence union operation to the example syntax tree shown in (28), we will have the domain tree of (29) which shows how scrambling occurs, i.e., the sequence union of the NP[gen] and N' word order domain allows us to have both *na-uy salangha-nun cokwuk* and *salangh-nun na-uy cokwuk* as outputs. We can apply this approach to the construction discussed, since the lexical head is in the final position and the LP statement applies to every domain.

(28)

```
                        NP
             SPR      /    \      H
        [1] NP[gen]          N'[SPR<[1]>]
              /\       ADJUNCT /      \  H
             /  \      RC[MOD[2]]     [2]N'
            /    \       /\            |
           /      \     /  \           N
          /_____\   /____\          |
         na-uy     salangha-nun      cokwuk
```

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(29)   [$_{NP}$ [$_{NP}$ na-uy] [$_{RC}$ salangha-nun] [$_{N}$ cokwuk]]
                            or
        [$_{NP}$ [$_{RC}$ salangha-nun] [$_{NP}$ na-uy] [$_{N}$ cokwuk]]

    [$_{NP}$ na-uy]   [$_{N'}$ [$_{RC}$ salangha-nun] [$_{N}$ cokwuk]]

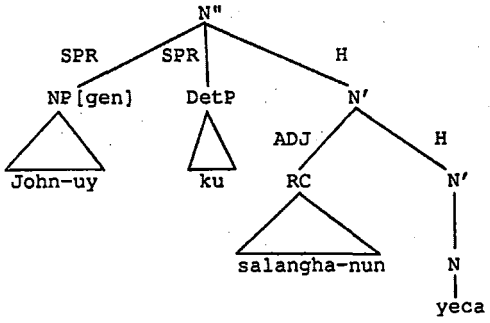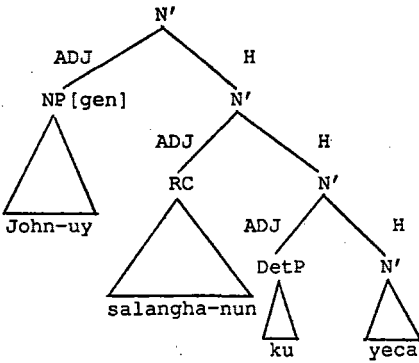   [$_{RC}$ salangh-nun]   [$_{N}$ cokwuk]

    LP statement: X < lexical head

We have seen so far how the problem of scrambling, which is
solved in none of Yoon (1991)'s, Yang (1987)'s, or Kang (1988)'s
approaches, can be solved within the HPSG framework.   In (17),
however, it was shown that the problem of scrambling in the example
construction could be solved by positing a Del(limiter) Phrase
above DP, as in Yoon (1990). The remaining problem there concerned
more general structure like (18), where the scrambling occurs
between three constituents as in (19).   In the HPSG framework,
however, we can solve this problem either of the same two ways
described above. To get a flat structure, we need only one more
daughter node in (25), i.e., determiner phrases would also be
treated as adjuncts.   Alternatively, to apply the word domain
approach, we need only to have structures in which the heads are in
the final positions at each level of the structure. The number of
possible structures seems to be four as follows, depending on
whether the possessive NP and the determiner phrase are treated as
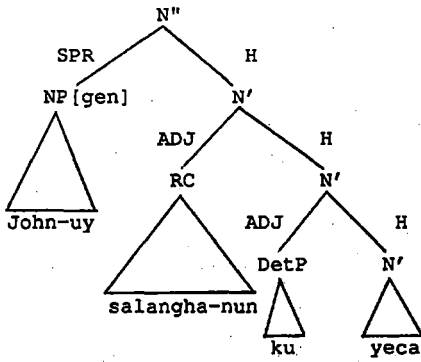an adjunct or an specifier respectively.

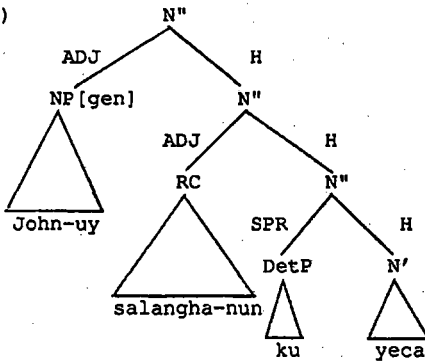(30)   X" --->   Y"*,   X'

                  SPR   HEAD

```
                        N"
          SPR        SPR            H
        NP[gen]     DetP            N'
          /\         /\      ADJ         H
         /__\       /__\            N'
       John-uy      ku     RC
                          /    \    N
                         /_____\   |
                      salangha-nun  N
                                    |
                                  yeca
```

(31)
```
                  N'
        ADJ            H
      NP[gen]          N'
        /\      ADJ          H
       /  \              N'
      /____\    RC      
     John-uy   /  \   ADJ      H
             /     \            N'
            /_____\ DetP
         salangha-nun  /\     /\
                      /__\   /__\
                       ku     yeca
```

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(32)

```
                    N"
         SPR              H
      NP[gen]             N'
                    ADJ        H
                      RC       N'
                           ADJ     H
                             DetP    N'
      John-uy
              salangha-nun   ku    yeca
```

(33)

```
                    N"
         ADJ              H
      NP[gen]             N"
                    ADJ        H
                      RC       N"
                           SPR     H
                             DetP    N'
      John-uy
              salangha-nun   ku    yeca
```

For the present, it seems difficult to determine which one of
these four structures is to be preferred. To answer this question,
it will be necessary to investigate more general NP structures. I
leave this question for future study.

5. Conclusion

In this paper, I provided an analysis of so-called GRCs. I examined the approaches to this construction and concluded that GRCs do not exist as a distinct construction and that what have been analyzed as GRCs are just special cases of the general NP structure I developed.

And given the problems of the previous approaches, especially the problem of scrambling, I have shown that the HPSG framework, with or without the word domain approach, offers promising alternatives.

References

Abney, S. 1987. *The English NP in its Sentential Aspects*, Ph.D. dissertation, MIT.

Choe, Hyon Sook. 1985. "Case, the X-bar theory and Korean Syntax," ms., MIT.

Chomsky, N. 1977. "On wh-movement," in Culicover, Wasow and Akmajian, eds., *Formal Syntax*, Academic Press.

Chomsky, N. 1986. *Barriers*, MIT Press.

Chung, Chan. 1993. "Korean Auxiliary Verb Constructions Without VP-Nodes," in S.Kuno, et al, eds., *Harvard Studies in Korean Linguistics V.*

Gil, D. 1987. "Definiteness, Noun Phrase Configurationality, and the Count-Mass Distinction," in Reuland and Meulen, eds., *The Representation of (In)definiteness*, MIT press.

Higginbotham, J. 1985. "On Semantics," *Linguistic Inquiry*, 16.4: 547-93.

Huang, C.-T.J. 1982. *Logical Relations in Chinese and the Theory of Grammar*, Ph.D.Dissertation, MIT.

Kang, Myung-Yoon. 1988. "Syntactic Movement in Korean Relativization", *Linguistics in the Morning Calm 2.*

Kuno, S. 1973. *The sructure of the Japanese Language*, MIT Press.

Kuno, S. 1976. "Subject, Theme and Speaker's Empathy: A Reexamination of Relativization Phenomena," in Li, C. ed., *Subject and Topic.* Academic Press.

Pollard, C. and I.A. Sag. In press. *Head-Driven Phrase Structure Grammar.* University of Chicago Press and CSLI Publications.

Reape, M. 1990. "Getting Things in Order," *Tilburg Workshop on Discontinuous Constituency*: 125-137.

Saito, M. 1985. *Some Asymmetries in Japanese and Their Theoretical Implications*, Ph.D.Dissertation, MIT.

Vergnaud. 1974. *French Relative Clauses*, Ph.D.Dissertation, MIT.

Yang, Dong-Whee. 1987. "Barriers and Relativization," *Language Research 23.*

Yoon, Jae-Hak. This volume. "Different Semantics for Different Syntax: Relative Clauses in Korean."

Yoon, Jong-Yurl. 1990. *Korean Syntax and Generalized X-bar Theory*, Ph.D.Dissertation, UT Austin.

Yoon, Jong-Yurl. 1991. "On Genitive Relative Constructions in Korean," in S.Kuno, et al, eds., *Harvard Studies in Korean Linguistics IV.*