

Case and Word Order Variations in Nominal Clauses

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In this paper, I present the data concerning case and word order possibilities in event nominal clauses, and propose an analysis based on the assumption that arguments are base-generated in any order in Korean. I also discuss some consequences of the analysis, which contradict some arguments which have been proposed to support the view that scrambling is movement.

1. Introduction

The issue of whether scrambling is movement or base-generation drew much attention in the early 80's, under the name of '(non)configurationality', Hale (1982). However, most recent studies on scrambling in the "principles and parameters" approach to syntax (GB hereafter) have focused on the issue of scrambling as A or A-bar movement (Webelhuth (1989), Mahajan (1990), Frey (1990), Miyagawa (1990), Saito (1991), etc.),¹ taking it for granted that scrambling is a movement process. Despite this, I will argue that an analysis of scrambling as movement is not empirically well-motivated on the basis of the data concerning case and word order possibilities in event nominal clauses.

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A crucial theoretical motivation for a movement analysis of scrambling in GB is to observe the projection principle. This principle is intended to preserve the thematic structure projected from the lexicon at all levels of representation, which results a category VP in the X-bar system of the base.² The category VP posited this way, however, is a pure reflex of the thematic hierarchy of the arguments determined in the lexicon, cf. Chomsky (1981: 127–129) which begs for further syntactic justifications. Given this, various linguists (Saito (1985), Webelhuth (1989)) have tried to justify scrambling as movement in two ways: One is by motivating the category VP in syntax, e.g. asymmetry in nominative/accusative case assignment, subject/object asymmetry in scrambling, facts concerning pronominal coreference. The other is by finding similarities between scrambling and other well-established movement phenomena such as *wh*-movement and topicalization in English, e.g. island effects, left-branch condition effects, various crossover effects.

In this paper, I will argue that facts concerning asymmetry in nominative/accusative case assignment and left-branch condition effects do not constitute evidence for scrambling being movement based on an analysis of event nominal clauses in Korean and Japanese.

As will be discussed at length in section 2, an event nominal clause where the head noun is followed by an aspect morpheme, exhibits various case possibilities for the same argument structure. Furthermore, arguments exhibit different degrees of word order freedom depending on the case they bear. (Iida (1987), Shibatani and Kageyama (1988), Sells (1990), Miyagawa (1990) for Japanese, and Cho and Sells (1991) for Korean). The intricacy of the data serves to constrain certain details concerning case licensing which have been, so far, left underdetermined. At the same time, it permits a very simple analysis if we assume that arguments are base-generated in any order.

After presenting the data in section 2, I propose my analysis, and discuss

² The category VP in this case is a theoretical notion by which we distinguish subject position from object positions, i.e. a subject position is external to VP, while an object position is internal to VP. Although it is perfectly legitimate to posit a category VP, without necessarily making a subject position external to it, for example, as in various instantiations of the VP-internal subject hypothesis (cf. Fukui (1986), Fukui and Speas (1986), Kitagawa (1986) and Koopman and Sportiche (1988)), the category VP in this paper should be understood in its theoretical sense, unless otherwise specified.

the categorial status of an aspect morpheme, and a potential problem for θ -role assignment under my analysis in section 3. In section 4, I discuss some consequences of the analysis. Section 5 is the summary of the paper. All the examples in this paper are given in Korean, but the arguments hold for Japanese as well, unless otherwise specified.

2. Data Description

As discussed by Iida (1987), Shibatani and Kageyama (1988), Sells (1990), Miyagawa (1990) for Japanese, and Cho and Sells (1991) for Korean, an event/process noun (event noun hereafter), as opposed to a resultative noun, has its own argument structure, as shown in (1), cf. Grimshaw (1990):³

- | | | | |
|--------|---|------------------|-------------|
| (1) a. | Kim kyoswu-uy | wencahayk-uy | yenkwu |
| | Kim professor-GEN | nuclear cell-GEN | research |
| b. | *Kim kyoswu-ka | wencahayk-uy | yenkwu |
| | Kim professor-NOM | nuclear cell-GEN | research |
| c. | *Kim kyoswu-ka | wencahayk-ul | yenkwu |
| | Kim professor-NOM | nuclear cell-ACC | research |
| | 'Prof. Kim's research on nuclear cells' | | |
| (2) a. | *Kim kyoswu-uy | wencahayk-uy | yenkwuhanta |
| | Kim professor-GEN | nuclear cell-GEN | do research |
| b. | *Kim kyoswu-ka | wencahayk-uy | yenkwuhanta |
| | Kim professor-NOM | nuclear cell-GEN | do research |
| c. | Kim kyoswu-ka | wencahayk-ul | yenkwuhanta |
| | Kim professor-NOM | nuclear cell-ACC | do research |
| | 'Prof. Kim does research on nuclear cells.' | | |

The event head noun *yenkwu* 'research' in (1) takes two arguments, i.e. the subject and the object, just like its verbal counterpart *yenkwuhanta* 'to do

³ In the glosses, I use the following abbreviations:

NOM	nominative	ACC	accusative	GEN	genitive
LOC	locative	ASP	aspect	CE	causative ending
TOP	topic	PL	plural	Q	question

research' in (2). The main difference between the two cases is that in (1) all of the arguments have to be marked genitive case, while in (3), verbal case.⁴

2.1. Case Possibilities

However, when an event noun is followed by an aspect morpheme, such as *(to)cwung* 'during', *(cik)hwu* '(right) after', *(tang)si* 'when', etc., the arguments exhibit additional case possibilities, as illustrated in (3).⁵

- | | | | |
|--------|--|---|----------------------------------|
| (3) a. | [Kim kyoswu-uy
Prof. Kim-GEN
cencayng-i
war-NOM | wencahayk-uy
nuclear cell-GEN
ilenassta
took place | yenkwu-cwung]
research-during |
| b. | [Kim kyoswu-ka
Prof. Kim-NOM
cencayng-i
... | wencahayk-ul
nuclear cell-ACC
ilenassta | yenkwu-cwung]
research-during |
| c. | ?[Kim kyoswu-ka
Prof. Kim-NOM
cencayng-i
... | wencahayk-uy
nuclear cell-GEN
ilenassta | yenkwu-cwung]
research-during |
| d. | *[Kim kyoswu-uy
Prof. Kim-GEN
cencayng-i
... | wencahayk-ul
nuclear cell-ACC
ilenassta | yenkwu-cwung]
research-during |
- 'During Prof. Kim's research on nuclear cells, a war took place.'

The arguments may be marked not only all genitive case, as in (3)a, but also all verbal case, as in (3)b. Furthermore, some arguments may be

⁴ Verbal case refers to nominative and accusative case, as opposed to genitive case.

⁵ Strings relevant for the present discussion are indicated by square brackets. The matrix clause *cencayng-i ilenassta* 'a war took place' is added to show that the subject of the nominal clause (*Kim kyoswu* in this case) does not have to coincide with the subject of the matrix clause (*cencayng*).

marked with verbal case, and others, with genitive case (mixed case array): In (3)c, the subject is marked nominative, and the object, genitive. The combination shown in (3)d, however, is ungrammatical, where the genitive subject is followed by the accusative object.

We observe the same kind of case possibilities with ditransitive event nouns. This is illustrated in (4)a–(4)f:

- | | | |
|--------|---|---|
| (4) a. | Kim chongcang-uy
president Kim-GEN
colepcang-uy
certificate-GEN | swusekhaksayng-eykey-uy
best student-DAT-GEN
swuye-cwung
pass-during |
| b. | Kim chongcang-i
president Kim-NOM
colepcang-uy
certificate-GEN | swusekhaksayng-eykey-uy
best student-DAT-GEN
swuye-cwung
pass-during |
| c. | Kim chongcang-i
president Kim-NOM
colepcang-uy
certificate-GEN | swusekhaksayng-eykey
best student-DAT
swuye-cwung
pass-during |
| d. | Kim chongcang-i
president Kim-NOM
colepcang-ul
certificate-ACC | swusekhaksayng-eykey
best student-DAT
swuye-cwung
pass-during |
| e. | *Kim chongcang-uy
president Kim-GEN
colepcang-ul
certificate-ACC | swusekhaksayng-eykey-uy
best student-DAT-GEN
swuye-cwung
pass-during |
| f. | *Kim chongcang-i
president Kim-NOM
colepcang-ul
certificate-ACC | swusekhaksayng-eykey-uy
best student-DAT-NOM
swuye-cwung
pass-during |
- ‘during President Kim’s award of the graduation certificate to the best student’

b. Kim chongcang-i president Kim-NOM swusekhaksayng-eykey-uy best student-DAT-GEN	colepcang-uy certificate-GEN swuye-cwung pass-during
c. *swusekhaksayng-eykey-uy best student-DAT-GEN colepcang-uy certificate-GEN	Kim chongcang-i president Kim-NOM swuye-cwung pass-during
d. swusekhaksayng-eykey best student-DAT colepcang-uy certificate-GEN	Kim chongcang-i president Kim-NOM swuye-cwung pass-during
e. *swusekhaksayng-eykey best student-DAT Kim chongcang-i president Kim-NOM	colepcang-uy certificate-GEN swuye-cwung pass-during
f. *colepcang-ul certificate-ACC swusekhaksayng-eykey-uy best student-DAT-GEN	Kim chongcang-uy president Kim-GEN swuye-cwung pass-during

'during president Kim's passing the graduation certificate to the best student'

On examining the examples in (6) and (7), we find the descriptive generalization in (8):

- (8) 1. In the cases where arguments are marked with either uniformly genitive case or uniformly verbal case, all logically possible permutations of the arguments are grammatical: (6)a, (6)b, (7)a.
2. In the cases where arguments show mixed case array, both (a) and (b) below should hold.
- The generalization stated in (5) holds: (7)b, (7)d, vs. (6)c, (7)c, (7)e.
 - An argument to the left of a genitive argument cannot be marked accuative case: (6)d, (7)f.

Since the first item of the generalization (8) is a subset of (5), we can simplify

the generalization, as in (9).

- (9) 1. If an argument is marked with genitive case, all other arguments to its right must be marked genitive case.
2. An argument to the left of a genitive argument cannot be marked accusative case.

Before moving to an analysis of the data, I will briefly comment on the permutation among genitive phrases, since people's judgments on the data vary greatly. Most people find (6)a to be worse than (6)b, as indicated by '?'. However, there is a clear contrast in grammaticality between (6)a and other ungrammatical examples. Also, adding a pause between the object and the subject improves the acceptability significantly. Moreover, (7)a is much more natural than (6)a, even though the ordering of the subject and the object in the two is the same. Although it is not clear why (7)a should be any better than (6)a, examples like (7)a lead me to conclude that permutation among genitive phrases is syntactically possible. Finally, (10) below shows that adding an adverbial phrase *mikwuk-eyse-uy* between the object and the subject in (6)a improves the acceptability of the string.⁷

- (10) *wencahayk-uy Kim kyoswu-uy mikwuk-eyse-uy yenkwu-cwung...*
 nuclear cell-GEN Prof. Kim-GEN America-LOC-GEN research-during
 'during Prof. Kim's research on nuclear cells in America, ...'

3. Proposal: A Base-generation Analysis

In this section I propose an analysis of the data, and justify some assumptions I make on the categorial status of aspect markers and event nouns.

3.1. Analysis

For my analysis, I assume the case licensing conditions in (11),^{8,9} which

⁷ Saito (1985: 228–235) claims that scrambling among genitive phrases is not possible in Japanese. However, he did not consider the cases like (7)a and (10).

⁸ Miyagawa (1990) gives a movement analysis for the same set of data in Japanese. The genitive case licensing condition here is directly adopted from his analysis.

⁹ The question of which lexical head has [+ACC] feature is orthogonal to the main issue here, and the reader can refer to Kim (1990) and Hong (1991) for thorough discussions on the nature of [+ACC] verbs.

requires the notion of ‘licensing’ and ‘government,’ as defined in (12) and (13), respectively.¹⁰

(11) Case Licensing Conditions

- a. Genitive case is licensed by a [+N, –V] lexical head.
- b. Accusative case is licensed by a [+V, +ACC] lexical head at S-structure.
- c. Nominative case is licensed by a [+V] category at S-structure.

(12) α licenses β iff either (i) or (ii) holds:

- i. α governs β .
- ii. α immediately dominates β .

(13) α governs β iff α m-commands β and there is no barrier between α and β (cf. Chomsky (1986: 9)).

I assume the following with regard to argument order and aspect morphemes.

- (14) a. Arguments are base generated in any order at D-structure.
 b. An aspect morpheme projects a category with the feature [+V].

Now I propose (15):¹¹

- (15) **Proposal:** Case alternation and word order variation in event nominal clauses are derived from the interaction between
- the scope of an aspect morpheme, and
 - the licensing conditions for nominative, accusative, and genitive case.

Let us consider a few examples to see how the current proposal explains the data.

¹⁰ As for the definition of ‘barrier’ and its related notions, refer to Chomsky (1986).

¹¹ Accounting for various case possibilities in terms of the scope of an aspect marker here is hinted at Abney (1987). Abney explains the distribution of nominative, accusative and genitive subject of a gerund clause in English in terms of the scope of the gerund morpheme *-ing* with the feature [+N].

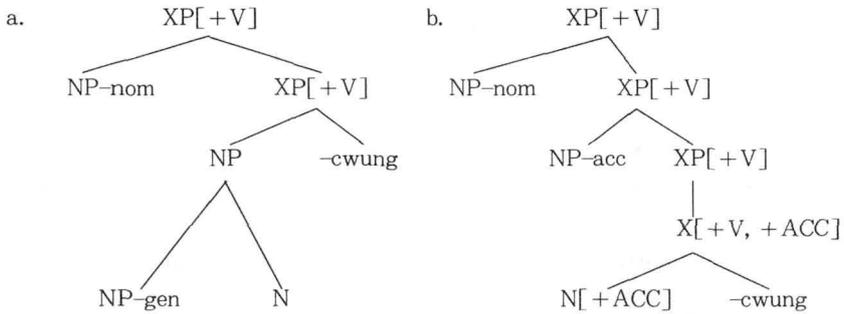


Figure 1: Derivation of 'NOM-GEN' and 'NOM-ACC' Order

Figure 1a is a schematic representation for (3)c, where the nominative subject precedes the genitive object. The genitive case on the object is licensed by the head noun. The nominative case on the subject is licensed by 'XP[+V]' which immediately dominates it.¹² Figure 1b is a representation of (3)b, where the nominative subject precedes the accusative object.¹³ The accusative case on the object is licensed by the [+V, +ACC] lexical head 'X', and the nominative case on the subject, by 'XP[+V]'.

Figure 2a is a representation of (3)d, which is ungrammatical. This string is correctly ruled out since there is no N lexical head which can license the genitive case on the NP from the left. Figure 2b is a representation of (6)d, which is ungrammatical. Its ungrammaticality is due to the fact that there is no [+V, +ACC] lexical head which can license the accusative case on the first NP from the left, even though the genitive case on the second NP is licensed by the head noun. The reader may easily verify the correctness of the analysis with respect to the remaining examples.

¹² The categorial status of XP will be discussed in detail in the next subsection.

¹³ As Sells (1990: 12–13) points out, the default hypothesis for the category of an event noun would be that it is a verb, especially when the arguments exhibit verbal case array. In fact this is the position which Ahn (1991) takes. However, the fact that arguments may be marked verbal case only when the event noun is followed by an aspect morpheme, indicates that its category is always a noun, and that it is the aspect morpheme which affects the case possibility of the arguments.

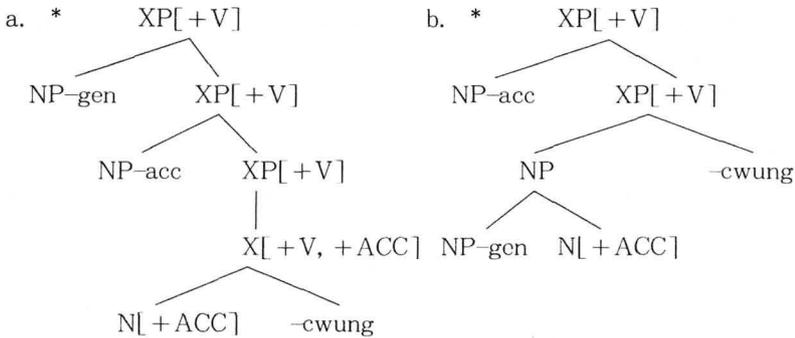


Figure 2: Derivation of 'GEN-ACC' and 'ACC-GEN' Order

3.2. Categorical Status of an Aspect Morpheme and an Event Noun

In giving my analysis, I have assumed that an aspect morpheme projects a category with feature [+V]. I also assumed that the category of an event noun is a noun, regardless of the kind of case which the arguments exhibit. In this section, I discuss the motivation behind these assumptions.

The decision on the categorial status of an aspect morpheme is due to the distribution of nominative/accusative case in the data. As is clear from the contrast in case possibilities between (16) and (17) below, it is the aspect morpheme which is responsible for the occurrence of accusative and nominative case.

- (16) a. Kim kyoswu-uy wencahayk-uy yenkwu
 Kim professor-GEN nuclear cell-GEN research
- b. *Kim kyoswu-ka wencahayk-ul yenkwu
 Kim professor-NOM nuclear cell-ACC research
- c. *Kim kyoswu-ka wencahayk-uy yenkwu
 Kim professor-NOM nuclear cell-GEN research
 'Prof. Kim's research on nuclear cells'
- (17) a. Kim kyoswu-uy wencahayk-uy yenkwu-cwung
 Prof. Kim-GEN nuclear cell-GEN research-during
- b. Kim kyoswu-ka wencahayk-ul yenkwu-cwung
 Prof. Kim-NOM nuclear cell-ACC research-during

- c. Kim kyoswu-ka wencahayk-uy yenkwu-cwung
 Prof. Kim-NOM nuclear cell-GEN research-during
 'during Prof. Kim's research on nuclear cells'

I attribute this case licensing ability of the aspect morpheme to one of its features, [+V]. Since the standard view on accusative case assignment is the same as I assume here, cf. Chomsky (1981: 170), my treatment of an aspect morpheme as a category with the feature [+V] for the purpose of accusative case licensing does not require further justification. With respect to nominative case licensing, however, a largely accepted view is that it is licensed by INFL or its component categories such as AGR or Tense, not by a category with feature [+V].¹⁴ Despite this common view, below I give one piece of evidence which demonstrates that INFL is not responsible for nominative case assignment, indirectly supporting my view that [+V] feature is all that is required for nominative case licensing.¹⁵

In Korean, nominative case may occur in a small clause where there is no inflection/aspect morpheme. Consider the examples in (18) and (19):

- (18) na-nun [aki-ka wulum-ul kuchi-key] hayssta
 I-TOP baby-NOM cry-ACC stop-CE made
 'I made the baby stop crying.'
- (19) sensayngnim-kkeyse [Chelswu-ka kongpwu-lul
 teacher-NOM Chelswu-NOM study-ACC
 kyesokha-tolok] seltukhasiessta
 continue-so that persuaded
 'The teacher persuaded Chelswu to continue studying.'

(18) is an example of causative constructions, and (19), a control construction.¹⁶ Both constructions require a tenseless complement clause, as

¹⁴ In his analysis of the same data, Miyagawa (1990) treats the aspect morphemes as functional categories, and claims that both nominative and accusative case are licensed by a functional category.

¹⁵ As for a more detailed discussion on the independence of nominative case from INFL in Japanese/Korean, refer to Heycock and Lee (1989) and Lee (1990).

¹⁶ Strictly speaking, (19) is not a control construction under the analysis given here, since there is no PRO in the embedded clause which is controlled by a matrix argument. I am calling this a control construction for the following reasons: (1) the translation of the matrix verb corresponds to English *persuade*, which is a control verb, (2) the embedded subject *Chelswu-ka* may occur as a dative argument as well, and in that case the dative argument is better analyzed as a matrix clause argument which controls the PRO in the embedded clause.

evidenced by the absence of tense/aspect morphemes in each embedded clause. Nevertheless, the embedded subjects *aki* in (18), and *Chelswu* in (19), respectively, are marked nominative. If the existence of a functional projection corresponding to an inflection/aspect morpheme is essential for nominative case, then the only way of explaining the data above would be by positing a functional projection with a null head, which I choose not to adopt. On the other hand, if we adopt the assumption that nominative case is licensed by [+V] category, as is assumed here, then the nominative case of the embedded subjects in (18) and (19) is explained with no stipulation.

A question which might arise from assuming that an aspect morpheme is a category with feature [+V], which heads the projection 'XP[+V]' in figure 1 and figure 2, is how we explain NP-like behaviors of the category 'XP[+V]'. As Sells (1990) correctly points out for Japanese, the category corresponding to 'XP[+V]' in Japanese behaves very much like an NP in the following sense: First, only nominal categories appear in front of the copula *da*, and the category at issue occurs in front of the copula. Second, the category can be followed directly by nominative/accusative case markers just like an NP.¹⁷ Jeong-Ryeol Kim(p.c.) has also pointed out to me that the category at issue should be an NP since it may be followed by a postposition, as illustrated in (3)a–(3)c in section 2.

Even though the facts Sells and Kim point out are true, these facts don't necessarily lead to the conclusion that the category is an NP, since not only an NP but also a PP can be followed by a copula, cf. (20), by a case marker, cf. (21), and by another postposition, cf. (22).

- (20) [nay-ka ne-lul po-n] kes-un hakkyo-eyse-i-ta
 I-NOM you-ACC saw-MOD thing-TOP school-LOC-COP-DEC
 'It was in school that I saw you.'

- (21) cikum-pwute-ka ciccata
 now-from-NOM be effective
 '(The/a thing) is effective from now on.'

¹⁷ Sells (1990) actually discusses these facts to argue that the category of an event noun is an N, not a V. Although he also notes that it is the feature [+asp] in the aspect morpheme which licenses nominative and accusative case, he does not consider the possibility that an aspect morpheme is an independent category with its own projection. Instead, it is simply a suffix to the head noun, leaving the categorial status of the head noun intact.

- (22) Chelswu-ka Seoul-eyse-pwute tallye oassta
 Chelswu-NOM Seoul-LOC-from ran and came
 ‘Cheswu ran from Seoul.’

From examples (20)–(22) it seems reasonable to conclude that the category ‘XP[+V]’ is in fact a PP, and an aspect morpheme is a P. Nevertheless, this option is not viable in GB since the category P is a feature bundle [–V, –P], and I leave this question open here.¹⁸

¹⁸ James Yoon (p.c.) has pointed out to me that when an event noun is followed by the morpheme *-cha* ‘as an occasion’, genitive case array is not allowed, as illustrated by the ungrammaticality of (a) below:

- a. *[Bush taythonglyeng-uy incil muncey-uy hyepsang-cha] cwungtong swunpang kil-ey ollassta
 president Bush-GEN hostage problem-GEN to negotiate middle east visiting road-LOC rose
- b. [Bush taythonglyeng-i incil mungcey-lul hyepsang-cha] cwungtong swunpang kil-ey ollassta
 president Bush-NOM hostage problem-ACC to negotiate middle east visiting road-LOC rose
- c. [Bush taythonglyeng-i incil muncey-uy hyepsang-cha] cwungtong swunpang kil-ey ollassta
 president Bush-NOM hostage problem-GEN to negotiate middle east visiting road-LOC rose
 ‘President Bush is on his way on a visit to the Millde East to negotiate the hostage problem.’

If we assume that *-cha* is an aspect morpheme like other aspect morphemes discussed in this paper, I simply have no explanation for why only *-cha* behaves specially. On the other hand, Yookyung Kim (p.c.) points out that a nominal clause followed by *-cha* is different from other nominal clauses discussed in this paper in that they have to be obligatorily followed by a controlled clause (i.e. the subject of the matrix subject has to be the same as that of the *-cha* clause). If she is correct, then a nominal clause followed by *-cha* belongs to a different construction from that followed by an aspect morpheme. Still it seems worth exploring why the object argument in *-cha* construction may be marked either accusative or genitive.

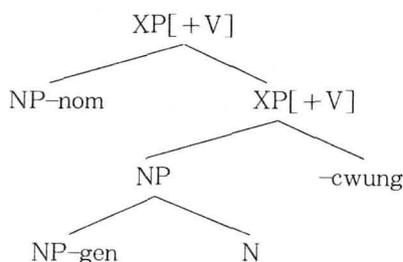


Figure 3: Representation of 'NOM-GEN' Order

3.3. Theta-role Assignment

The analysis which I have given is very simple, and does not require any major revision to the theory of grammar. Under this analysis, however, we cannot maintain the standard assumption on θ -role assignment, which is defined in terms of government. Let us consider example (3)c, repeated here as (23), and its representation in figure 3.

- (23) Kim kyoswu-ka wencahayk-uy yenkwu-cwung
 Prof. Kim-NOM nuclear cell-GEN research-during
 'during Prof. Kim's research on nuclear cells'

In figure 3, the genitive NP can be assigned its θ -role by the head noun via government. In the case of the nominative NP, however, a θ -role cannot be assigned to it since the 'XP[+V]' is a barrier for the government by the head noun.

Given this difficulty with θ -role assignment in the current analysis, I will assume the following non-standard θ -role assignment. Namely, undischarged θ -roles are percolated up to the next maximal projection and the θ -role is assigned by the maximal projection via government. Note that this way of θ -role assignment is not consistent with the semantic compositionality, which is instantiated in the form of projection principle and the usual definition of θ -role assignment in GB. In fact, any analysis which assumes base-generation of scrambled word order cannot maintain the standard compositional θ -role assignment.

As mentioned in the introductory section, the main motivation for a movement analysis of scrambling is to observe the projection principle, and it is this principle which ensure the compositional θ -role assignment. Once

we adopt the base-generation analysis of scrambling, the compositionality in θ -role assignment cannot be maintained, unless a separate lexical structure is assumed for θ -role assignment, in addition to the constituent (i.e. syntactic) structure, cf. Chomsky (1981: 129). The relevant question would be whether it is worth holding onto movement analysis of scrambling in the absence of any syntactic evidence for it, and satisfy the compositional θ -role assignment, or we give up the idea that θ -role is assigned compositionally in syntax. In the absence of any valid empirical motivation for scrambling being movement, I adopt the view that θ -role assignment doesn't have to be done compositionally.

4. Consequences

In this section I discuss some consequences of my analysis. As will become clear shortly, the asymmetry in nominative/accusative case assignment, and the facts on pronominal coreference are not valid evidence for the existence of VP node. The left-branch condition effects on scrambling, which have been used to argue for scrambling being an operator movement, cf. Webelhuth (1989), have an independent account.

4.1. Nominative/Accusative Case Assignment

Asymmetry in nominative/accusative case assignment has been given as evidence for scrambling being movement, by motivating a VP node.

As is expressed in their licensing condition in (11), which is repeated below, there is an asymmetry between nominative and accusative case licensing.

- Accusative case is licensed by a [+V, +ACC] lexical head at S-structure.
- Nominative case is licensed by a [+V] category at S-structure.

However, the crucial point is that the same category projection — a projection of [+V] category — participates in nominative and accusative case licensing, contradicting the claim that a subject which is assigned nominative case should be separated from an object which is assigned accusative case by VP.

Furthermore, my proposal on nominative/accusative case licensing contradicts the analysis of scrambling proposed by Mahajan (1990). Assuming a highly articulated phrase structure along the lines of Pollock (1989) and Chomsky (1991), Mahajan argues that when it is A-movement,¹⁹ scrambling is induced by the necessity of case assignment, i.e., an object moves to the SPEC of AGR-obj, and a subject, to the SPEC of AGR-sub, and they are assigned case by spec-head agreement. However, the data at hand and my analysis show that subject and object case assignment cannot be separated by different category projections. Moreover, accusative case licensing cannot be dissociated from a lexical head with [+ACC] feature, contrary to the claim that accusative case is licensed by a functional projections.

4.2. Binary Branching Structure and Pronominal Coreference

Another piece of evidence given for the existence of VP in Japanese by Saito (1985) involves pronominal coreference. The paradigm for pronominal coreference in English, and its licensing condition, are given in (24) and (25), respectively, which are taken from Saito (1985: 36).

- (24) a. [_S John_i [_{VP} loves [_{NP} his_i mother]]]
 b. * [_S He_i [_{VP} loves [_{NP} John's_i mother]]]
 c. [_S John's_i mother [_{VP} loves [_{NP} him_i]]]
 d. [_S His_i mother [_{VP} loves [_{NP} John_i]]]

(25) A pronoun cannot be c-commanded by its antecedent.

Saito (1985) takes the following step to justify the existence of VP in Japanese:²⁰

1. The paradigm in (24) is straightly accounted for by the condition in (25).
2. Japanese exhibits exactly the same pattern as English.
3. Therefore, Japanese has VP.

¹⁹ Mahajan (1990) claims that scrambling is a non-unitary phenomenon: It is A-movement when it is substitution into the SPEC positions of functional categories, while it is A-bar movement when it is an adjunction to maximal projections. This is what causes the mixed character of scrambling.

²⁰ For a more detailed discussion on the pronominal coreference, refer to Saito (1985: 36–47).

Note, however, that step 3 does not necessarily follow from step 2. To satisfy the condition on pronominal coreference stated in (25), all we need is some kind of hierarchical phrase structure on which the notion of 'c-command' may be instantiated, not necessarily a phrase structure with a VP node. More specifically, any binary branching phrase structure will be adequate to account for the facts in terms of the condition in (25), and it is exactly the structure I have assumed throughout.

The current analysis assumes the base-generation of arguments for scrambled word orders, which is similar to those proposed by Farmer (1980) and Hale (1982), among others. Contrary to these proposals which assume a flat phrase structure, however, I assume a binary branching phrase structure, which is crucial in explaining the data of mixed case array, cf. Cho and Sells (1991).

As it turns out, the binary branching phrase structure which is independently motivated for the case facts in event nominal clauses gives a simple solution for the facts on pronominal coreference, without invoking a VP node.

4.3. Apparent Left-branch Condition Effects

Ross (1967) claims that 'left-branch condition,' as illustrated by the examples in (26), is a property of an operator movement, at least in English. Webelhuth (1989) draws on this, and concludes that scrambling in German is an instance of an operator movement since it obeys the left-branch condition, among others.²¹

- (26) a. *Whose_i did you see [_{t_i} brother]?
 b. *How_i is John [_{t_i} proud of his children]?
 c. *How_i did John leave [_{t_i} quickly]?

A scrambled counterpart of (26)a in Korean is also ungrammatical, as shown in (27)b, apparently obeying the left-branch condition.²²

- (27) a. ne-nun [nwukwu-uy tongsayng]-ul poass-ni
 you-TOP who-GEN sister-ACC saw-Q

²¹ Refer to Webelhuth (1989: 338-345) for the details.

²² I use a trace for Korean examples for expository convenience, without committing myself to any particular analysis.

- b. *nwukwu,-uy ne-nun [t, tongsayng]-ul poass-ni
 who-GEN you-TOP sister-ACC saw-Q
 'Whose sister did you see?'

If we follow Webelhuth's logic for scrambling in German, the ungrammaticality of (27)b should lead us to conclude that scrambling in Korean is an instance of operator movement just like English *wh*-movement, in spite of evidence to the contrary (cf. Lee and Santorini (1991), Lee (1991)). However, under the licensing condition for genitive case proposed by Miyagawa, and adopted here, i.e. genitive case is licensed by a [+N, -V] lexical head, the ungrammaticality of examples such as (27)b is explained easily, without resorting to the left-branch condition. In (27)b, the genitive case on the scrambled NP cannot be licensed since it is disconnected from its licenser, i.e. the noun *tongsayng*.

Furthermore, the grammaticality of (28) and (29), which are Korean counterparts of the ungrammatical (26)b, and (26)c, respectively, indicates that the left-branch condition is not operative in Korean, as it is in English or German. Therefore the ungrammaticality of (27) has to be explained by other principles of grammar, which turns out to be the condition on genitive case licensing.

- (28) elmana, ne-nun ney casik-tul-i [t, calangsulep-ni]
 how you-TOP your child-PL-NOM be proud of-Q
 'How much are you proud of your children?', or 'You are very proud of your children, aren't you?'
- (29) elmana, ne-nun [t, ppali] talil swu iss-ni
 how you-TOP fast run can-Q
 'How fast can you run?'

5. Summary

In this paper, I presented the data concerning case and word order possibilities in event nominal clauses, and proposed an analysis based on the assumption that arguments are base-generated in any order. I also discussed some consequences of the analysis, which contradict some evidence which has been given to support the claim that scrambling is movement.

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