ON MULTIPLE SUBJECT CONSTRUCTIONS IN KOREAN

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The grammatical function "subject" in Korean is defined with some special function markers -i/-ka and -kes6. However, it is in Korean not unusual to find double or even multiple NPs indicated by those subject function markers. These phenomena are against the coherence condition of the Lexical Functional Grammar which prohibits that more than one subject appears in a sentence. I assume that the double or multiple NPs with the subject function markers can be composed to a complex-NP-construction whose functional structure shows that just one subject exists in a sentence. Thus, there is only one subject-NP which is linked to the sentential predicate in a complete functional structure and the other NPs in a complex-NP-construction can be derived step by step to the leftmost position of a sentence which stands in a various semantic relationships with the subject-NP.

In this paper I will try to describe the double or multiple subject phenomena in Korean with the Theory of Lexical Functional Grammar(=LFG) and will show that no multiple subjects or multiple topics occur in one sentence. Before treating the double or multiple subject phenomena I will describe the function markers in Korean through which grammatical functions (=GF) such as subject(=SUBJ), object(=OBJ), oblique(=OBL-θ) etc. are realized. We assume that such GFs in Korean are not defined in a constituent structure or in a syntactic position but are realized by way of some special function markers.1) Thus there is no VP node which is necessary for the description of the subject-object-assymetry. The grammatical functions

1Bresnan, J.(1982:297f)
"In configurational encoding, grammatical functions are identified by the category and by the order of maximal constituents within the immediately dominating phrase, while in nonconfigurational encoding, grammatical functions are identified by the case and other inflectional features of unordered constituents."

The existence of case in Korean is doubtful, thus we assume that grammatical functions are realized only by the combination of features(obl, obj, generic., ) which postpositions have.
in Korean are realized by the following function markers and their inherent features:

(1) (a) SUBJ : (↑ obl) = - : -i/-ka, -kkeső
    (↑ obj) = -
    (↑ generic) = ±
    .......... 
(b) OBJ : (↑ obl) = - : -ǔl/-lǔl
    (↑ obj) = +
    (↑ generic) = ±
    .......... 
(c) OBJ2 : (↑ obl) = + : -eke/-e, -hante
    (↑ goal) = +
    (↑ generic) = ±
    .......... 
(d) POSS : (↑ obl) = + : -ǔi
    (↑ modifier) = +
    .......... 
(e) OBL : (↑ obl) = + : -e/-ǔlo
    (↑ dir) = +
    .......... 

With the above list of the function markers we assign a corresponding GF to each NP in the following sentence.

(2) (a) Ch'ōlsu-ka hakkyo-e ka-n-ta.
    Ch'ōlsu-SUBJ school-to (OBLdir) go-PRES-DEC
    'Ch'6Isu goes to school.'
(b) Yŏnghi-ka ch'aeck-ǔl ilk-nǔn-ta.
    Yŏnghi-SUBJ book-OBJ read-PRES-DEC
    'Y6nghi reads (a) book.'
(c) (na-ǔi) tongsaeng-i (ku) sonye-eke kkoch'-ǔl
    (my) brother-SUBJ (the) girl-OBJ2 (a) flower-OBJ
    chu-ǒss-ta.
    give-PAST-DEC
    'My brother gave (the) girl (a) flower.'
(d) sŏansaengnim-ǔi ch'inku-ka chu-ǒss-ta.
    teacher-POSS friend-SUBJ die-PAST-DEC
    'the friend of the teacher died.'
The C(=constituent)-structure of the sentence (2)(a) is given for instances as follows:

(3) 

The information for the GFs of NP1 and NP2 each come from the function markers -ka and -e. The verbal complex consists of the Vstem and its affixes. The affixes are again divided into several types such as honorific, temporal, model, terminative, connective etc. From the c-structure (3) we derive the following f-structure:

(4) 

In a similar way we can derive the c-structures for the other sentences of (2)(b)-(d) with the following syntactic rules:

(i) 

(ii) 

(iii) 

The notation on the NP node can indicate any number of occurrences of that category from zero up.
(iv) \[ \text{NP} \rightarrow \text{NP} \rightarrow \text{NP} \]
\[ (\uparrow \text{POSS}) = \downarrow \quad \uparrow = \downarrow \]

Let us now consider the very strange phenomena of the following sentences in which double or even more NPs indicated by SUBJ-function markers (so-called double or multiple subjects) appear.

(5) (a) Seoul-ŭn salam-i sumyŏng-i ccalp-ta.
    'the life span of Seoul residents is short.'
(b) kutu-ka patak-i kumŏng-i na-(ŏ)ss-ta.
    shoe-SUBJ? sole-SUBJ? hole-SUBJ? occur-PAST-DEC
    'the shoe has got a hole in the sole.'
(c) Tobongku-nūn Miari-ka inku-ka
    Tobongku-SUBJ? Miari-SUBJ? population-SUBJ?
    Manh-ta.
    large
    'Tobongku Miari has a large population.'

This phenomena is against the coherence condition which says that all GFs in a sentence must be governed by the sentential predicate. Thus we assume that not the SUBJ, but the TOPIC of sentence is assigned to the leftmost NP with the function marker -i/-ka/-ŭn. The syntactic rule which introduces the GF TOPIC looks as follows:

(6) (a) \[ S' \rightarrow X P \rightarrow \rightarrow \rightarrow \rightarrow S \]
\[ (\uparrow \text{TOPIC}) = \downarrow \quad \uparrow = \downarrow \]

Rule (6) shows that the leftmost NP assigned the GF TOPIC is outside of the subcategorization frame of the sentence predicate. This relationship is described as in the following structures.

(7)
\[ S' \]
\[ (\uparrow \text{TOPIC}) = \downarrow \quad \uparrow = \downarrow \]
\[ X P \]
\[ \text{SUBJ-(OBJ)} \rightarrow \text{VC} \]
We assume that the TOPIC assignment is not only decided by the FM-features but also by its leftmost position. On the other hand, the GF such as SUBJ, OBJ, OBL which are within the S-boundary must be governed by the sentence predicate in an f-structure.

Thus the following sentences which are derived against this assumption should be ungrammatical.

(8) (a) mŏri-ka [s hok-i na-(ŏ)ss-ta] head-TOPIC bump-SUBJ grow-PAST-DEC
   ‘There is a bump on the head.’
   (b) *hok-i [s mŏri-ka na-(ŏ)ss-ta ] bump-SUBJ head-TOPIC grow-PAST-DEC

(9) (a) sangza-ka mo-ka na-(ŏ)ss-ta. case-TOPIC angle-SUBJ have-PAST-DEC
   (b) *mo-ka [s sangza-ka na-ŏss-ta] angle-SUBJ case-TOPIC have-PAST-DEC

(10) (a) salam-ŭn [s sumyŏng-i ccalp-ta] human-TOPIC life span-SUBJ short-DEC
   ‘The human life span is short.’
   (b) *sumyŏng-i [s salam-i ccalp-ta] life span-SUBJ human-TOPIC short-DEC

In the next section we will come back to the problem of the ungrammaticalness of the sentences in (8)-(10). Now we are able to describe those sentences in which one TOPIC and one SUBJ are assigned each to the NPs with the function marker -ŭn/-nŭn or -i/-ka. However, we still have to find, what kind of GF should be assigned to the remaining NP with the function marker -i/-ka in (5)(a)-(c). We might assume that the sentence (5)(c), for instance, is derived by topicalizing the leftmost NP step by step as follows:

(11) (a) Tobongku Miari-ŭi inku-ka manh-ta.

3Bresnan, J. & S. Mchombo(1987:8)
Assumably GF TOPIC designates discourse topics. The discourse topic designates what is under discussion, whether previously mentioned or assumed in discourse. Also we can assume the same for focus. The GF FOCUS is a focus of contrast: it designates something that is not presupposed.
‘Tobongku Miari has a large population.’

(b) Tobongku Miari-ka inku-ka manh-ta.
   TOPIC population-SUBJ large

(c) Tobongku-ka Miari-ka inku-ka manh-ta.
   TOPIC TOPIC? SUBJ large

There is no problem of assigning GF to the NPs in the derivation (11)(a) and (b), because we do not see any violation of coherence condition. However, in (11)(c) one GF, i.e. TOPIC is assigned to the two different NPs, thus we need some special restrictions on deriving (11)(c), such as extended coherence condition which says that the GF TOPIC and FOCUS should be linked to the predicate-argument structure of the sentence either by functionally or anaphorically binding an argument.4

The derivational process of (11)(c) is shown in the following structure:

4The extended coherence condition requires that all functions in f-structure be bound. An argument position(SUBJ,OBJ, OBL...) is bound if it is the argument of a predicate(PRED). An adjunct is bound if it occurs in an f-structure containing a PRED. Finally, a topic or focus is bound whenever it is functionally identified with, or anaphorically binds, a bound function.
In (12), we have to make clear what kind of grammatical relation consists between the NP indicated with the ? mark and the other NPs. With respect to this problem we come back to the sentence (11)(a). From my intuition as a native speaker the function marker -ŭi in (11)(a) shows either the GF POSS or OBLloc.

(13) Tobongku Miari-ŭi inku-ka manh-ta.
    POSS/ population-SUBJ large-DEC
    OBLloc

The sentence predicate 'manh-ta' has then two different subcategorization frames.

(14) manh-ta, V, (↑ PRED) = 'MANH-TA(↑ SUBJ)'
    V, (↑ PRED) = 'MANH-TA<(↑ SUBJ)(↑ OBLloc)'

Thus (13) shows two quite different c-structures; given as follows:

(13) (a)
From these two different c-structures we derive the sentence (11)(a) and further (11)(b) through the topicalization whose result is given in the structure (12).

In order to describe a GF-relationship between the NP with a ?-mark and the other NPs 'Tobongku-nun' and 'inku-ka', I introduce the following 'bounded domination meta variable' for the topic-rule (6) according to Bresnan/Kaplan (1982:244).5)

(15) $S' \rightarrow \cdots \rightarrow XP$

\[
\begin{align*}
   (\uparrow \text{Topic}) = & \downarrow \\
   \downarrow = & \downarrow \text{NP}\downarrow \\
   \text{GF} = & \uparrow
\end{align*}
\]

With this notation we can establish the GF-relation among these NPs with the GF TOPIC or SUBJ, as in the following structure.

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The notation 'bounded domination meta variable' (= \(\downarrow\), \(\uparrow\)) provides a formal mechanism for representing long-distance constituent dependencies. Matching \(\downarrow\) and \(\uparrow\) may be attached to nodes separated in the tree by a longer path which is limited by the occurrence of certain "bounding" nodes. The instantiation procedure for these variables establishes the long-distance identification of the controller and controllee directly.
In (16) the GF of NP1, i.e. TOPIC is related to the GF of NP2 through 
(\downarrow = \downarrow \text{NP}_2), and the GF of NP2 is related to NP1, 
through (\downarrow \text{GF}) = \uparrow \text{NP}_1.

Now we can continuously establish the GF-relationships between NP_i 
and NP_{i-1}, and thus assign a necessary GF to each of the so called double 
or multiple Subject NP-constructions with subject function marker in Ko-
orean. For instance, the GF-relationships among the NPs in (5)(a) can be 
described as follows:
On the basis of the information of the functional equations given in (17), we derive the following f-structure for the sentence (5)(a).

(18) \[
\begin{array}{c}
\text{TOPIC} \\
\text{GF} \\
\text{SUBJ} \\
\text{PRED}
\end{array}
\]

In the c-structure (17) and also in the f-structure (18) we see that \([\text{NP salam}]\) and \([\text{NP sumyŏng}]\) each take some POSS as their arguments. Now we have to explain why all of those NPs in (11)(c) have the same kind of SUBJ-function markers. Let us again consider the meaning of the sentence (5)(a) analyzed as follows:
(19) (a) ?? sumyǒng-i ccalp-ta.  
life-SUBJ short-DEC
(b) (?) salam-i sumyǒng-i ccalp-ta.  
human-TOPIC life-SUBJ short-DEC
(c) Seoul-ün salam-i sumyǒng-i ccalp-ta.  
Seoul-TOPIC human-GF life-SUBJ short-DEC

(19)(a) is hardly understandable because we do not know what kind of life the 'sumyǒng' means. (19)(b) is much better as far as the meaning of 'sumyǒng' is just restricted to the meaning of 'salam sumyǒng' (the life of human being). In this case we understand only the generic meaning of 'salam.' If we try, however, to understand a concrete meaning of some special life such as the life of American people, the life of Heidelberg citizens etc., then we need one more NP with SUBJ-function marker. Thus the sentence (19)(c) is grammatical which means that the life of Seoul citizens is short. Now we do not need any specifier for [NP Seoul] to make its meaning more concrete. The other example (5)(b) in which the multiple NPs with SUBJ-function markers appear can be derived in a similar way as (5)(a).

(20) (a) ??(*) padak-e/-i kumǒng-i na-(ő)ss-ta.  
sole-OBLloc/TOPIC hole-SUBJ occur-PAST-DEC
(b) kudu padak-e/-i kumǒng-i na-(ő)ss-ta.  
shoe hole-OBLloc/TOPIC hole-SUBJ occur-PAST-DEC

On the other hand the sentence (5)(c) in which multiple NPs with SUBJ-function markers also appear is grammatical because proper nouns normally do not need any specifier as in the case of 'Seoul' in (19)(c) in order to make their meaning more concrete.

(21) (a) Miari-ka inku-ka manh-ta.  
Miari-TOPIC population-SUBJ large-DEC
(b) Tobongku-ka Miari-ka inku-ka manh-ta.  
Tobongku-TOPIC Miari-GF population-SUBJ large-DEC
(c) Seoul-ün Tobongku-ka Miari-ka inku-ka manh-ta.  
Seoul-TOPIC Tobongku-GF Miari-GF population-SUBJ large-DEC

As discussed above we know that [NP Tobongku] in (21)(b) has the GF
TOPIC and is semantically related to the GF of [NP Miari], i.e. ‘Miari’ belongs to ‘Tobongku’ or ‘Tobongku’ geographically includes ‘Miari.’ On the other hand I assume that the GF of ‘Miari’ is somehow related to the SUBJ assigned to the NP ‘inku,’ which means the population of (=POSS) or in (=OBLloc) ‘Miari.’ This kind of assumption could explain a lot of syntactic phenomena concerning the so called double or multiple subject constructions (=two or more NPs with S’BJ- function markers in this paper).

NPs with the SUBJ- function markers which we have handled up to now are somehow linearly ordered. Thus, if we change the order of the NPs in (21)(c), for instance, we derive ungrammatical sentences:

\[(22)\]
\[
\begin{align*}
(a) & \quad \star \text{Miari-ka Tobongku-ka inku-ka mahn-ta.} \\
(b) & \quad \star \text{padak-i kudu-ka kumong-i na-(o)ss-ta.} \\
(c) & \quad \star \text{sumyông-i salam-i ccalp-ta.}
\end{align*}
\]

(22)(c) might be acceptable if we interpret the meaning of the sentence as follows:

\[(23)\]
\[
\text{sumyông-i/-ün salam sumyông-i ccalp-ta.}
\]

\text{life-TOPIC human life-SUBJ short-DEC}

The reversed order of ‘sumyông-i salam-i’ in (22)(c) is grammatical. We find some similar cases in which the order of NPs with SUBJ-FM is changed:

\[(24)\]
\[
\begin{align*}
(a) & \quad \text{mukungwha-ka kkokh'-i yepp-ta.} \\
& \quad \text{hibiscuss-TOPIC flower-SUBJ beautiful-DEC} \\
(b) & \quad \text{kkokh-i mukungwha-ka yepp-ta.} \\
& \quad \text{flower-TOPIC Hibiscuss-GF beautiful-DEC}
\end{align*}
\]

\[(25)\]
\[
\begin{align*}
(a) & \quad \text{tokki-nun/-ka appal-i ccalp-ta.} \\
& \quad \text{rabbit-TOPIC front paw-SUBJ short-DEC} \\
(b) & \quad \text{appal-ün/-i tokki-ka ccalp-ta.} \\
& \quad \text{front paw-TOPIC rabbit-GF short-DEC}
\end{align*}
\]

\[(26)\]
\[
\begin{align*}
(a) & \quad \text{Ch'ölsu-nun/-ka ko-ka kü-da.} \\
& \quad \text{Ch'ölsu-TOPIC nose-SUBJ big-DEC} \\
(b) & \quad \text{ko-ka Ch'ölsu-nun/-ka kü-da.}
\end{align*}
\]
The sentence (24)(a) shows that correct GFs are assigned to the NPs with SUBJ-function markers -i and -ka. Thus it means that as far as Hibiscus is concerned (=TOPIC), its flower (=SUBJ) is beautiful. If we derive (24)(b) from (24)(a), we might expect that it would be ungrammatical as we saw in (22)(a)-(c). However, except for the change of GF-relations between the NPs with SUBJ-function markers, (24)(b) is grammatical. Now we are confronted with a quite unexpected problem, namely, to explain how the topicalization proceeds in (24)-(26). In the above examples we saw that the topicalization is applied to the specifier-NP in a complex NP-construction. On the contrary the topicalization is applied not to the specifier-NPs but to the head-NP in (24)-(26). For instance (25)(a) and (b) are assumed to be derived from the following c-structure:

(27)\[\begin{array} {c} S \\
\begin{array} {c} \uparrow \downarrow \text{GR}) = \downarrow \\
\uparrow = \downarrow \end{array} \\
\begin{array} {c} \uparrow \text{POSS}) = \downarrow \\
\uparrow = \downarrow \end{array} \\
\downarrow \\
\begin{array} {c} \uparrow \text{PRED} = \\
\text{APPAL}((\uparrow \text{GF})) (\uparrow \text{GR}) = \text{SUBJ} \\
\end{array} \\
\end{array}\]

The topicalization is applied to the specifier-NP 'tokki' in order to derive (25)(a). Now the c-structure of (25)(a) looks as follows:
On the other hand, (25)(b) is derived by applying topicalization to the head-NP in (27). The c-structure of (25)(b) looks as follows in accordance with the syntactic rules previously mentioned:

Within the sentence boundary S there is no NP assigned to the SUBJ. From this c-structure we must derive the following f-structure.
This unusual topicalization is not applied to all of the complex NP as the following examples show:

(31) (a) Yongsu (-uí) ch’inku-ka chuk-ôss-ta.
Yongsu (POSS) friend-SUBJ die-PAST-DEC
(b) Yongsu-ka ch’inku-ka chuk-ôss-ta.
Yongsu-TOPIC friend-SUBJ die-PAST-DEC
(c) *ch’inku-ka/-nûn Yongsu-ka chuk-ôss-ta.
friend-TOPIC yongsu-GF die-PAST-DEC

(32) (a) Yongsu (-uí) ke-ka sekki-lûl nah- ass-ta.
Yongsu (POSS) dog-SUBJ pup-OBJ bring forth-PAST-DEC
(b) Yongsu-nûn ke-ka sekki-lûl nah- ass-ta.
Yongsu-TOPIC dog-SUBJ sekki-OBJ bring forth-PAST-DEC
(c) *ke-ka/-nûn Yongsu-ka sekki-lûl nah- ass-ta.
dog-TOPIC Yongsu-GF sekki-OBJ bring forth-PAST-DEC

In comparison with the sentences in (24)-(26) we can not change the order of NPs with SUBJ- function marker in (31)(b) and (32)(b) into that of (31)(c) and (32)(c) because the result is ungrammatical. The ungrammaticalness can be explained in a simple way. First we see that there are some differences between the predicates ‘yepp-ta,’ ‘ccalp-ta,’ ‘kû-ta’ on the one hand and the predicates ‘chuk-ta,’ ‘nah-ta’ on the other hand. The former group takes the arguments with existential reading (25.a) or generic reading (25.b) and the latter only the arguments with existential reading. As we see in (24)-(26) the topicalization of the head-NP assigned to the GF SUBJ is grammatical only if it is an argument of the predicate belonging to the former group. Thus we assume some kind of relationship between a topicalized head-NP in a complex NP construction and its sentential predicate as follows.

(33) Topicalization of the head-NP in a complex NP construction:
Head-NP can be topicalized in a complex NP construction only if it
is an argument of the sentential predicate which takes arguments with generic reading.

The restriction of the topicalization in (33) does not concern the specifier-NP in a complex NP construction, however. Now we are able to describe the topicalization phenomena in (24)-(26) with the following revised rules.

\[(34) \begin{align*}
(\text{i}) & \quad S' \rightarrow XP \\
& \quad (\uparrow \text{TOPIC}) = \downarrow \\
& \quad \downarrow = \downarrow \\
& \quad \uparrow = \downarrow \\
& \quad \uparrow = \downarrow \\
(\text{ii}) & \quad \text{(a)} \quad S \rightarrow XP^* \quad \text{VC} \\
& \quad (\uparrow (\downarrow \text{GR})) = \downarrow \\
& \quad (\downarrow \text{GF PRED}) = \uparrow \\
& \quad \text{(b)} \quad S \rightarrow XP^* \quad \text{VC} \\
& \quad (\uparrow (\downarrow \text{GR})) = \downarrow \\
& \quad (\uparrow \text{GF PRED}) = \downarrow \\
& \quad (\text{GF PRED}) = \text{PRO} \\
& \quad (\text{GF PRED}) = \uparrow 
\end{align*}\]

Using the topicalization rules in (34) we modify the c-structure (29) and the f-structure (30) as follows:

\[(35) \begin{align*}
(\uparrow \text{TOPIC}) = \downarrow \\
\downarrow = \downarrow \\
\uparrow = \downarrow \\
N \quad \text{FM} \\
\text{appal} \quad \text{-i} \\
(\uparrow \text{obl}) = - \\
(\uparrow \text{obj}) = - \\
(\uparrow \text{gen}) = + \\
(\uparrow \text{topic}) = + \\
(\uparrow \text{PRED}) = \text{TOKKI} \\
(\uparrow \text{MODIFIER}) = + \\
(\uparrow \text{SUBJ obi}) = - \\
(\uparrow \text{SUBJ gen}) = - \\
(\text{PREO}) = \text{PRO} \\
(\text{PRED}) = \text{CCALP-TA} \\
& \quad \text{ccalp-ta} \\
& \quad \langle (\uparrow \text{SUBJ}) \rangle \\
\end{align*}\]
The modified f-structure from (30) looks as follows:

(36) \[
\begin{array}{c}
\text{TOPIC} \\
\text{SUBJ} \\
\text{PRED}
\end{array} \left[ \begin{array}{c}
\text{PRED} \\
\text{GENERIC} \\
\text{GENERIC}
\end{array} \right] \left[ \begin{array}{c}
\text{PRED} \\
\text{PRO} \\
\text{TOKKI}
\end{array} \right] \left[ \begin{array}{c}
\text{MODIFIER} \\
\text{CCALP-TA} (\uparrow \text{SUBJ})
\end{array} \right]
\]

Using the rules (34)(i) and (ii)(a) we can describe most of the topicalization phenomena of the specifier-NPs in complex NP constructions, whereas the topicalization of head-NPs can be described with the rules (34)(i) and (ii)(b). In this way we are now able to explain how in Korean double or multiple NPs indicated with SUBJ-function markers can appear in one sentence.

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