

Korean Subject Attachment in Predicative Chains

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Abstract

In this paper, we will examine the frequently observed chains of dependent Korean verbs sharing a single subject, and we will show that in some cases a low subject attachment seems to be the correct dependency analysis as it considerably simplifies subsequent linearization rules.

1 Linguistic Facts and Issues

Korean is known as a verb final language with relatively free word order for verbal arguments (Choi 1999, Chung 1995). Egedi *et al.*(1995) note that “a basic characteristic of Korean arguments is their ability to scramble, or move within the sentence”. Furthermore, the subject placement is relatively free compared with other arguments.

First of all, let us consider the following examples in which two verbs share the same subject *Yeongi*:

- (1) a. [sakwa-reul meok-kess-dako]¹ Yeongi-ka eomma-hante² yaksokha-eoss-eo
apple-ACC eat-I-C³ Yeongi-SUBJ mother-DAT promise-P-N⁴
‘Yeongi promised her⁵ mother to eat apples’

- b. [sakwa-reul Yeongi-ka meok-kess-dako] eomma-hante yaksokha-eoss-eo
apple-ACC Yeongi-SUBJ eat-I-C mother-DAT promise-P-N
‘Yeongi promised her mother to eat apples’

- c. *[sakwa-reul Yeongi-ka eomma-hante meok-kess-dako] yaksokha-eoss-eo
apple-ACC Yeongi-SUBJ mother-DAT eat-I-C promise-P-N

- d. *[Yeongi-ka meok-kess-dako] sakwa-reul eomma-hante yaksokha-eoss-eo
Yeongi-SUBJ eat-I-C apple-ACC mother-DAT promise-P-N

- e. eomma-hante [sakwa-reul Yeongi-ka meok-kess-dako] yaksokha-eoss-eo
mother-DAT apple-ACC Yeongi-SUBJ eat-I-C promise-P-N
‘Yeongi promised her mother to eat apples’

Note that in Korean grammar, the morphemes *-dako* and *-kess* are complementizers which introduce the embedded verb (Seo 1996). This is different from the infinitive in Indo-European Languages. Even

¹ The brackets are only intended to facilitate comprehension and the grammaticality judgments are independent of them.

² It exists also the dative marker *-eke*. However, in oral, we prefer to employ the marker *-hante*, while the marker *-eke* is more literal.

³ I-C means respectively the intention and the complementizer. According to Seo (1996), this complementizer is used for expressing tense, that is, the present or the future. We will discuss this complementizer in the next section.

⁴ P-N correspond respectively the past and the neutral form of verb.

⁵ *eomma* ‘mother’ refers preferably to Yeongi’s mother, but independently of the linear order between *Yeongi* and *eomma*, the word can also refer to the speaker’s or somebody else’s mother.

embedded, Korean verbs can have a tense and mood, and can realize all their dependents. Some complementizers, however, may restrict these possibilities (see example 3). There is no equivalent to an Indo-European infinitive.

These five sentences have the same semantic graph (predicative) in which the subject *Yeongi* is the first argument of *yaksokha-* ‘promise’ and that of *meok-* ‘eat’, and in which *eomma* ‘mother’ is an argument of *yaksokha-* ‘promise’ and *sakwa* ‘apple’ depends on *meok-* ‘eat’:

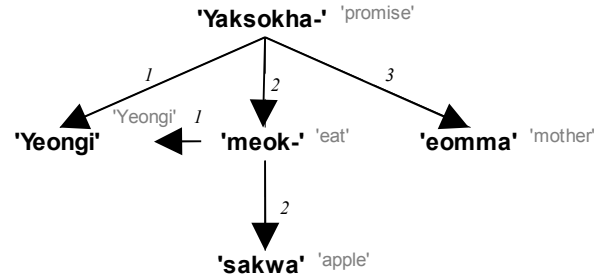


Figure I. Semantic graph of the sentences (1a-e)

First, let us compare the sentences (1a) and (1b): In the sentence (1a), the subject *Yeongi* is placed next to the embedded verb, that is to say, outside the bracket. However, in the sentence (1b), the subject occurs in front of the embedded verb, not the matrix verb. Furthermore, we believe that the communicative value of the sentence (1a) is different from that of the sentence (1b): In general, we produce the sentence (1a) in the context in which *Yeongi* hadn’t wanted to eat apples, but her mother demanded that *Yeongi* eats apples perhaps for her health, and finally, *Yeongi* promised her mother to eat apples. On the other hand, the sentence (1b) emphasizes the fact that it’s *Yeongi* who intends to eat apples. Note that we need to consider in this case prosodic factors such as intonation or pause.

The sentences (1c) and (1d) justify the argument dependence of each verb. Namely, the argument *sakwa* ‘apple’ of the verb *meok-* ‘eat’ has to be placed with its governor. This allows us to show that there is an embedded constituent into which no dependents of a higher verb can enter, for instance, the argument *eomma* ‘mother’ of the verb *yaksokha-* ‘promise’. Note that in terms of the communicative structure, *eomma* ‘mother’ can be placed at the beginning of the sentence (see the sentence 1e). This means that as mentioned above, even though Korean is a free word order language, word order constraints do exist. Furthermore, we wonder why the overt subject *Yeongi* can be placed in front of the embedded verb *meok-* ‘eat’ in (1b) instead of being placed near the matrix verb. We suppose that free order of Korean subject creates ambiguity of subject attachment in the dependency tree. For this reason, we observe two theoretical possibilities: The subject could either attach to the embedded verb in the dependency tree, or depend on the matrix verb:

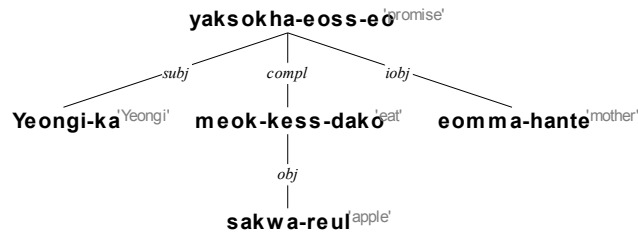


Figure II. Dependency tree I

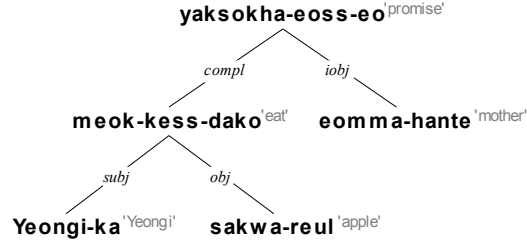


Figure III. Dependency tree II

This leads us to think about the general position of the subject in a dependency structure containing several verbs.

The central question we ask in this paper is how to find the correct dependency structure for the sentences (1a) and (1b). In European languages, the answer is clear in this case: If there is only one subject, it agrees with the only finite verb, and we suppose commonly that the subject depends on the higher verb. However, in Korean, we suppose that there are two possible analyses, in the first case it is a matter supposing that the two sentences have different dependency trees, (1a) high attachment (see Figure II) and (1b) low attachment (see Figure III); in the second case we suppose that this is only a topological problem and we will rely on the linearization rules to obtain the two possible word orders and we have only one syntactic structure in which the subject attaches to the embedded verb (see Figure III):

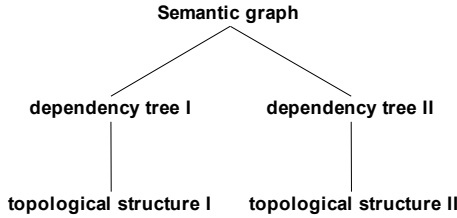


Figure IV. Analysis I

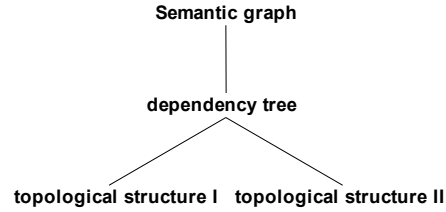


Figure V. Analysis II

We will show that two sentences have different syntactic structure and throughout this paper we will insist on the fact that with our examples, it is more convincing to adapt Analysis I. At first, we will argue that Analysis I is a convincing demonstration and then we will explain why we believe that Analysis I is more persuasive than Analysis II. We mainly compare our data with the Government and Binding Theory in terms of PRO, but we will remark that this framework cannot answer our questions in the Meaning-Text Theory framework and we suggest introducing further analysis, referring to Kong (1981) and to Roulet (2002). Finally, we will try to reformulate these observations within a dependency grammar.

With our main examples (1a) and (1b), it will become clear that the subject of the sentence could depend on the lowest verb under certain condition.

2 Behavior of Korean Subjects in Predicative Chains

In this section, we analyze subject attachment in predicative chains. In section 2.1., we will justify that, with the Government and Biding Theory, the subject depends on the matrix verb and the embedded verb has PRO. In section 2.2., following Kong (1981) and Roulet (2002), we will insist on the fact that it is the embedded verb which governs the subject. In each section, we try to reformulate in terms of dependency grammar: a description of the dependency tree and of the topological structure.

2.1 Subject Attachment to the Matrix Verb

Before observing examples in Korean, let us take an example in English:

(2) a. *Paul promised to eat apples*

b. *Paul promised* [PRO to eat apples]

Within the Government and Binding Theory, it is the matrix verb that has the overt subject, whereas the embedded verb has PRO, i.e. an empty pronoun in control cases. In the sentence (2a), the subject of the infinitive *eat* is controlled by the subject of the matrix verb *promise*. That is to say, the infinitive *eat* has its subject which is syntactically represented in the structure of this sentence, but not phonetically present, a so called PRO. Note that PRO is different from *pro* which is an empty subject for empty subject languages.

We suppose that the notion of PRO makes it possible to analyze the sentence (1a). However, we wonder if PRO has the same role in Korean, and although we will not discuss this issue in greater detail, but we believe that it is necessary to mention it briefly. According to Pak (2001) and Yang (1984), the idea of PRO should be modified and expanded so as to cover lexical or morphological causes of control such as the combinatory relationship between complementizer/mood marker and main verb in non-configurational languages like Korean (the sentence (1a) is reproduced here as (3a) for convenience of the reader):

(3) a. [sakwa-reul meok-kess-dako] Yeongi-ka eomma-hante yaksokha-eoss-eo
apple-ACC eat-I-C Yeongi-SUBJ mother-DAT promise-P-N
'Yeongi promised her mother to eat apples'

b. [(Cheolsu-ka) sakwa-reul meok-eulkeo-lako] Yeongi-ka eomma-hante yaksokha-eoss-eo
(Cheolsu-SUBJ) apple-ACC eat-F-C Yeongi-SUBJ mother-DAT promise-P-N
'Yeongi promised her mother that Cheolsu would eat apple'
'Yeongi promised her mother that she would eat apples'

As shown by examples above, when the complementizer *-kess* is replaced by *-eulkeo*, there may be two subjects, namely, each verb has own subject. On the other hand, there must be only one subject in a sentence in which embedded verb combines with the complementizer *-kess*. According to Kim (2003), Korean linguists have different points of view⁶ concerning the empty pronoun in embedded proposition. Following Moon (1989), Kim (2003) notes that the empty pronoun exists and is a case of *pro*, because the complementizer *-kess* is the morpheme which means its relation with the overt subject and it is this overt subject who has the intention or will to eat apples. Note that Yang (1984) emphasizes that the complementizer *-kess* can have two different meanings: intention or non-intention (in the latter case, it resembles future tense).

Now, let us come back to the following example, which is important for our analysis:

(4) [(EP)⁷ sakwa-reul (EP) meok-kess-dako] Yeongi-ka eomma-hante yaksokha-eoss-eo
apple-ACC eat-I-C Yeongi-SUBJ mother-DAT promise-P-N
'Yeongi promised her mother to eat apples'

As we discussed above, like English example (2a), Korean subject *Yeongi* is a dependent of the matrix verb *yaksokha-* 'promise' and the embedded verb *meok-* 'eat' has PRO. It is justified by the matrix verb *yaksokha-* 'promise' and the presence of the complementizer *-kess*.

Now let us try to reformulate these observations within a dependency grammar and to describe the dependency tree of the sentence (1a) in which the subject *Yeongi* attaches to the matrix verb:

⁶ According to Kim (2003), Moon (1989) emphasizes that this category is *pro*, while Lim (1987) signalizes that it is PRO. Furthermore, Yang (1984) suggests integrating PRO into *pro* for applying this terminology to Korean.

⁷ Since subject can be placed freely in this completeive, we mark EP 'empty pronoun' at a placement that the subject can occupy.

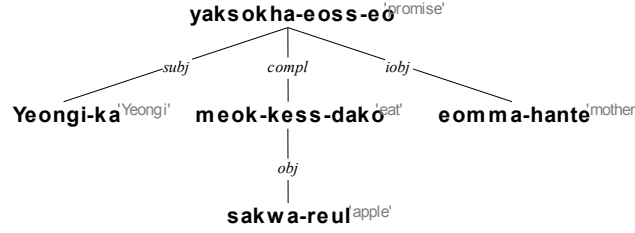


Figure VI. Dependency tree of the sentence (1a)

With this given dependency tree, we propose a Korean topological grammar following Gerdes & Kahane (2001). In our approach, placing an element in linear order means creating topological constituents (Gerdes & Kahane 2007): Each word can open a domain, containing a sequence of fields; these fields are possible positions for the (direct or indirect) dependents of the word. In the Korean topological grammar we propose, the main domain, opened by the highest verb, which is on top of the dependency tree, consists of the following sequence of two fields: main field and verbal field. The main field can accept any number of elements; the verbal field has to have exactly one occupant. Let us apply this grammar to our Korean example. The main verb *yaksokha-eoss-eo* ‘promise’ goes into the verbal field. As described by the dependency tree (Figure VI), the embedded verb *meok-* ‘eat’ cannot offer a placement for the subject inside completive box, while the subject *Yeongi* is placed in the main field opened by the matrix verb *yaksokha-eoss-eo* ‘promise’:

Main field <i>Completive domain</i>			Verbal field <i>Verb cluster</i>	
Yeongi-ka eomma-hante			yaksokha-eoss-eo	
sakwa-reul	meok-kess-dako			

Figure VII. Topological structure of the sentence (1a)

Gerdes & Kahane (2007) note that the dependents of a verb do not have to be in their governor’s domain: They can be “emancipated” and end up in a superior domain. However, as shown by the sentence (1d), the dependent *sakwa* ‘apple’ cannot emancipate its governor *meok-* ‘eat’s domain. This indicates that if we make the assumption that the subject *Yeongi* depends on the embedded verb (see Figure III), *Yeongi* cannot emancipate its governor, either. That is why we think that Analysis II doesn’t cover the sentence (1a). In this case, we tend to produce the sentence (1b) in which the subject occurs in front of the embedded verb. Therefore, we consider that in the dependency tree of the sentence (1a), the subject attaches to the matrix verb and the emancipation of the subject *Yeongi* doesn’t exist.

In the following section, we analyze our second example (1b) and we propose another syntactic structure and topological structure in comparison to those of the sentence (1a).

2.2 Subject Attachment to the Embedded Verb

First of all, let us observe the following example (the sentence (1b) is reproduced here as (5) for convenience of the reader):

- (5) [sakwa-reul Yeongi-ka meok-kess-dako] eomma-hante yaksokha-eoss-eo
 apple-ACC Yeongi-ka eat-I-C mother-DAT promise-P-N
 ‘Yeongi promised her mother to eat apples’

We see that this sentence doesn’t verify the Binding Principal which we discussed in the previous section because the subject in this sentence behaves like that of the embedded verb *eat* in the completive. That’s why we have difficulties to explain this sentence with the Government and Binding Theory. However, there are authors who remark that concerning this type of sentences there are limits from a syntactical point of view, and they suggest analyzing this type of sentences in a cognitive or discursive approach. We

attempt to analyze this sentence, following Kong (1981) and Roulet (2002).

Kong (1981) suggests a perceptual analysis to solve this problem that we were not able to explain in a syntactical approach (a “static model”, according to him), by insisting that perceptual or cognitive unit has to be used as a co-referential domain. This means that when we interpret sentences and analyze pronoun rules, it is more convincing that a perceptual unit behaves as the base unit. His analysis starts from the following example which violates the Binding Principal:

- (6) *In the bed which **Zelda** ⁽ⁱ⁾ stole from the Salvation Army, **she** ⁽ⁱ⁾ spent her sweetest hours*
(Kong 1981:101)

He believes that, after a perceptual unit finishes treating information, this information is transferred to next level, so that we can minimize loss of the memory capacity. He develops his argumentation by saying that if this sentence is in a governed domain, we cannot have co-referential relation in terms of the Binding Principal. However, if we consider that a detached prepositional phrase is a perceptually independent unit, the analysis becomes more convincing: If we suppose that the sentence (6) is only one perceptual unit, we cannot constitute co-referential relation between *Zelda* and *she*. On the other hand, if we follow the idea of Kong (1981), this sentence consists of two perceptual units, therefore *Zelda* and *she* belong to another unit and we don't have any problems to constitute co-referential relation between *Zelda* and *she*. That is to say, perceptual segmentation allows us to capture what the Binding Principal cannot explain as phenomena.

It seems to us that the idea of Kong (1981) corresponds to that of Roulet (2002). At first, let us observe the following examples:

- (7) a. *J' ai téléphoné à **la voisine** ⁽ⁱ⁾ pour que **la brave femme** ⁽ⁱ⁾⁸ m'achète du thé*
'I called the neighbor (i) so that the friendly lady (i) would buy me some tea'
b. ***Mon voisin** ⁽ⁱ⁾ m'a dit qu' **il** ⁽ⁱ⁾ (***le pauvre homme**) était malade*
'My neighbor (i) told me that he (i) (*the poor man) was ill'

(Roulet 2002:168)

Roulet (2002) explains the sentence (7a) in terms of discourse memory and that only one passage by discourse memory allows establishing a co-referential link between *la voisine* and *la brave femme*. Therefore, the sentence (7a) must be analyzed as containing two discourse acts. However, in the sentence (7b), a co-referential link cannot be established between *mon voisin* and *le pauvre homme*. Because transfer to discourse memory has not yet taken place for this segment, thus, the sentence (7b) is analyzed as only one act.

Following Kong (1981) and Roulet (2002), we analyze the sentence (5) as two independent discourse segmentations: The first segmentation is 'Yeongi has the intention to eat apples' and the second segmentation is 'she promised that'; a co-referential link can be established between *Yeongi* and *she* in terms of discourse memory or perceptual units. Moreover, prosodically, this sentence is very interesting because in general, Korean speakers need to pause after producing a completive phrase, showing that this completive is detached from the principal proposition:

- (8) [sakwa-reul **Yeongi-ka** meok-kess-dako] / (EP) eomma-hante (EP) yaksokha-eoss-eo
apple-ACC **Yeongi-SUBJ** eat-I-C mother-DAT promise-P-N
'Yeongi promised her mother to eat apples'

Moreover, Korean is a pro-drop language and subjects can be omitted, so it is not surprising that the subject is not expressed, sometimes, it is more natural to omit the subject.⁹

In general, a completive is governed by the principal proposition. However, we remark that Korean

⁸ *la brave femme* obviously can be marked by the pronoun *elle*.

⁹ According Huang (1984), languages such as Chinese and Korean so called discourse-oriented languages that entirely lack agreements, allow null arguments both in the subject and object position; whenever they pick up antecedents from discourse.

completive behaves differently compared to English or French. For example, it is not possible that a French completive is detached from principal proposition:

(9) a. ?? *Qu'elle mangerait une pomme, Marie l' a promis*
 that she would_eat an apple Marie it has promised
 'that she would eat an apple, Marie promised it'

b. ?* *Que Marie mangerait une pomme, elle l' a promis*
 that Marie would_eat an apple she it has promised
 'that Marie would eat an apple, she promised it'

Grobet (1997) notes that the prosodic criterion must be taken into account only when other criteria fail to explain the phenomena.¹⁰ A prosodic approach strengthens the thesis of Kong (1981) and that of Roulet (2002) and the fact that the sentence (1b) consists of two independent segmentations. We believe that the dependency tree of the sentence (1b) is different from the dependency tree of the sentence (1a) and that the subject of the sentence (1b) depends on the embedded verb:

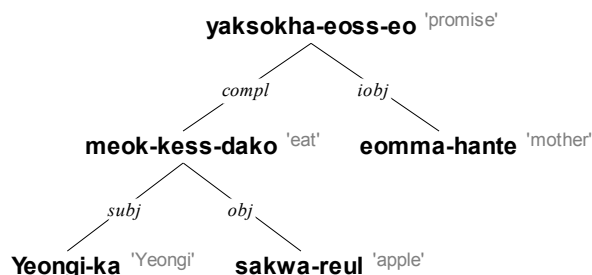


Figure VIII. Dependency tree of the sentence (1b)

Contrary to the topological structure of the sentence (1a), the subject *Yeongi-ka* is placed in the completive box opened by its governor *meok-* 'eat', and as shown by (1d), the dependents of the embedded verb *meok-* 'eat' cannot emancipate itself from its governor's domain:

Main field			Verbal field	
Completive domain			Verb cluster	
sakwa-reul	Yeongi-ka	meok-kess-dako	yaksokha-eoss-eo	

Figure IX. Topological structure of the sentence (1b)

In a syntax-topology interface, we consider that it is impossible that the highest word goes into the embedded box; moreover, in the sentence (1b), the subject is placed in front of the embedded verb instead of being placed near the matrix verb. Therefore, we might suppose that in principle the subject *Yeongi* attaches to the embedded verb as described by the dependency tree above (see Figure VIII) and as Analysis II (see Figure V). However, if we suppose that this is only a topological problem and the sentences (1a) and (1b) have same syntactic structure in which the subject depends on the embedded verb, we don't have any argument to explain the sentence (1a) because as we have discussed, we believe that the subject *Yeongi* cannot emancipate its governor, for example *sakwa* 'apple' (see sentence 1d), which is to say, *Yeongi* is always placed in the completive domain. Therefore, we think that the sentences (1a) and (1b) have different syntactic structure, and this observation permits to think that we are able to constitute a dependency tree and a topological structure at the same time for these two sentences.

¹⁰ « Il me semble que le critère prosodique doit être pris en compte uniquement quand les autres critères font défaut. »

3 Conclusion

We have discussed the position of Korean subject, especially comparing the sentences (1a) and (1b). Throughout this paper, we defend the idea that, if we have several verbs in the sentence that share the same agent, the subject in Korean doesn't always attach to the highest verb in a dependency tree, because in some cases, we have a detached completive phrase that has its own subject.

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