

Sluicing in Korean: A construction–based approach*

Sae-Youn Cho

(Kangwon National University)

Cho, Sae-Youn. 2014. Sluicing in Korean: A construction-based approach. *Linguistic Research* 31(1), 25-52. This paper aims to account for the general and idiosyncratic properties of the Korean sluicing construction. The main issues on this construction are how to generate its relevant structures and get the right reading(s) from them. Rejecting the previous analyses facing theoretical and/or empirical problems, we propose a descriptive analysis of sluicing employing a Korean sluicing construction rule and a semantic Linking principle of remnants and their correlates based on the Case and the Index value. The present analysis enables us to explain most of the properties of the Korean sluicing construction. **(Kangwon National University)**

Keywords Sluicing in Korean, copula construction, remnants, correlates, Case, Index

1. Introduction

It is well-known that there are various forms of ellipsis in natural languages. One of the main concerns of syntactic theories on ellipsis is to explore how to account for the discrepancy between form and meaning. Recently, sluicing as a case of ellipsis has been a key cross-linguistic issue in the theoretical linguistic fields (see Chung et al. 1995, Merchant 2001, 2006). Sluicing in English refers to an ellipsis phenomenon where all but the interrogative *wh*-phrase is elided and yet interpreted as a full *wh*-question, as exemplified in (1) and (2).

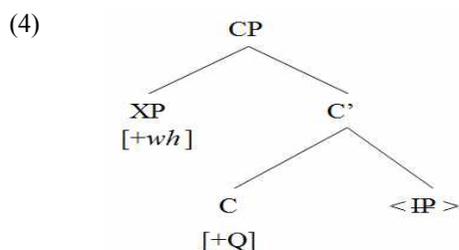
* We would like to thank two anonymous reviewers for *Linguistic Research* for their valuable comments and suggestions. An earlier version of this paper has been presented at the Workshop on Sluicing and Related Phenomena, organized by the Institute for the Study of Language and Information, November 8, 2013, Kyung Hee University. This study was supported by Kangwon National University. All errors in this paper are ours.

- (1) a. Someone put the pen in there, but I don't know **who** <put the pen in there>.
 b. Johnny bought something, but I don't know **what** <he bought>.
 (2) Susan called, but I don't know **when/how/why/where from** <she called>.

As shown above, English allows two types of sluicing: 'merger' and 'sprouting'. The former type of sluicing called merger as seen in (1) is the construction in which the remnant bold-faced *wh*-phrase has an overt correlate NP, i.e. an indefinite NP (underlined in (1)). On the other hand, the latter type, 'sprouting' like (2), is the ellipsis construction where the isolated *wh*-phrase remnant has no overt correlate NP. English, however, disallows the remnant phrases such as *whether* or *if* delivering a *yes-no* question as in (3).

- (3) *(I heard that) Susan hit Johnny, but I don't know **whether/if** <it is true>.

To account for the merger type of sluicing in English, the Movement-based Ellipsis approach, initiated by Ross (1969) and Merchant (2001), proposes that the *wh*-movement followed by the deletion of the IP part can get us the exact surface form in (1), assuming the structure of sluicing construction as illustrated in (4).



The key idea here is that the remnant *wh*-phrase in the Spec of CP must be selected by a C[+Q] head, which licenses the elided IP (Cf. Merchant, 2001). This may enable us to exclude elided sentences like (3), where the remnant phrases with [-*wh*] such as *if* deliver *yes-no* questions.

Similar to English sluicing, Korean also appears to have the two types of

sluicing in Korean, merger and sprouting as shown in (5-6) (see Kim 1997, Park 2001, Jo 2005, Choi 2012). It would be natural that sluicing can be found in both languages in the sense that it is widespread cross-linguistically.

- (5) Swuni-ka nwukwunka-lul ttaylye-ss-nuntey, **nwukwu-i-nci** molukeyssta.
 S-Nom someone-Acc hit-Past-but who-Cop-Q not.know
 'Swuni hit someone, but I do not know who.'
- (6) mwullang-i patakna-ss-nuntey, **way-i-nci** molukeyssta.
 stock-Nom bottom-Past-but why-Cop-Q not.know
 'The item is out of stock, but I do not know why.'

Specifically, the merger type of Korean sluicing in (5) seemingly exhibits similar patterns of English counterpart: there is a remnant *wh*-phrase linked to an overt correlate in the preceding clause. Likewise, the sprouting type, in which there is a remnant *wh*-phrase containing no overt correlate, is also possible in Korean as in (6).

Unlike the English sluicing construction (3), Korean counterpart sluicing allows the non-*wh* remnant words such as *sasil* ('fact') functioning as *yes-no* question as in (7).

- (7) pi-ka onta-ko hay-ss-nuntey, **sasil-i-nci** molukeyssta.
 rain-Nom come-Comp say-Past-but true-Cop-Q not.know
 'It is said that it will rain, but I do not know whether it is true.'

In addition, the remnant phrases in Korean sluicing involve a (*wh*-)phrase morphologically attached to the copula verb '-i' and the interrogative introducing marker '-nci', delivering *wh*- or *yes/no* question.

As can be seen above, the Korean sluicing construction seems to behave differently from English though both languages share some common properties with respect to sluicing. If so, at least the two questions just follow: What kind of idiosyncratic properties does Korean sluicing exhibit in detail? and Does the Movement-based Ellipsis approach above work for Korean sluicing? To answer such questions, we claim here that the seemingly idiosyncratic properties of the Korean sluicing mainly stem from the copula construction in Korean and the possible readings from the remnant phrase of sluicing heavily depend on the members of the

overt indefinite correlate set or the values of (un)expressed circumstances.

To support our claim, we focus on looking into important idiosyncratic properties of the Korean sluicing construction in Section 2, in addition to the general properties mentioned in the previous analyses. Based on the observed properties and suggestions for them, we critically review some previous analyses such as the Movement-based Ellipsis approach and the Construction-based analysis by J-B Kim (2013) in Section 3. In Section 4, we propose our descriptive analysis of the Korean sluicing construction and outline how our analysis can be implemented into a slightly modified construction-based grammar.¹

2. Some idiosyncratic properties of the Korean sluicing construction and suggestions

2.1 The internal structure of the remnants and questioning

The important difference in sluicing between the two languages is that the remnant in the Korean sluicing construction should include the copula verb '-i' and the interrogative introducing marker '-nci' regardless of the type of sluicing as in (8-9).

- (8) Swuni-ka nwukwunka-lul manna-ss-nuntey, **nwukwu-i-nci**
 S-Nom someone-Acc meet-Past-but who-Cop-Q
 molukeyssta.
 not.know
 'Swuni met someone, but I do not know who.'
- (9) Swuni-ka Mija-lul ttaylye-ss-nuntey, **way-i-nci** molukeyssta.
 S-Nom M-Acc hit-Past-but why-Cop-Q not.know
 'Swuni hit Mija, but I do not know why.'

If the interrogative marker in (8) is substituted for another subordinating complementizer marker '-ko', then such sentence is predicted to be ill-formed as

¹ Our main concern is to give an intuitive solution to sluicing in Korean. As for the theoretical framework, we assume to adopt a slightly modified construction grammar (Cf, Goldberg and Jackendoff 2004, Goldberg 2006).

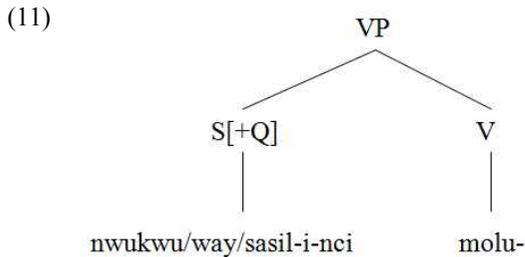
shown in (10) (Chung 1996, Sohn 2000, Choi 2012, Ok & Kim 2012).

- (10) *Swuni-ka nwukwunka-lul ttaylye-ss-nuntey, nwukwu-i-(n)ko
 S-Nom someone-Acc hit-Past-but who-Cop-Comp
 molukeyssta.
 not.know
 'Swuni hit someone, but I do not know who.'

Moreover, the Korean sluicing construction allows both a *wh*-phrase and a non-*wh*-phrase remnant as in (8-9) and (7) while the English counterpart disallows a non-*wh*-phrase remnant delivering a *yes-no* question as in (3).

- (3) *(I heard that) Susan hit Johnny, but I don't know **whether/if** <it is true>.
 (7) pi-ka onta-ko hay-ss-nuntey, **sasil-i-nci** molukeyssta.
 rain-Nom come-Comp say-Past-but true-Cop-Q not.know
 'It is said that it will rain, but I do not know whether it is true.'

Based on this observation, we can conclude that though sluicing in English requires a *wh*-remnant with [+*wh*] to get a *wh*-question reading, sluicing in Korean just needs a remnant phrase with [+Q] selected by the head verb 'molu-' ('not.know'), regardless of the types of sluicing (Cf. J-B Kim, 2013). Hence, the result of the observation above can be represented structurally as follows:



2.2 The status of correlate NPs linked to the remnants

As mentioned above, sluicing can be divided into the two types, merger and sprouting named by Ross (1969), with respect to the existence of an indefinite correlate NP linked to the remnant. It is, first of all, widely accepted that sprouting can get a reading without an overt indefinite correlate NP as in (12).

- (12) Swuni-ka Mija-lul ttaylye-ss-nuntey, **way/encey/etise-i-nci**
 S-Nom M-Acc hit-Past-but why/when/where-Cop-Q
 molukeyssta.
 not.know
 'Swuni hit Mija, but I do not know why/when/where.'

Of course, if there is an overt indefinite correlate in the preceding clause, such sentences as (13) can be construed to be acceptable as a case of merger.

- (13) Swuni-ka Mija-lul **etise** ttaylye-ss-nuntey, **etise-i-nci**
 S-Nom M-Acc somewhere hit-Past-but where-Cop-Q
 molukeyssta.
 not.know
 'Swuni hit Mija somewhere, but I do not know where.'

As you may notice, the grammatical status of the overt or covert indefinite correlate NPs linked to the *wh*-remnants in (12-13) is adjuncts. Hence, we may say that the indefinite correlate adjuncts linked to the remnants can be expressed or unexpressed in Korean.

On the other hand, it is believed that merger requires an indefinite correlate argument in the preceding clause to be grammatical. To support this, we may provide data (14), in which there is a definite correlate argument linked to the *wh*-remnant, instead of an indefinite correlate.

- (14) *Swuni-ka Mija-ul manna-ss-nuntey, **nwukwu-i-nci** molukeyssta.
 S-Nom M-Acc meet-Past-but who-Cop-Q not.know
 'Lit: Swuni met Mija, but I do not know who.'

The remnant, 'nwuku (who)', requires an indefinite correlate in this sentence but there is none. Hence, it is unacceptable. Further, it is also believed that sluicing in Korean allows an unexpressed (covert) correlate argument to be linked to the remnants as a case of sprouting on the basis of the following data:

- (15) Swuni-ka ton-ul cwu-ess-nuntey, **nwukwu**-(**eykey/hanthey**)-i-nci
 S-Nom money-Acc give-Past-but to whom-Cop-Q
 molukeyssta.
 not.know
 'Intended Meaning: Swuni gave some money to someone, but I do not know to whom.'

Though there is no overt correlate argument in the preceding clause of (15), the remnant, 'nwukwu-ekey-i-nci (to whom-Cop-Q)', can get a reading and be predicted to be acceptable, if the nominal marker '-ekey' is attached to the *wh*-word 'nwukwu'. The issue at stake is whether the unexpressed correlate is an argument or an adjunct in Korean. If we regard the marker '-eykey' as not a (dative) case but a semantic (case) marker like '-hanthey', we can say that the unexpressed correlate should be an adjunct (Cf. Lee (1997)).² As for the grammatical status of the remnants attached with '-ekey', it seems to be neutral, which means that they can be regarded as either an argument or an adjunct, depending on which claim you choose. However, sprouting in Korean appears to disallow unexpressed indefinite correlate arguments such as Subject and Object as in (16-17).

- (16) a. ??hakkyo-ey/lul ka-ss-nuntey, **nwukwu**-i-nci molukeyssta.
 school-to/Acc go-Past-but who-Cop-Q not.know
 b. nwu-ka hakkyo-ey/lul ka-ss-nuntey, **nwukwu**-i-nci
 someone-Nom school-to/Acc go-Past-but who-Cop-Q
 molukeyssta.
 not.know
 'Intended Meaning: Someone went to school, but I do not know who.'

² There have been various theories on the marker *-eykey* in Korean. This paper accepts the idea that the marker is a sort of semantic case.

- (17) a. ??Swuni-ka chaca-ss-nun^{tey}, **nwukwu-i-nci** molukeyssta.
 S-Nom find-Past-but who-Cop-Q not.know
 b. Swuni-ka nwukwu-lul chaca-ss-nun^{tey}, **nwukwu-i-nci**
 S-Nom someone-Acc find-Past-but who-Cop-Q
 molukeyssta.
 not.know
 'Intended Meaning: Swuni found somebody, but I do not know who.'

When the unexpressed correlate arguments functioning as Subject or Object are linked to the *wh*-remnants as in (16a) and (17a), they sound odd. Contrary to the a-sentences, b-sentences in (16b) and (17b), where there are overt correlate NPs for the remnants, are perfect. Given the observations above, we may say that there are some asymmetries between arguments and adjuncts with respect to sluicing: adjuncts may undergo 'merger' and 'sprouting' while arguments such as Subject and Object can undergo 'merger' but not 'sprouting'.

If we take this claim to be true, we should predict both sentences in (18a-b) to be acceptable. However, it is not the case.

- (18) a. ??Mija-lul ttaylye-ss-nun^{tey}, **nwuku-i-nci** molukeyssta.
 M-Acc hit-Past-but who-Cop-Q not.know
 'Someone hit Mija, but I do not know who.'
 b. (?)Mija-lul ttaylye-ss-*ta*-nun^{tey}, **nwuku-i-nci** molukeyssta.
 M-Acc hit-Past-RS-but who-Cop-Q not.know
 'I heard that Someone hit Mija, but I do not know who.'

In fact, (18a) sounds awkward while (18b) is much better. The only difference between the two is the existence of *-ta* attached to *-nun^{tey}* ('but'), which conveys a sort of reported speech (RS). The same difference in acceptability can be observed in the Korean sprouting construction with unexpressed objects as follows:

- (19) a. ??Mija-ka ttaylye-ss-nun^{tey}, **nwuku-i-nci** molukeyssta.
 M-Nom hit-Past-but who-Cop-Q not.know
 'Mija hit someone, but I do not know who.'

- b. (?)Mija-ka ttaylye-ss-ta-nuntey, **nwuku-i-nci** molukeyssta.
 M-Nom hit-Past-RS-but who-Cop-Q not.know
 'I heard that Mija hit someone, but I do not know who.'

To capture the difference of the acceptability above, we suggest that the unexpressed arguments with structural cases such as Subject and Object can occur as appropriate correlate NPs linked to the remnants when the preceding clause involving them conveys an event or situation only with partial information on its participants. Otherwise, the unexpressed arguments are construed to be the entities both a speaker and a hearer already knew. If we accept this suggestion, we can predict that in (18-19), the a-sentences are odd while the b-sentences are better. Specifically, the a-sentences using direct speech (DS) seem to assume that the events in the preceding clauses involving the unexpressed Subject or Object are understood as those with sufficient information on participants in that the speaker is believed to observe each event. So it is unnatural that though the unexpressed arguments should be understood by both a speaker and a hearer, the a-sentences are unexpectedly asking a question about the participant(s) of the events. Thus, they sound awkward. On the other hand, the b-sentences using the RS appear to assume that the events may have partial information on the event participants in that the speaker is not an observer. In this regard, it can be natural that the speaker may ask a question about the agent or the patient of the events. Hence, the b-sentences sound much better than the a-sentences.

As mentioned above, sluicing in English, however, disallows the non-*wh*-phrase remnant regardless of the value of Speech, i.e. [+/- Direct Speech], as illustrated in (20). Related to the difference in acceptability between DS and RS clause, sluicing in Korean involving the non-*wh*-phrase remnant with [+Q] can be acceptable when the preceding clause is delivered with RS as in (21b).

- (20) *Susan told me that she would do this for me, but I am not sure if/whether.
- (21) a. ??mwullang-i patakna-ss-nuntey, **sasil-i-nci** molukeyssta.
 stock-Nom bottom-Past-but true-Cop-Q not.know
 b. mwullang-i patakna-ss-ta-nuntey, **sasil-i-nci** molukeyssta.
 stock-Nom bottom-Past-**RS**-but true-Cop-Q not.know
 '(Somebody told me that) the item is out of stock, but I do not

know if it is true.'

The only difference between (21a) and (21b) is the existence of '-ta' delivering the RS. In Korean sluicing, the RS makes it possible to ask a *yes-no* question about whether the proposition in the preceding clause is true or not, but the DS does not.

2.3 Case identity and *wh*-phrase remnants

One of the main concerns on sluicing is to explore how to account for the discrepancy between form and meaning. In other words, we have to link the *wh*-phrase remnant to an appropriate expressed or unexpressed correlate NP in the preceding clause so as to recover the understood reading of the elided expression in sluicing. In doing this, the case identity between the remnant and its correlate NP appears to play an important role in the sluicing construction.

In English, though the typical case of merger is that there is a *wh*-phrase remnant and its indefinite correlate NP in a sluicing construction, it is not hard to find a sluicing construction in which there is no one-to-one correspondence between *wh*-phrase remnants and their correlate NPs. Sluicing in English seems to allow multiple indefinite correlate NPs linked to the *wh*-phrase remnant as follows:

- (22) a. Somebody hit someone but I don't know **whom**.
 b. Somebody hit someone but I don't know **who**.

Syntactically, (22a), where there are two indefinite NPs and a *wh*-phrase remnant, is regarded as well-formed. Semantically, the Accusative form of the remnant *whom* enables us to get the right indefinite correlate NP *someone*, but not *somebody*. On the other hand, the remnant *who* in (22b) functions as either a Nominative or an Accusative form and as a result, brings about ambiguity.

Sluicing in Korean also exhibits the similar behaviors. Since Korean has a more complex case system than English, it is never easy to get the exact readings from such cases. Similar to English, sluicing in Korean, first of all, allows multiple indefinite correlate NPs linked to the *wh*-phrase remnant as follows:

- (23) Nwu-ka nwukwunka-lul ttaylye-ss-ta-nuntey, **nwukwu-i-nci**

somebody-Nom someone-Acc hit-Past-RS-but who-Cop-Q
 molukeyssta.
 not.know
 'I heard that somebody hit someone, but I do not know who.'

It is well-known that the copula verb 'i' cannot occur with the structure case markers such as Nom (morphologically realized as '-i' or '-ka') and Acc (morphologically realized as '-(l)ul'). In this regard, the *wh*-word remnant in (23), *nwukwu* ('who'), can be interpreted as *who* or *whom* and consequently, sentence (23), where there are two indefinite correlate NPs linked to the remnant, can be ambiguous. Of course, if there is some distinctive features ([+/- human]) between the two indefinite NPs, such ambiguity will be resolved as in (24) (see Cho & Chai (2000)).

- (24) a. Nwu-ka mwuenka-lul mancye-ss-ta-nuntey, **nwukwu-i-nci**
 someone-Nom something-Acc touch-Past-RS-but who-Cop-Q
 molukeyssta.
 not.know
 'I heard that someone touched something, but I do not know who.'

Another peculiar property of case identity is the value of cases in Korean. When we search for an appropriate indefinite correlate NP linked to the *wh*-phrase remnant, the case value plays an important role but the case identity appears to be not that strict. In other words, the case value between the remnant and its correlate NP does not have to be morphologically identical as in (25).

- (25) Swuni-ka ton-ul **nwukwunka-eykey/hanthey** cwu-ess-nuntey,
 S-Nom money-Acc someone-to give-Past-but
nwukwu-eykey/hanthey-i-nci molukeyssta.
 to whom-Cop-Q not.know
 'Intended Meaning: Swuni gave some money to someone, but I do not know to whom.'

The remnant and its correlate NP can be easily linked even when they have two different case values such as *-eykey* and *-hanthey*. Under this observation, if we

assume that the case at issue is a semantic case whose realized morphological forms are *-ey(key)* and *-hanthey*, we can say that the case identity in sluicing just requires not the same morphological form value but the same semantic case value between the remnant and its correlate non-arguments.

On the other hand, the correlate arguments functioning as Subject or Object can be attached to markers such as Topic, instead of Nom or Acc case marker, and be linked to the *wh*-phrase remnant as follows:

- (26) a. nwukwu(nka)-man Swuni-ka ttaylye-ss-ta-nuntey, **nwukwu-i-nci**
 someone-Del S-Nom hit-Past-RS-but who-Cop-Q
 molukeyssta.
 not.know
 'I heard that Swuni hit someone, but I do not know who.'
- b. nwukwu(nka)-nun/man Swuni-lul ttaylye-ss-ta-nuntey,
 someone-Top/Del S-Acc hit-Past-RS-but
nwukwu-i-nci molukeyssta.
 who-Cop-Q not.know
 'I heard that someone hit Swuni, but I do not know who.'

The indefinite NP with the Del(imiter) '-man' in (26a), *nwukw(unka)-man*, can be linked to the *wh*-phrase remnant though it does not have any morphologically realized Acc case marker. By the same fashion, the indefinite NP with the Top(ic) marker '-man' in (26b), *nwukwu(nka)-nun*, also can be linked to the *wh*-phrase remnant when it does not have any morphologically realized Nom case marker. To account for the case identity on the arguments with Nom and Acc, we may suggest that the remnant and its indefinite correlate argument must share with the value of the inherent structure case, assuming the concept of Inherent Case including Structure case and Semantic case and Realized Case suggested by Cho & Chai (2000). Given this, the arguments with Top or Del functioning as Subject or Object can have an appropriate Inherent Structure case, and as a result, they can be linked to the remnants as their indefinite correlate NPs.

In addition to the fact that sluicing in both languages allows multiple indefinite correlate NPs linked to the remnant, we can observe that sluicing in Korean allows multiple remnants as in (27).

- (27) a. *mwullang-i patakna-ss-ta-nuntey, ence, etise, way-i-nci*
 stock-Nom bottom-Past-RS-but when where why-Cop-Q
molukeyssta.
 not.know
 'I heard the item was out of stock, but I do not know when, where,
 and why.'
- b. *Swuni-ka nwukwu-lul ttaylye-ss-ta-nuntey,*
 S-Nom someone-Acc hit-Past-RS-but
way nwukwu-i-nci *molukeyssta.*
 why whom-Cop-Q not.know
 'Literal: I heard Swuni hit someone, but I do not know whom and
 why.'

Specifically, the sluicing constructions in (27a) and (27b) involve multiple remnants linked to (un)expressed correlate adjuncts and those linked to (un)expressed correlate argument and adjunct, respectively. Though they have multiple *wh*-phrase remnants, they are grammatical.

However, the sluicing sentence, where there are multiple remnants linked to multiple correlate arguments with a structure case, sounds a little bit odd as in (28a). On the other hand, when the multiple remnants are coordinated as in (28b), it sounds perfect, though their correlate NPs are not fixed intuitively.

- (28) a. *?Nwu-ka nwukwunka-lul ttaylye-ss-ta-nuntey,*
 someone-Nom somebody-Acc touch-Past-RS-but
nwu-ka nwukwu-i-nci *molukeyssta.*
 who who-Cop-Q not.know
 'I heard somebody hit someone, but I do not know who hit whom.'
- b. *Nwu-ka nwukwunka-lul ttaylye-ss-ta-nuntey,*
 someone-Nom somebody-Acc touch-Past-RS-but
(nwukwu(-wa)) nwukwu-i-nci *molukeyssta.*
 who(-and) who-Cop-Q not.know
 'I heard somebody hit someone, but I do not know who (and
 whom).'

It seems that the oddness of (28a) stems from the fact that the second remnant without a case marker has a difficulty in fixing its appropriate correlate NP because of the multiple correlate candidates. However, (28b) does not require any fixed reading for the remnants since there is no case markers, and consequently the remnants just refer to both arguments as shown in the glossary of (28b).³

Furthermore, sluicing in Korean disallows mixed remnants consisting of *wh*-phrase and non-*wh*-phrase as follows:

- (29) *Swuni-ka nwukwu-lul ttaylye-ss-ta-nuntey,
 S-Nom someone-Acc hit-Past-RS-but
nwukwu-lul **sasil-i-nci** molukeyssta.
 whom true-Cop-Q not.know
 'Literal Meaning: I heard Swuni hit someone, but I do not know
 whom and if.'

In (29), it is observed that the *wh*-phrase, *nwukwu-lul*, and the non-*wh*-phrase remnant, *sasil*, cannot co-occur. It may be suggested that though sluicing in Korean allows remnants with [+*wh*] and [-*wh*], they cannot co-occur within a clause.

2.4 Findings and suggestions

We have provided various peculiar properties of Korean sluicing constructions and some suggestions for them so far. Such findings and suggestions can be summarized as follows:

- (30) Finding 1: Unlike English, sluicing in Korean just needs remnant phrases with [+Q] selected by the head verb 'molu-' ('not.know'), regardless of the types of sluicing.
 Finding 2: Once '-eykey' is regarded as a semantic case, sluicing in Korean in principle allows both types, i.e. merger and sprouting. However, there is one semantic/pragmatic condition of unexpressed correlate NPs with structure

³ To account for such sluicing sentences in Korean, we assume that the *wh*-phrase remnants selected by the copula must be a coordinated structure.

cases such as Nom and Acc in the preceding clause of the sluicing construction: unexpressed NPs with structure cases may not occur in the DS.

- Finding 3: The case identity between *wh*-phrase remnants and their correlate NPs is not that strict in Korean: mainly because of the impossibility of attaching structure cases to the copula verb '-i', the *wh*-phrase remnants without a structure case cause ambiguous readings. As for the correlate arguments with semantic cases, the corresponding remnants should have the same case marker attached to the copula verb.
- Finding 4: Multiple indefinite correlates and their remnants, in principle, are allowed in the sluicing construction. However, the impossibility of attaching structure cases to the copula verb '-i' may lead to inducing ambiguous readings for the remnants. In addition, remnants with [+*wh*] and [-*wh*] cannot co-occur in the construction. On the basis of the findings above, we briefly review the previous analyses.

3. Previous analyses

3.1 Movement-based ellipsis analysis

Following Ross (1969) and Merchant (2001), Korean sluicing construction may seem to be analyzed by assuming the *wh*-movement and ellipsis as illustrated in (4). To adopt this idea, Kim (1997) postulates the input sentence (31b) and then derives the output sentence (31a) in terms of the *wh*-movement and ellipsis:

- (31) a. Swuni-ka nwukwu-lul ttaylye-ss-nuntey, [nwukwu-i-nci
 S-Nom someone-Del hit-Past-but who-Cop-Q
 molukeyssta].
 not.know

- 'Swuni hit someone, but I do not know who.'
 b. ... [CP *nwukwu*,-*lut* [TP *Swuni-ka* *t_i* *ttaylye-ss*]*nunci*] *molukeyssta*

This analysis appears to pose at least two questions: one is why the dubious input sentence does not have a copula verb '-i' and the other is the question on whether the *wh*-movement is obligatory. As for the former, though Kim (1997) proposes '-i' insertion like *do* support in English to get the correct output form, it is still questionable if there is any independently motivated evidence. In considering that Korean belongs to a *wh-in-situ* language, such *wh*-movement is not that plausible.

Moreover, sluicing in Korean allows non-*wh*-remnants such as *sasil-i-nci* as follows:

- (32) *mwullang-i patakna-ss-ta-nuntey, sasil-i-nci molukeyssta.*
 stock-Nom bottom-Past-**RS**-but true-Cop-Q not.know
 '(Somebody told me that) the item is out of stock, but I do not know
 if it is true.'

Under Kim (1997), such sentences above cannot be accounted for.

3.2 Copula and pseudocleft analyses

To cope with the difficulties the Movement-based Ellipsis approach, the so-called Pseudocleft analysis has been proposed (Cf. Park 2007, Cho *et al* 2008, and Kim J. 2012). The essential idea of this analysis seems to be the structural similarities between Korean sluicing and pseudocleft. In other words, the sentence (33b) is a typical case of pseudocleft construction while (33a) is the final clause of Korean sluicing:

- (33) a. [*Swuni-ka ttayli-n kes-un*] ***nwukwu-i-nci*** *molukeyssta.*
 S-Nom hit-Mod kes-Top who-Cop-Q not.know
 'I do not know who (Swuni hit) .'
 b. [*Swuni-ka ttayli-n kes-un*] ***Mija-i-ta.***
 S-Nom hit-Mod kes-Top M-Cop-Decl
 'Who Swuni hit is Mija.'

As can be seen, pseudocleft is seemingly quite similar to the final clause of the sluicing construction structurally. This analysis, hence, seeks to derive (33a) from (33b). In some sense, this approach can answer why Korean sluicing must have the copula '-i' effortlessly. Moreover, the fact that sluicing in Korean allows non-*wh*-remnants like (32) just follows under this analysis because the putative input (34) is possible.

- (34) [mwullang-i patakna(-ss-**ta**-nu)n kes-un] **sasil**-i-ta.
 stock-Nom bottom-Past-(**RS**)-Mod kes-Top true-Cop-Decl
 'The fact that the item is out of stock is true.'

As mentioned above, sluicing in Korean allows the non-*wh*-phrase remnant, *sasil*, when the preceding clause encoding the RS is used. Otherwise, it sounds awkward. Unlike sluicing in Korean, pseudocleft construction in (34) is perfect regardless of the existence of the RS. So pseudocleft is not appropriate for the input of the sluicing construction. Besides this, there are various differences between pseudocleft and sluicing, which are related to multiple remnants and case connectivity (see Sohn 2000, Park 2007, Kim J-B, 2013). Thus, this approach is not a good candidate for the proper analysis of sluicing, either.

Another previous analysis is to regard the relevant part (the final clause) of the sluicing construction as a copula construction with a null subject, as proposed by Sohn (2000), Jo (2005) and Choi (2012). The copula construction shares almost the same properties with the sluicing part as follows:

- (35) a. **ku kes-i insayng-i**-ta.
 the Kes-Nom life-Cop-Decl
 'That is life.'
 b. na-nun [(**ku-kes-i**) **mwues-i**-nci] molukeyssta.
 I-Top the Kes-Nom what-Cop-Q not.know

Superficially, the copula construction in (35a) is quite similar to the sluicing part in (35b): First, both have a copula verb and the same subject, *ku kes-i*. Second, they exclude any structure case marker since the copula does not allow it. In considering that the Movement-based Ellipsis approach or Pseudocleft analysis faces various

theoretical and/or empirical problems mentioned previously, the copula analysis appears to be attractive since it does not need any process to get the copula and the null pronominal, *ku kus-i*. The clear difference between (35a) and (35b) is that the copula construction as an independent clause has a sentence ending marker '-ta' while the sluicing part has a question marker '-nci' required by the verb 'molu-'.

To show that the two are not the same, Kim J-B (2013) argues that the copula construction allows a negative form of the copula whereas the sluicing part does not:

- (36) a. Mimi-ka ilk-un kes-un sosel-i **ani-ta**.
 M-Nom read-Mod Kes-Top novel-Cop-Nom not-Decl
 'What Mimi read wasn't a novel.'
- b. *Mimi-ka mwuesinka-lul ilk-ess-nuntesy, mwues-i
 M-Nom something-Acc read-Past-but what-Nom
ani-nci molukessta.
 not-Q not.know
 'Literal: Mimi read something, but I don't know which it isn't.'
 (Kim J-B (2013))

Kim J-B (2013) believes that the copula construction involving a negative copula in (36a) is well-formed whereas the sluicing part headed by a negative copula in (36b) is ill-formed. Based on this discrepancy in grammaticality, he suggests that they should be different. On the contrary to his claim, we consider the sluicing construction with a negative copula like (36b) to be grammatical. To support this idea, we provide data (37).

- (37) Ku kos-uy salamtul-un taypwupwun haksayngtul-i-la-nuntesy,
 the place-Poss people-Top almost students-Cop-RS-but
 nwu-ka **ani-nci** molukessta.
 who-Nom not.Cop-Q not.know
 'Literal: I heard most of the people there are students, but I don't
 know who isn't.'

The fact that the sluicing construction (37) is grammatical and acceptable tells us that sluicing in Korean basically allows a negative copula. If so, we don't have to

take the sluicing construction with a negative copula as an ungrammatical sentence. Rather than that, we may suggest that (36b) is unacceptable in that the preceding part focuses on what Mimi was reading and then the sluicing part unexpectedly asks a question about what Mimi was not reading.

However, the previous Copula analysis appears to be not sufficient to account for the various idiosyncratic properties above. For example, the questions such as how sluicing can possibly have more than two arguments should be answered as Kim J-B (2013) pointed out. Moreover, the Copula analysis gives no explanation on what the function and status of 'ku kes' is. In short, we basically adopt the key concept of the Copula analysis but seek to implement the key ideas into a construction-based grammar to cover the properties we observed previously.

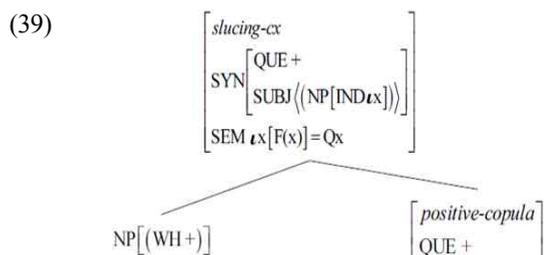
3.3 A constructional view of grammar: Kim J-B (2013)

It is observed that Korean sluicing construction is syntactically quite similar to the copula construction. In this regard, Kim J-B (2013) proposes a Korean Sluicing Construction rule like (38) under the framework of the Construction Grammar, adopting the key concept of the previous Copula analysis.

(38) Korean Sluicing Construction

$$\left[\begin{array}{l} \textit{sluicing-cx} \\ \text{SYN} \left[\begin{array}{l} \text{QUE +} \\ \text{SUBJ} \langle (\text{NP} [\text{IND } \textit{tx}]) \rangle \end{array} \right] \\ \text{SEM } \textit{tx} [F(x)] = \text{Qx} \\ \text{DTRS} \left[\begin{array}{l} \text{HEAD-DTR } \textit{positive-cop} \\ \text{COMPS-DTR } \langle \text{XP}^+ ([\text{WH } +]) \rangle \end{array} \right] \end{array} \right]$$

Given the structure (11) and the sluicing rule in (38), sentence (35b) can be represented as follows:



This analysis can explain various properties of the Korean sluicing construction mentioned above. Among them, we introduce the two interesting tools in (38): First, the rule (38) syntactically enables us to generate multiple *wh*-phrase or non-*wh*-phrase remnants in terms of the value of COMPS-DTR, $\text{XP}^+([\text{WH} +])$. Second, it semantically causes the *wh*-remnant to be linked to an appropriate correlate NP in the preceding clause in terms of an iota variable. It seems that the iota variable ' ι ' will be decided to be a fixed correlate NP by $\text{F}(x)$ in an indirect way (see Kim J-B (2013)).

Though the rule (38) that this analysis employed may account for some syntactic and semantic properties of sluicing in Korean, it appears to be insufficient to explain the whole properties in (30). More specifically, it is unclear how this analysis can explain the ambiguous readings obtained from the sluicing construction with multiple remnants and their candidate correlate NPs. In fact, the case identity is the key issue of the linking process between the remnants and their candidate correlate expressions. Nonetheless, this analysis has no tool for the case identity. Besides the semantic or pragmatic issues regarding to the RS, it is also unclear why the sluicing construction with multiple remnants without any case-marker is better than the one with multiple remnants with a structure case-marker as shown in (28). Moreover, the constraint saying that the head daughter should be a positive copula verb should be abandoned because (37) is grammatical. To be a better theory of sluicing, this analysis, in short, should give an explanation for the problems we pointed out.

4. A new construction-based approach

It seems to be obvious that the previous Copula analysis and the construction-based

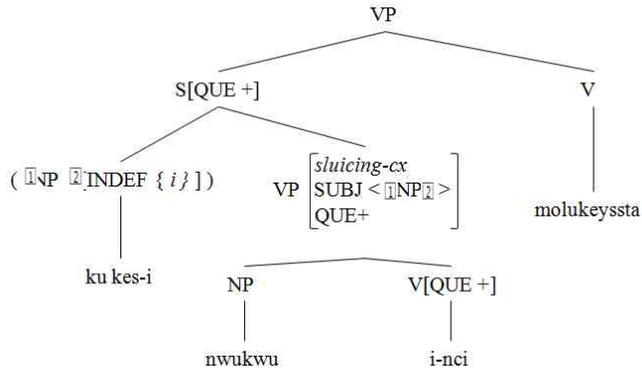
(41) ‘Kukes’

<i>Pron</i>	
L-INDEX	[INDEFINITE { <i>i, j, …</i> } SITUATION <i>s</i> EVENT [PLACE <i>p</i> TIME <i>t</i> REASON <i>w</i> MANNER <i>h/d</i>]]
AGR-ST	< NP <i>i, NP j, …</i> >

For your readability, 'ku kes' is a pronoun which includes the information on the ARG(ument)-ST(ructure) of the preceding clause and various L(INKING)-INDEX values such as INDEFINITE, SITUATION and EVENT. The structure or semantic case value is assumed to be specified in the ARG-ST as a MARKING value. Again, each INDEX features have their own appropriate values: the INDEFINITE value is a set of indefinite individual index, and the SITUATION value, a situation index. The EVENT feature has PLACE, TIME, REASON, and MANNER whose values are specified as illustrated in (40). As for the SEM part, we just assume that the function F maps the proposition generated by sluicing onto a question, following Kim J-B (2013). The difference between the two is that his analysis employs an iota variable while our analysis uses various indices and case values to link remnants to their appropriate correlates.

The DTRS plays a role to generate the daughters of the Korean sluicing construction. There are two important facts we have to notice in the DTRS: the HEAD-DTR value is not the positive copula but just a copula verb, which enables us to predict (37) to be grammatical. Unlike Kim J-B (2013) suggesting that there are multiple complement daughters subcategorized by the copula, our analysis admits only a complement daughter which has a coordinated structure to account for the sluicing construction with multiple remnants. Given this, the sluicing part can be represented as follows:

(42)



Finally, the BELIEF value of the PRAG can have C-INFORM feature which tells us whether the information on the event at issue is partial or not. If the information is partial especially as to the event participants, the C-INFORM value should be '-', which enables us to exclude unexpressed arguments with a structure case delivered by the DS as in (19).

The latter tool is a semantic Linking Principle of remnants and their correlates based on (case) Marking & Index values, which makes us get the appropriate correlate NP(s) for the remnant(s). We provide a descriptive analysis of the linking system for the sluicing construction in this paper. Assuming the Linking principle saying that the remnants in the sluicing construction must be linked to the appropriate correlates chosen from the L-INDEX, we adopt the Korean Case Marking system proposed by Cho and Chai (2000).⁴ Under this system, the NPs in the ARG-ST must have a value for the CASE feature which involves two features, I(NHERENT)-CASE and R(EALIZED)- MARKING.⁵ Again, I-CASE may have a value from STRUCTURE whose value is *nom* or *acc* and SEMANTIC whose value is various semantic cases. The R-MARKING can have a delimiter, case-marking forms, or *nil* as its value. For example, if there is a subject NP which is realized as

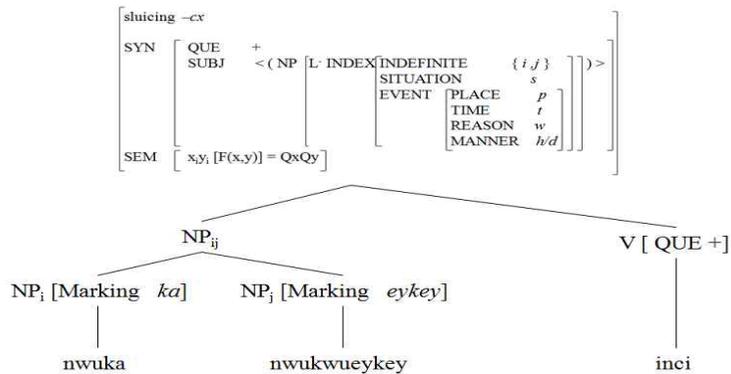
⁴ Formally, when this principle is implemented into one of current construction-based grammars, we need to add a certain semantic principle to collect all indices of the relevant indefinite NPs like the Semantic Compositionality Principle in HPSG (2004) to the grammar model that we assume (Cf. Kim & Sells (2008)). Moreover, we have to posit a formal system to link remnants and their correlates based on the Case and Index values. These formal issues are beyond the scope of this paper.

⁵ Cho & Chai (2000) uses the term *Potential Case* instead of *Inherent Case*. However, we believe it causes no theoretical difference.

an NP with the delimiter *-man*, the NP will be specified in the ARG-ST as <NP[CASE[[R-MARKING[DEL *man*], [I-CASE[STRUTURE *nom*]]]]>. Given this case specification and the L-INDEX, we can represent the sluicing part of (43a) as in (43b).

- (43a) Nwu-ka ton-ul nwukuninka-eykey cwu-ess-ta-nuntey,
 who-Nom money-Acc whom-dat(semantic case) give-Past-RS-but
nwuka nwukwu-eykey-i-nci molukeyssta.
 who to whom-Cop-Q not.know
 'Intended Meaning: Somebody gave some money to someone, but I do not now who and to whom.'

(43b)



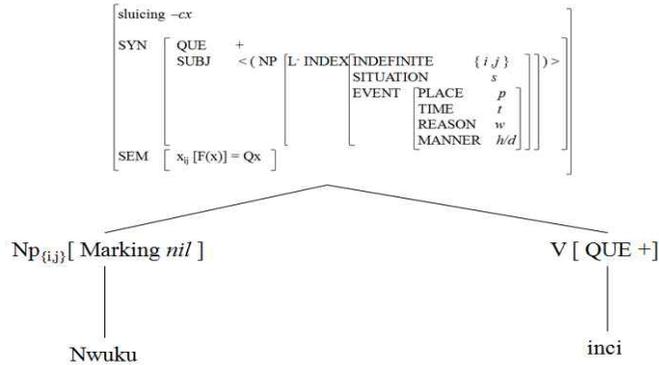
In (43b), the NP *nwuka* with [R-MARKING *ka*] has a *nom* case as a value of I-CASE and 'i' as a value of L-INDEX while the NP *nwukwueykey* with [R-MARKING *eykey*] has a *semantic case* as a value of I-CASE and 'j' as a value of L-INDEX. In terms of the Linking Principle, the *wh*-remnants with the index 'i' or 'j' must be linked to the appropriate correlate NP(s) from the INDEFINITE set. In this case, the set consists of {*i*, *j*} and each index indirectly gets their case information from the ARG-ST of the preceding clause which is specified in the subject, *ku kes*. Hence, we can easily link the remnants to each indefinite correlate NP. The sentence (43a) does not produce any ambiguity since the two remnants and the correlate NPs respectively constitute one-to-one correspondence with respect to

the value of L-INDEX and CASE.

Different from the unambiguous sentence (43a), the ambiguous sentence (23) can be represented as in (44).

- (23) Nwu-ka nwukwunka-lul ttaylye-ss-ta-nuntey, **nwukwu-i-nci**
 somebody-Nom someone-Acc hit-Past-RS-but who-Cop-Q
 molukeyssta.
 not.know
 'Somebody hit someone, but I do not know who.'

(44)



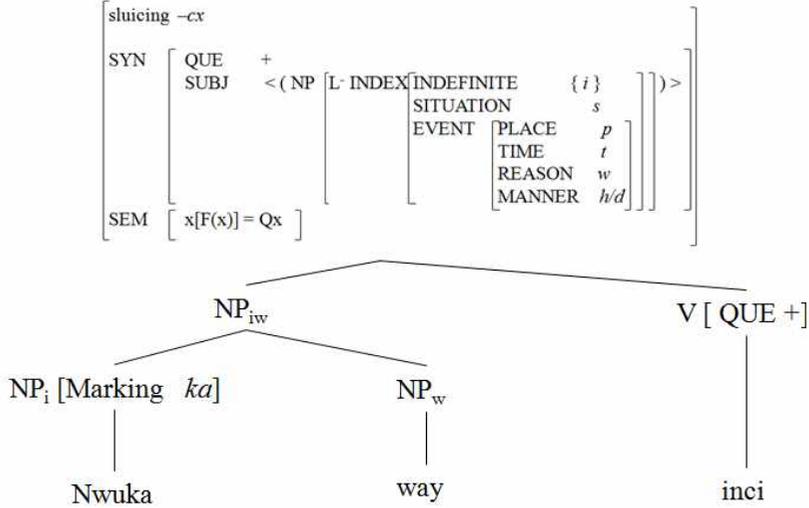
Under this analysis, the *wh*-phrase remnant *nwukwu* has no case marking and thus its candidates for the indefinite correlate are both index members of the INDEFINITE set, $\{i, j\}$. Consequently, this sentence obtains ambiguous readings.

Another case is the sluicing construction (45a), in which there are two remnants in the sluicing part: one of their correlates is an indefinite argument with nominative case while the other is an unexpressed correlate adjunct related to the reason of the event uttered previously. This analysis can provide a partial tree configuration like (45b) for the example (45a).

- (45a) Nwu-ka Mija-lul ttaylye-ss-ta-nuntey, [**nwuk-ka** **way-i-nci**
 who-Nom M-Acc hit-Past-RS-but who-Nom why-Cop-Q
 molukeyssta].
 not.know

'Literal Meaning: I heard somebody hit Mija, but I do not know who and why.'

(45b)



The Linking Principle of this descriptive analysis enables us to link the remnants, *nwuka* and *way*, to the appropriate correlates, *i* and *w*, respectively. In other words, *nwuka* with *nom* case has only a single candidate in the INDEFINITE set $\{i\}$ and the adjunctive remnant, *way*, has *w* value for the EVENT|REASON. So each remnant is linked to its own appropriate correlate in terms of the principle.

Finally, when there is a non-*wh*-phrase remnant in the sluicing construction as in (32), the *s* value of the SITUATION should occur under the condition that the value of the PRAG|BELIEF|C-INFORM is '!'.

So far, we have shown that the idiosyncratic properties of the Korean sluicing construction can be accounted for under our descriptive analysis.

5. Conclusion

There are various forms of ellipsis in natural languages. One of the main concerns of syntactic theories on ellipsis is to explore how to account for the discrepancy between form and meaning. Recently, sluicing as a case of ellipsis has been a key

cross-linguistic issue in the theoretical linguistic fields. To provide a simpler explanation for the Korean sluicing construction, we, first, have looked into the peculiar properties of the construction and then suggested the four findings in (30). In doing this, it is observed that the general and idiosyncratic properties of the construction are closely related to the copula verb. The findings in (30), furthermore, point out that it is never easy to link the remnants and their appropriate correlates in the sluicing construction at issue. This process seems to require various constraints on the grammar components: Syntax, Semantics and even Pragmatics. On the basis of the findings and suggestions mentioned above, we have critically reviewed the previous analyses such as the Movement-based analyses and the Pseudocleft and Copula analysis.

Following the key concept of the Copula analysis and the Constructional view among them, we give a descriptive analysis of sluicing in Korean, which is expected to be implemented into a slightly modified Construction-based Grammar. Though this analysis proposed here is not a complete theory of sluicing within the Construction Grammar, we believe that it is on the right track to get the right structure and meanings for the sluicing constructions in natural languages.

References

- Cho, Sae-Youn and Myung-Hi Chai. 2000. Case, Animacy, and Word Order in Korean. *the Proceedings of WECOL 2000*. California State University, Fresno.
- Cho, Sungdai, John Whitman, and Yuko Yanagida. 2008. Clefts in Japanese and Korean. In *Chicago Linguistic Society* 44(1): 61-77.
- Choi, Yong-Sik. 2012. Sluicing is NOT in Korean. *Journal of Studies in Language* 28(2): 329-351.
- Chung, Sandra, William Ladusaw, and James McCloskey. 1995. Sluicing and Logical Form. *National Language Semantics* 3: 239-282
- Chung, Daeho. 1996. *On the representation and licensing of Q and Q-dependents*. Doctoral dissertation, University of Southern California.
- Goldberg, Adele. 2006. *Constructions at Work: Constructionist Approaches in Context*. New York: Oxford University Press.
- Goldberg, Adele and Ray Jackendoff. 2004. The English Resultative as a Family of Constructions. *Language* 80: 532-568
- Jo, Jung-Min. 2005. Sluicing? It's just one of the copular constructions. *The Linguistic*

- Association of Korean Journal* 13(2): 143-167
- Kim, Jieun. 2012. What Sluicing Comes from in Korean is Pseudo-cleft. *Korean Journal of Linguistics* 37(1): 69-106
- Kim, Jeong-Seok. 1997. *Syntactic focus movement and ellipsis: A minimalist approach*. Ph.D dissertation, University of Connecticut.
- Kim, Jong-Bok. 2013. The Korean Sluicing: As a Family of Constructions. *Studies in Generative Grammar* 23(1): 103-130.
- Kim, Jong-Bok and Peter Sells. 2008. *English Syntax: An Introduction*. CSLI Publications, Stanford CA.
- Lee, In Que. 1997. Dative Constructions and Case Theory in Korean. Ph.D dissertation, Simon Fraser University.
- Merchant, Jason. 2001. *The Syntax of Silenc: Sluicing, Islands, and the Theory of Ellipsis*. Oxford: Oxford University Press.
- Merchant, Jason. 2006. Sluicing. In Martin Everaert and Henk van Riemsdijk (eds.), *The Syntax Companion*, 269-289. Blackwell: London.
- Ok, Sung-Soo and Kim, Soo-Yeon. 2012. An analysis of sluicing-like constructions in Korean: a non-movement approach. *Journal of Language Sciences* 19(1): 155-180.
- Park, Bum-Sik. 2007. Deriving multiple sluicing in Korean. *Studies in Generative Grammar* 17: 515-533.
- Park, Myung-Kwan. 2001. Subject-less clefts in Korean: Towards a deletion analysis. *Language Research* 37(4): 715-739.
- Ross, John. 1969. Guess Who? In Robert Binnick, Alica Davison, Georgia Green, and J. Morgan (eds.), *Proceedings of the Fifth regional Meeting of the Chicago Linguistic Society*, 252-286.
- Sag, Ivan, Thomas Wasow, and Emily Bender. 2004. *Syntactic Theory: A Formal Introduction*. Stanford: CSLI Publications.
- Sohn, Keun-Won. 2000. A non-sluicing, non-clefting approach to copular constructions (in Korean). *Studies in Generative Grammar* 10: 267-294.

Sae-Youn Cho

Dept. of English Language and Literature
Kangwon National University
1 Kangwondaehak-gil, Chuncheon-si
Gangwon-do 200-701, Korea
E-mail: sycho@kangwon.ac.kr

Received: 2014. 04. 04

Revised: 2014. 04. 21

Accepted: 2014. 04. 21