The Korean Sluicing: As a Family of Constructions*

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The Korean sluicing construction has recently been a main topic of research on the mismatch between form and meaning, in the sense that the *wh*-remnant phrase is interpreted as an interrogative phrase. The construction also shares some properties with pseudocleft as well as copula constructions, but at the same time bears distinctive properties from these two. This paper argues that the idiosyncrasies of the construction make it implausible to derive sluicing from any of the two and further shows that the construction belongs to a family of constructions including all the three: copula, pseudo-cleft, and sluicing. The ‘constructional view’ of the Korean sluicing allows us to capture the generalizations of the Korean sluicing in a holistic way.

Keywords: Korean sluicing, pseudocleft, copula, construction grammar,

1. Introduction

The so-called sluicing in English is an ellipsis phenomenon where all but the interrogative *wh*-phrase of a constituent question is elided, as attested by the naturally occurring data:

(1) a. He looked like someone I know, but I can’t think *who*.
   b. We always knew he would succeed at something, but we didn’t know *what*.
   c. Unfortunately, the supply seems to have dried up. I don’t know *why*.
   d. He came in here somewhere, but we don’t know *where*.
   e. They know it is coming, but they don’t know *when*.

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It has been observed that sluicing is widespread cross-linguistically (see Chung et al. 1995, Merchant 2001, 2006). Korean seems to be not an exception as seen from the following:

(2) a. ku-nun nwukwunka-lul talm-ass-nuntey, *nwukwu*-i-nci molukeyssta
   he-TOP someone-ACC resemble-PST-but who-COP-QUE not.know
   ‘He resembled someone, but I do not know who.’

b. mwullayng-i patakna-ss-nuntey, *way*-i-nci molukeyssta
   stock-NOM bottom-PST-but, why-COP-QUE not.know
   ‘The item is out of stock, but I do not know why.’

c. pi-ka onta-ko ha-yess-nuntey, *encey*-i-nci molukeyssta
   rain-NOM come-COMP say-PST-but when-COP-QUE not.know
   ‘It is said that it will rain, but I do not know when.’

The second clause in (2a) contains a *wh*-phrase linked to the overt correlate *nwukwunka-lul* ‘someone’ in the preceding clause while the one in (2b) and (2c) has no overt correlate (see, among others, Kim, J. 1997, Park 2001, Jo 2005, and Choi 2012). Despite this difference, the examples all include a *wh*-remnant in the second conjunct whose interpretation depends on the previous clause or context.1

As for the account of English sluicing, two appealing ideas have been proposed: the ellipsis of the full-fledged *wh*-question clause and that of a short cleft-clause. For example, (1a) is derived from the deletion of the remaining clause after a *wh*-movement as in (3a) or the ellipsis of a cleft clause as in (3b):

(3) a. ..., but I can’t think who he looked like.

b. ..., but I can’t think who it was that he looked like.

The deletion approach may work for many cases, but encounter problems with examples not observing syntactic islands (Sag and Nykiel 2011). The cleft analysis also raises analytical issues when considering empirical differences between sluicing and cleft (see Merchant 2001, Craenenbroeck 2010).2 These two ideas

1 Chung et al. (1995) classify English sluicing into two types ‘merger’ and ‘sprouting’. In the merger type, the remnant *wh*-phrase has an overt correlate while in the sprouting type there is no correlate in the preceding clause.

   (i) a. They’ve made an offer to a phonologist, but I’m not sure which one. (merger)
       b. She applied for the position but nobody could figure out why. (sprouting).

2 For example, in sluicing either an argument or adjunct can be the *wh*-remnant, but this is not the case in cleft:

   (i) a. They’ve made an offer to a phonologist, but I’m not sure which one. (merger)
       b. She applied for the position but nobody could figure out why. (sprouting).
have been adopted to account for sluicing in Korean too (see, among others, Kim, J. 1997, Park 2001, Kim, J. 2012, and Kim, S. 2012). As we will discuss in this paper, when scrutinizing data in question, neither can receive strong empirical and analytical support.

In this paper we show that the Korean sluicing construction is similar to English one, but there are several important differences. We first look into grammatical properties of the Korean sluicing and show that the Korean sluicing, with its own distinctive properties, belongs to a family of copula constructions that includes pseudo-cleft as well as copula construction. We then sketch a construction-based analysis of the Korean sluicing.

2. Some General Properties of the Sluicing Construction

One main property that distinguishes the Korean sluicing from English counterpart is that it has the obligatory presence of the copula *i-ta followed by the interrogative-clause marker -(nu)ncci (or *nyako). The absence of the copula makes sentences like (2) ungrammatical. In addition, the complementizer suffix -(nu)ncci is required by the predicate selecting an interrogative clause (see Chung 1996, Sohn 2000, Choi 2012, Ok and Kim 2012):

   John-TOP Mary-DAT what-ACC buy-QUE/COMP-ACC not.know-PST-DECL
   ‘John didn’t know what Mary bought.’

   John-TOP Mary-NOM the book-ACC buy-PST-DECL.COMP/QUE
   malha-yess-ta
   say-PST-DECL
   ‘John told Mary that he bought the book.

The complementizer -ko projects a declarative sentential complement while the complementizer -(nu)ncci introduces an interrogative sentence as illustrated in (4a).

Note that the predicate molu-ta ‘not.know’ typically subcategorizes for either an NP as in (5a) or an interrogative sentential complement as in (5b), but not a

(i) a. *He fixed the car, but I don’t know how it was.
   b. *He fixed the car, but I don’t know what it was.

See Merchant (2001) for more differences between the two.
copula-headed declarative sentential complement as shown in (5c):

    Mini-TOP the problem-GEN answer-ACC not.know
    ‘Mini did not know the answer to the question.’
b. Mimi-nun [s ku mwunecture-uy tap-i iss-nunci] molu-ass-ta
    Mini-TOP the problem-GEN answer-NOM exist-QUE not.know
    ‘Mini did not know if there is an answer to the question.’
c. *Mimi-nun [s ku kes-i ku mwunecture-uy tap-i-ta-(lako)]
    Mini-TOP the thing-NOM the problem-GEN answer-COP-DECL
    not.know molu-ass-ta
    ‘(int) Mini did not know if that is the answer to the question.’

This means that even though there is only one overt wh-expression in the second conjunct in (6a), the wh-phrase here functions like an interrogative clause selected by the matrix predicate molu-‘not.know’, as represented by (6b):

(6) a. Mimi-ka ecey nwukwunka-lul manna-ss-nuntey, nwukwu-i-nci
    Mimi-NOM yesterday someone-ACC meet-PST-but who-COP-QUE
    molukeyssta not.know
    ‘Mini met someone yesterday, but I do not know who.’
b.  
    VP
    S[QUE+] V
    nwukwu-i-nci molukeyssta

The interrogative sentence here ([QUE +]) includes only the expression nwukwu-i-nci ‘who-COP-QUE’, but unlike English, this wh-remnant occurs with the copula verb as well as with the interrogative introducing marker -nci. The ensuing question is then how the remnant expression here is projected into an interrogative sentence, to which we will come back in section 5.

Departing from these differences, Korean sluicing shares certain properties with English counterpart. In English sluicing, there needs to be an indefinite correlate NP linked to the wh-phrase in the sluicing (Merchant 2001, Chung et al.
(7) a. John gave the book to someone, but I don’t know who.
   b. *John gave the book to his sister, but I don’t know who.

The same situation also holds in Korean (Sohn 2000, Park 2001):

(8) a. Mimi-ka nwukwunka-eykey ku chayk-ul cwu-ess-nuntey,
    Mimi-NOM someone-DAT the book-ACC give-PST-but,
    nwukwu-i-nci molukeyssta
    not.know who-COP-QUE
    ‘Mimi gave the book to someone, but I do not know who.’
   b. *Mimi-ka tongsayng-eykey ku chayk-ul cwuess-nuntey,
    Mimi-NOM sister-DAT the book-ACC gave-but
    nwukwu-i-nci molukeyssta
    who-COP-QUE not.know
    ‘Mimi gave the book to the sister, but I do not know who.’

The example (8b) is illicit due to the fact that the putative correlate of the
wh-expression nwukwu is the definite NP ‘the sister’, not an indefinite NP.

It is also well-known that English sluicing is free from the island constraints
(see Merchant 2001, 2006):

(9) a. They want to hire someone who speaks a Balkan language, but I don’t
    remember which.
   b. She bought a big car, but I don’t know how big.
   c. Bob ate dinner and saw a movie that night, but he didn’t say which.

Each of the examples here has to do with the Relative Clause, Left-branch, and
Coordinate Structure Constraints, respectively. For example, the correlate of the
wh-phrase in (9a) is within the relative clause, the one in (9b) is in the specifier
position, and the one in (9c) is in the second conjunct only. This shows us that
the sluicing can repair the island violations. Korean sluicing also seems to be free
from the island constraints as seen in (10).

(10) a. Seoul-uy han tayhak-ey tani-nun haksayng-ul chotayhayss-nuntey,
    Seoul-GEN one college-at attend-MOD student-ACC invited-but
I invited the student who attends a college at Seoul, but I don’t know which university.

Mimi bought a big car, but I don’t know how big.

The \textit{wh}-remnant here is linked with the indefinite NP located within the relative clause in (10a) and the left branch expression in (10b), showing us that the correlate of the \textit{wh}-expression in Korean can be also within an island (Sohn 2000, Ok and Kim 2012).

3. Previous Approaches

3.1. Deletion Approach

Considering that the sluiced construction in English is interpreted as an indirect question, it seems to be quite intuitive to assume English sluicing involves a \textit{wh}-movement process:

\begin{enumerate}
\item (11) a. Mary met somebody, but I don’t know who.
\item b. ...I don’t know \textit{[CP who, [Mary met t]].}
\end{enumerate}

As represented in (11b), the \textit{wh}-movement followed by the deletion of the remaining clause-level expression can give us the desirable surface output in (11a) (Ross 1969, Merchant 2001, Lasnik 2007).\footnote{Approaches to sluicing in English can be classified into two main schools: movement and non-movement. The former, initiated by Ross (1969), Chung et al. (1995), Merchant (2001), assumes that the understood material is present at some level of syntactic structure while the latter, Ginzburg and Sag (2000), Culicover and Jackendoff (2005), Sag and Nykiel (2011), posits that a clausal node immediately and exhaustively dominates the \textit{wh}-remnant phrase.}

Adopting this idea, it is possible to assume that Korean sluicing also includes a movement of a \textit{wh}-phrase and deletion processes. For example, the second conjunct in (12a) is derived from the putative source in (12b), as assumed by Kim (1997):

\begin{enumerate}
\item (12) a. Mary bought a big car and I don’t know how big.
\item b. ...I don’t know \textit{[CP how big, [Mary bought a big car]].}
\end{enumerate}

As represented in (12b), the \textit{wh}-movement followed by the deletion of the remaining clause-level expression can give us the desirable surface output in (12a) (Ross 1969, Merchant 2001, Lasnik 2007).\footnote{Approaches to sluicing in English can be classified into two main schools: movement and non-movement. The former, initiated by Ross (1969), Chung et al. (1995), Merchant (2001), assumes that the understood material is present at some level of syntactic structure while the latter, Ginzburg and Sag (2000), Culicover and Jackendoff (2005), Sag and Nykiel (2011), posits that a clausal node immediately and exhaustively dominates the \textit{wh}-remnant phrase.}
According to Kim (1997), the \textit{wh}-phrase moves to the assumed focus position, Spec of CP, followed by the deletion of the clause expression TP. Note that unlike English, the deletion process in (12b) requires the language particular rule, obligatory insertion of the copula \textit{i-}. The process raises an immediate question of why the construction introduces the obligatory copular verb whose presence is not allowed in the putative source sentence:

\begin{equation}
\text{(13) nwukwu-lul Mimi-ka mana-ss-*i)-nunci molukeysse} \\
\text{who-ACC Mimi-NOM meet-PST-COP-QUE not.know}
\end{equation}

One solution, as Kim (1997) suggested, might be to attribute the addition of the copula to the requirement to save the stranded tense, as similar to the \textit{do} insertion in English. However, a question still remains of the economical aspects of this obligatory rule.

An additional issue arises from the possibility of having no-overt \textit{wh}-remnant in the second conjunct. As for English, Ross (1969) note that in sluicing the Spec of CP should be filled with a \textit{wh}-phrase, blocking examples like the following:

\begin{equation}
\text{(14) *John told me that he would do this for me, but I am not sure whether.}
\end{equation}

However, note that Korean sluicing is licensed with no \textit{wh}-remnant as in the following:

\begin{equation}
\text{(15) Mimi-nun nwukwunaka-lul manna-ss-nuntey, Nami-i-n-ci molukeyssta} \\
\text{Mimi-TOP someone-ACC meet-PST-but Nami-COP-QUE not.know} \\
\text{`Mimi met someone, but I don't know whether it is Nami.'}
\end{equation}

The definite NP \textit{Nami}, not a \textit{wh}-phrase, links to the indefinite correlate \textit{nwukwunaka-lul} in the preceding clause. There is thus no trigger for the \textit{wh}-movement.
Support for the deletion approach may come from sloppy reading, a hallmark of deletion or ellipsis. Consider English examples first:

(16) I know how to say I’m sorry, and Bill knows how, too.

As noted by Ross (1969) and others, this sentence may allow two readings: Bill knows how to say I’m sorry (the strict reading) and Bill knows how to say Bill is sorry (the sloppy reading). Korean, however, appears to behave differently. Observe the following:

(17) John-un way casin-i pinanpataya ha-nunci alass-ciman,  
    John-TOP why self-NOM be.criticized do-QUE knew-but  
    Mimi-nun way-i-nci mallassta  
    Mimi-TOP why-COP-QUE not.knew  
    ‘Although John knew why he (self) was criticized, Mary did not know why.’

Given the deletion assumption, the second clause in (17) would have a structure like (18a), eventually licensing both the strict and sloppy reading in (18b) and (18c):

(18) a. Mimi-TOP why self-NOM be.criticized do-QUE not.know  
    b. Mimi did not know why he (John) was criticized. (sloppy reading)  
    c. Mimi did not know why she was criticized. (strict reading)

Despite this prediction within the deletion approach, (17) allows no sloppy reading. A similar situation can be observed in the following:

(19) Nami-nun casin-i eti-ey ka-myeon toy-nunci alass-ciman,  
    Nami-TOP self-NOM where-at goCONN become-COMP knew-but  
    Mimi-nun eti-ey-i-nci mallassta  
    Mimi-TOP where-at-COP-QUE not.know  
    ‘Nami knows where to go, but Mimi doesn’t know where.’

Sentences like (17) and (19) allow only the strict reading (see Sohn 2000, Choi 2012). The possibility of having strict and sloppy readings appears not to support the deletion approaches for Korean sluicing.
3.2. Pseudocleft Analysis

Encountering the problems of the deletion analysis and observing certain similarities between the Korean sluicing and pseudocleft, literature has taken the pseudocleft as the putative source for Korean sluicing. That is, the source sentence of the sluicing is a type of pseudo-cleft and the application of a deletion process to the cleft would generate a sluicing structure like the following (see Park 2007 and Kim, J. 2012):

(20) Na-nun [Mimi-ka mana-n kes-n] nwuku-i-nci molukeyssta
    I-TOP Mimi-NOM meet-MOD KES-TOP who-COP-QUE not.know
    ‘I do not know who (Mimi met).’

This position, compared to the movement and deletion rule, can explain the obligatory presence of the copula as well as the syntactic connectivity. Consider a canonical pseudocleft example:

(21) [Mimi-ka mana-n kes-un] Nami-i-ta
    Mimi-NOM meet-MOD KES-TOP Nami-COP-DECL
    ‘Who Mimi met is Nami.’

This cleft example has two parts: the presuppositional cleft clause introduced by the bound pronoun KES, and the highlighted or focused expression Nami followed by the copula.4 The presence of the copula is obligatory in the pseudocleft. In addition, no structural case, NOM or ACC, can appear in the precopula position of the pseudocleft as shown in (22a). As this constraint also holds in sluicing as given in (22b):

(22) a. [Mimi-ka mana-n kes-un] Nami-*ka/*ul-i-ta
    Mimi-NOM meet-MOD KES-TOP Nami-NOM/ACC-COP-DECL
    ‘Who Mimi met is Nami.’

b. Na-nun nwuku-*ka/*ul-i-nci molukeyssta
    I-TOP who-NOM/ACC-COP-QUE not.know

Another similarity comes from the tense marking. The tense on the precopula

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4 The grammatical status of this pronoun is controversial. To avoid any complication, we simply gloss here as KES.
verb has no direct connection to the tense information on the cleft clause. The optionality of the tense marking also is true in sluicing (Sohn 2000):

(23)  a. Mimi-ka ecey mannan kes-un Mia-i-(ess)-ta
    Mimi-NOM yesterday meet-MOD KES-TOP Mia-COP-PST-DECL
    ‘The person Mimi met yesterday is/was Mia.’
  b. Na-nun nwuku--i-(yess)-nci molukeyssta
    I-TOP who-PST-COP-QUE not.know
    ‘I do not know who it (was).’

Even though the cleft clause describes a past situation in (23a), both the pseudocleft and sluicing do not require the tense suffix in the copula verb.

Such properties of the pseudocleft construction thus appear to yield support for the pseudocleft analysis of sluicing. However, there are issues of how to capture certain discrepancies between pseudocleft and sluicing. One clear difference seems to come from multiple cleft or multiple remnants (see Sohn 2000, Park 2007). In general, we cannot cleft multiple expressions:

(24)  a. [John-i ecey Mimi-eykey cwu-n kes-un] chayk-i-ta
    John-NOM yesterday Mimi-DAT give-MOD KES-TOP book-COP-DECL
    ‘What John gave to Mimi yesterday is a book.’
  b. *[John ecey cwun kes-un] Mimi-eykey chayk-i-ta
    John-NOM yesterday give KES-TOP Mimi-DAT book-COP-DECL
    ‘(int.) What John gave yesterday is to Mary a book.’

As seen from the contrast, it is in general not possible to cleft more than one expression. However, unlike the pseudocleft, Korean sluicing seems to allow multiple *wh*-remnants (Sohn 2000, Park 2001):

(25)  ?Mimi-ka ecey mwuesinka-lul nwukwunka-eykey cwuess-nuntey,
    Mimi-NOM yesterday something-ACC somebody-DAT give-but
    mwues-ul nwukwu-eykey-i-nci molukeyssta
    what-ACC who-DAT-COP-QUE not.know
    ‘Mimi gave something to someone yesterday, but I do not know whom to what.’

Another main difference from pseudocleft comes from the possibility of semantic cases (e.g., locative, source, goal) on the precopula position, as also pointed out
by Sohn (2000):

(26) a. Mimi-ka haksayng-*(ulopwuthe) senmwul-ul pat-ass-ta
   Mimi-NOM student-from present-ACC received
   ‘Mimi received a present from the student.’
b. Mimi-ka senmwul-ul pat-un kes-un haksayng-*(ulopwuthe)-i-ta
   Mimi-NOM present-ACC receive-MOD KES-TOP student-from-COP-DECL
   ‘The person Mimi received a present is from a student.’
c. Mimi-ka etten haksayng-ulopwuthe senmwul-ul pat-ass-nuntey,
   Mimi-NOM some person-DAT present-ACC receive-PST-but
   I-TOP which woman-(from)-COP-QUE not.know
   ‘Mimi received a present from a student, but I do not know which
   woman.’

(26a) illustrates that the source argument must have the semantic case ulopwuthe
‘from’. This requirement still holds in the pseudocleft as shown in (26b). However, in sluicing, the semantic case is optional, supporting the idea that there
is less strong connectivity in sluicing than pseudocleft.

The possibility of having a numeral quantifier or a second predicate also
differentiates sluicing from pseudocleft. As seen in (27b), the classifier alone
cannot be focused, separated from its associate NP:

(27) a. Mimi-ka chayk-ul sey kwon sassta
   Mimi-NOM book-ACC three CL bought
   ‘Mimi bought three books.’
b. ??*Mimi-ka chayk-ul sa-n kes-un sey kwon-i-ta
   Mimi-NOM book-ACC buy-MOD KES-TOP three CL-COP-DECL
   c. Mimi-ka chayk-ul myech kwen sass-nuntey, na-nun
      Mimi-NOM book-ACC some CL buy-but, I-TOP
      how CL-COP-QUE not.know
      myech kwen-i-nci molunta
      ‘Mimi bought some books, but I do not know how many.

In pseudocleft, the focused expression needs to be a constituent while the
wh-remnant in sluicing is not. As seen from the contrast here, in pseudocleft the
numeral-classifier ‘three pieces’ cannot be focused without its associate NP head
‘book’. However, as seen in (27c) in sluicing it is acceptable to question the
numeral-classifier alone, again implying that sluicing is thus more flexible in
terms of syntactic constituency.

As observed so far, it is true that sluicing shares some properties with
pseudo-cleft, for example, the obligatory presence of the copula. However, there
are also overt differences between the two, which make it hard to assume that
sluicing is derived from the pseudo-cleft in a simple manner.

3.3. Copula Analysis

Recognizing the problems of deriving sluicing from pseudocleft, we could assume
the relevant part to be just as a copula construction with a null pronominal
subject, as suggested by Sohn (2000), Jo (2005), and Choi (2012): the strong
evidence for this position seems to come from the possibility of having a
pronoun as the subject:

(28) na-nun (ku kes-i) nwukwu-i-nci molukeyssta
    I-TOP the KES-NOM who-COP-QUE not.know
   ‘I do not know who it is.’

If the pseudocleft were the source of sluicing, there might be a process of
replacing the pseudocleft with the pronoun ku kes, whose process is rather an
unorthodox one. A simple solution seems to take sluicing as a copula
construction with which this analysis agrees.

Sluicing resembles a copular construction, seeing from the obligatory presence
of the copula. However, sluicing has other peculiar properties, distinctive from
typical copula constructions. For example, sluicing must involve the interrogative
marker -nci and can possibly have more than one wh-expression. Note that the
copula construction cannot have more than two arguments but sluicing with
multiple wh-phrases is licensed as noted earlier in (25). There is thus overt
discrepancy between typical copula and sluicing constructions. For example,
unlike the regular copula construction, sluicing involves no negative copula:

(29) a. Mimi-nun ku sosel-uy yelyelha-n tokca-i-ta
    Mimi-TOP the novel-GEN earnest-MOD reader-COP-DECL
   ‘Mimi was an earnest reader of the novel.’

b. Mimi-ka ilk-un kes-un sosel-i ani-ta
    Mimi-NOM read-MOD KES-TOP novel-COP-NOM not-DECL
   ‘What Mimi read wasn’t a novel.’
Mimi-NOM something-ACC read-PST-but what-NOM ot-QUE  
molukeyssta  
not know  
’(lit.) Mimi read something, I don’t know which it isn’t.’

Sluicing seems to be thus a specific type of copula constructions, with its own idiosyncrasies. This means that we cannot derive sluicing either from pseudocleft or from copula constructions.

4. A Constructional View of Grammar

It is true that the sluicing displays certain properties we find in the pseudocleft or copula constructions, but we also observe distinctive properties in the sluicing. As a way of accounting for the behavior of sluicing, we adopt the constructional view of grammar (see, among others, Goldberg and Jackendoff 2004, Goldberg 2006). Within the philosophy of Construction Grammar (CxG), all levels of description (including morpheme, word, phrase, and clause) are understood to involve pairings of form with semantic or discourse functions. Constructions vary in size and complexity and form and function are specified if not readily transparent as seen in the Table 1.

<table>
<thead>
<tr>
<th>Constructions</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morpheme</td>
<td>pre-, -ing</td>
</tr>
<tr>
<td>Word</td>
<td>avocado, anaconda, and</td>
</tr>
<tr>
<td>Complex word</td>
<td>daredevil, shoo-in</td>
</tr>
<tr>
<td>Complex word (partially filled)</td>
<td>[N-s] (for regular plurals)</td>
</tr>
<tr>
<td>Idiom (filled)</td>
<td>going great guns, give the Devil his due</td>
</tr>
<tr>
<td>Idiom (partially filled)</td>
<td>jog (someone’s) memory, send (someone) to the cleaners</td>
</tr>
<tr>
<td>Convariational conditional</td>
<td>The X-er the Y-er (The more you have, the better you are.)</td>
</tr>
<tr>
<td>Ditransitive</td>
<td>Subj V Obj1 Obj2 (He gave her a fish taco.)</td>
</tr>
<tr>
<td>Passive</td>
<td>Subj Aux VP (PP[by]) (The armadillo was hit by a car)</td>
</tr>
</tbody>
</table>
As seen from the table, there is thus no principled distinction between words, phrases, and even rules: a lexical entry is more wordlike to the extent that it is fully specified, and more rule-like to the extent that it can also have variables that have to be filled by other items in the sentence. In addition, one important tenant of the CxG is that language-specific generalizations across constructions are captured via inheritance networks, reflecting commonalities or differences among constructions. In what follows, we will see how this notion of inheritance hierarchy of constructions plays an important role in capturing the fact that sluicing belongs to a family of constructions with its own distinctive properties.

4.1. Copula Constructions

Similar to English, Korean copula constructions can also be classified into three types in terms of interpretation, as illustrated in (30): 5

\[(30)\]

\[\begin{align*}
\text{a. Predicational:} \\
&\text{moca-nun kacca-i-ta} \\
&\text{this hat-TOP fake-COP-DECL} \\
&\text{‘This hat is fake.’} \\
\text{b. Equative:} \\
&\text{Chelswu-ka palo ku salam-i-ta} \\
&\text{Chelswu-NOM very that person-COP-DECL} \\
&\text{‘Chelswu is that very person.} \\
\text{c. Specificational:} \\
&\text{nay-ka manna-n salam-un Chelswu-i-ta} \\
&\text{I-NOM meet-MOD person-TOP Chelswu-COP-DECL} \\
&\text{‘The person I met is Chelswu.’}
\end{align*}\]

As the name implies, the predicational use of the copula predicates a property of

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5 Higgins (1979) proposed a four-way distinction among English copular constructions, as in (i):

\[(i)\]

\[\begin{align*}
\text{a. Tom is a novelist. (predicative)} \\
\text{b. The Morning Star is the Evening Star. (equative)} \\
\text{c. The winner of the election is John Smith. (specificational)} \\
\text{d. That is Jane. (identificational)}
\end{align*}\]

Of these, the identificational type is less clearly relevant for our discussion here, with the subject being a demonstrative pronoun or an NP with a demonstrative determiner. We leave out this type, focusing on the three other types.
the subject of the clause. The equative copula equates the referents of the two expressions. In both of these uses, the subject is referential. The specificational copula is different, for the subject expression sets up a variable — so it does not refer — and the post-copular expression provides the value for this variable (see, among others, Jhang 1995, Sohn 2004, and Cho et al. 2008).

Let us consider some main, grammatical properties of each copula construction, focusing first on referentiality. In the predicational uses of the copula, one important aspect of this interpretation is that the subject is referential, and the precopular position is non-referential:

(31) a. i kulim-un cinca kacca-i-ta
this picture-TOP really fake-COP-DECL
'This picture is really a fake.'

b. i kulim-i cengmal choyko-ta
this picture-NOM really the best-COP-DECL
'The picture is really the best.'

The XP 'fake' or 'best' describes a property of the subject, without referring to any individual. Such a predicative XP cannot be inverted, as in English:

(32) a. *kacca-nun/ka i kulim-i-ta
fake-TOP/NOM this picture-COP-DECL
b. *choyko-nun/ka i kulim-i-ta
fake-TOP/NOM this picture-COP-DECL

In the equative interpretation, both phrases are referential, and so both the subject NP and precopular XP either are or describe the same (individual or event) object. Due to this property, the construction is invertible (unlike the predicational copula), and different positions may be associated with given or with new information (new information shown in italics). 6

(33) a. [John-uy choyko hoysa tonglyo]-nun i salam-i-ta
John-GEN best company colleague-TOP this person-COP-DECL
'John's favorite colleague is this person.'

b. i salam-i palo [John-uy choyko hoysa tonglyo]-i-ta
this person-NOM very John-GEN best company colleague]-COP-DECL

6 See Mikkelsen (2011) for the same behavior in English.
This person is really John’s favorite colleague.’

Finally, the subject of the specificational copular clauses creates a description which holds of a variable and the post-copular expression provides the value for that variable.

(34) a. [nay-ka sa-ya ha-nun mwulken]-un mangchi-wa mos-i-ta
    I-NOM buy-COMP do-MOD things-TOP hammer-and nail-COP-DECL
    ‘The things that I need to buy are a hammer and nails.’
b. [Sam-i hyukacha ka-n kos]-un Seoul-i-ta
    Sam-NOM vacation go-MOD place-TOP Seoul-COP-DECL
    ‘Where Sam went for vacation is Seoul.’

As Mikkelsen (2011) notes for English specificational copular sentences, the classic specificational use is providing a list of one or more items which answer a question or a variable described by the subject here. As for the specificational copula, the precopula expression provides the value for the variable described by the first NP. This implies that the precopula expression needs to denote new information.

Considering these grammatical properties, the copula construction has three different subtypes with different syntactic and semantic constraints:7

(35) \[
\begin{align*}
\text{copula-cx} & \quad \text{SYN} \left[ \text{SUBJ} \{\text{NP}\} \right. \\
& \quad \text{COMPS} \{\text{NP} [\text{SCASE none}]\} \\
\text{predicational-copula} & \quad \text{SYN} \left[ \text{COMPS} \{\text{NP} [\text{PRD +}]\} \right. \\
& \quad \text{SEM} \{\rho(i)\} \\
\text{equative-copula} & \quad \text{SEM} \text{ identity-rel($i,j$)} \\
\text{specification-copula} & \quad \text{INFO-ST} \{\text{GIVEN}_i \text{ NEW}_j\} \\
\end{align*}
\]

As specified in this constructional hierarchy, the copula construction (copula-cx) has three subtype constructions to which its own constructional constraints are

7 The feature structure system given here follows the HPSG. See Sag et al. (2004) and Kim and Sells (2008).
inherited. For example, the copula construction selects two arguments, realized as the subject (SUBJ) and complement expression (COMPS). In addition, the second argument (complement) cannot bear a structural case (SCASE) like NOM and ACC though nothing is wrong to have a semantic case value. These syntactic related properties are inherited to its three subtype copula constructions, each of which has its own additional constraint. The predicational one (predicational-copula) requires its complement (COMPS) to be predicative ([PRD +]), inducing the proper semantic property. The equative copula (equative-copula) composes a different semantic composition, evoking an identity relation between the two arguments. The specificational one (specificational-copula) requires a specific information structure. The subject represents GIVEN information while the second complement argument represents NEW information. As such, each subtype of the copula constructions, though sharing the information inherited from the supertype copula-cx, has its own grammatical constraints, making itself distinctive from the others.

4.2. Pseudocleft Constructions

The expression kes introduces the so-called cleft constructions employed to mark a certain constituent as a discourse prominent element. The following is a typical cleft example in Korean:

(36) a. Pseudocleft:

[John-i ____ ilk-un kes-un] [kacca]-i-ta
John-NOM read-MOD KES-TOP fake-COP-DECL
‘What John read is a fake.’

b. Inverted Pseudocleft:

[i chayk]-i palo [John-i ____ ilk-un kes-i-ta]
this book-NOM very John-NOM read-MOD KES-COP-DECL
‘This book is what John read.’

The cleft in (36a), similar to an English pseudocleft rather than a cleft, mainly consists of a cleft clause, a pivot or focus XP, and the copula verb. The pseudocleft in (36a) consists of a cleft clause with the missing object coindexed with the precopula expression kacca ‘fake’ whereas the inverted pseudo-cleft in (36b) has the nominative phrase i chayk ‘this book’ as the pivot XP coindexed with the missing object in the following cleft clause. In this kind of cleft, the pivot XP is linked to the content of the cleft clause introduced by kes, though
the exact semantic function is different.

In terms of interpreting the pseudocleft, we can identify three different types of pseudocleft: predicational, identificational, and specificational. For example, in the pseudocleft cleft (36a), the XP can be predicated of the individual that the cleft clause refers to. We can also have an equative pseudocleft when the precopula one is referential:

(37) John-i ___, ilk-un kes-un] palo i chayk-i-ta
    John-NOM read-MOD KES-TOP very this book
    'The thing that John read is this very one.'

The equative reading is mandatory when the pseudocleft is inverted.

(38) [i chayk]-i palo [John-i __, ilk-un kes-i-ta]
    this book-NOM very John-NOM read-MOD KES-COP-DECL
    'This book is what John read.'

This inverted cleft induces only an equative reading. Note that the pseudocleft can also be interpreted as a specificational cleft. For example, (37) can have a predicational reading where the precopular expression chayk 'book' is predicated of the individual denoted by the subject such that the book that John read. In a specificational reading, the whole clause preceding the kes expression contains a variable 'x' such that 'John read x' while the precopular expression fills the value for this variable 'novel'.

We cannot here do justice to all the grammatical properties of the cleft constructions in the language, but we see certain peculiar properties with respect to the specificational one. One important property in the cleft is the status of kes, roughly similar to English what. kes is an inanimate noun and is usually translated as 'fact' or 'thing'; yet in the specificational reading, the phrase headed by kes can denote either an inanimate or animate individual, as in the following two examples (cf. Kang 2006, Kim and Sells 2008, 2012):

(39) a. [John-i sa-n kes]-un i chayk-i-ta
    John-NOM buy-MOD KES-TOP this book-COP-DECL
    'What John bought is this book.'

b. [John-i manna-n kes]-un i yeca-i-ta
    John-NOM meet-MOD KES-TOP this woman-COP-DECL
    'Who John met is this woman.'
The intriguing fact is that the inverted structures of these two display an asymmetry as noted by Jhang (1995) and Kang (2006) among others:

(40) a. i chayk-un [John-i sa-n kes]-i-ta (inanimate topic)
    this book-TOP John-NOM buy-MOD KES-COP-DECL
    ‘This book is the one that John bought.’

b. *i yeca-nun [John-i manna-n kes]-i-ta (animate topic)
    this woman-TOP John-NOM meet-MOD KES-COP-DECL
    ‘This woman is the one who John met.’

The examples here involve the inverted construction with the kes-phrase in precopular position, but see that (40b) is unacceptable.

As a way of accounting for this asymmetry, we adopt Heycock and Kroch’s (1999) iota analysis for the specificational cleft. In the canonical specificational cases, the subject specifies who (or what) someone (or something) is, sets up a variable and the precopular expression provides the value for that variable (cf. Mikkelsen 2011 for English). We can take the kes headed specificational cleft to denote the maximal individual which the sentence John met y holds:

(41) $\iota x [\text{John meet } x]$

The iota operator is defined as denoting ‘the only one’:

(42) $\iota y [f(y)]$ denotes $\alpha$ iff $f(\alpha)$ AND ($\forall z)(f(z)$ iff $z \leq \alpha$).

This iota operator system will then give us the following interpretation for the specificational cleft:

(43) $\iota x [\text{John meet } x] = \text{that woman}$

This means there is a unique x which John met, and this ‘x’ is that woman. There is thus an indirect identification between the value of the variable ‘x’ and ‘that woman’, avoiding the referential issue of the kes expression. This iota-operator based analysis of the specificational cleft thus can give us a proper treatment of the animacy issue (see Sohn 2004 and Kim and Sells 2012 and references therein).

Seeing these three different types of cleft-like constructions, we assume the following inheritance hierarchy with each having its own constructional
As seen here, cleft constructions are similar to copular constructions, but different in several respects. The cleft is headed by *kes*, and the focused expression functions as the second argument of the copula verb. The specificalional cleft is different from others in that the subject refers to an iota operator.

5. Sluicing in Korean

We are now ready to see how these copula and pseudocleft constructions are linked to sluicing in interactive ways. As we have seen earlier, the Korean *wh*-remnant in sluicing also behaves like a clause. Even though in the surface structure there is only one *wh*-expression together with the copular and the interrogative marker, it needs to function as an interrogative clause selected by the predicate *molukeyssta* ‘not.know’ as seen from the repeated example:

\[(45)\] Mimi-ka nwukwunka-lul manna-ss-nuntye (ku kes-i)  
Mimi-NOM someone-ACC meet-PST-but the KES-NOM  
wukwu-i-nci molukeyssta  
who-COP-QUE not.know  
‘Mimi met someone, but I do not know who.’

One thing we need to recall is that the pronoun *ku kes* is optional in the sluicing construction. Note that all the sluicing-like construction can add the pronoun *ku kes*, roughly corresponding to ‘the thing’. The bound noun *kes* cannot
in general refer to an animate individual: it refers to either an nonanimate entity or a situation (see Park 2000, Kim, S. 2012 for further discussion):

\[(46)\]

a. Mimi-ka nwukwunka-lul manase, ku salam-kwa/*ku kes-kwa
Mimi-NOM someone-ACC meet-so, the person-with/the KES-with
iyakihayessta
talked
‘Mimi met someone, and talked with him.’
b. Mimi-ka mwuesinka-lul cwuess-nuntey ku kes-ul yelepoassta
Mimi-NOM what-ACC pick-up-but the KES-ACC opened
‘Mimi picked up something, and opened it.’
c. Mimi-ka sihem-ey tteleci-ess-nuntey ku kes-i mite
Mimi-NOM exam-at fail-PST-but the KES-NOM believe
ci-ci anhnun-ta
become-CONN not
‘Mimi failed the exam, but it was unbelievable.’

As shown in the typical example (46a) \textit{mwuuesinka} ‘something’ while in (46c), it refers to the previous state of affairs.

As noted before, to solve this conflict in the specificational cleft clause we introduce the iota operator following Heycock and Kroch (1999). That is, the specificational cleft clause evokes an iota operator with the variable linked to the focus expression. What we suggest is that the optional subject in sluicing also refers to this type of specificational cleft linked to the antecedent clause. That is, the optional pronoun mediates the \textit{wh}-remnant and the antecedent clause. Given this system, the interpretation of the sluicing may then depend on how the optional subject \textit{ku kes} is linked to the prepositional content with the iota variable, and the sluicing functions as questioning the value of this variable. For example, in (45), the pronoun \textit{ku kes} here corresponds to (47a), denoting the iota variable ‘\(x\)’ and the \textit{wh}-remnant questions this variable as in (47b):

\[(47)\]

a. \(\iota x[Mimi\ met\ x]\)
b. \(\iota x[Mimi\ met\ x] = Qx\)

We thus suggest that sluicing in Korean basically denotes a proposition like (47b). In terms of the syntactic structure of sluicing, we would generate a structure like the following:
The structure reflects two important properties: interrogative clausal property and the optionality of the subject. Sluicing is a type of VP-structure, requiring an optional subject that denotes an iota variable. The sluiced part, combing with the copula, projects a VP which in turn is mapped into an interrogative clause (QUE +) due to the interrogative marker -nci. This is why the sluiced part occurs only in the environment where an interrogative clause is licensed. Sluicing is a construction whose utterance meaning is that of an interrogative clause optionally including a \( wh \)-variable, and this is why sluicing occurs only in contexts where an indirect question can be semantically licensed:

\[
{\text{(49) }^*n\text{-}nun (ku kes-i) nwukwu-i-nci mit-ess-ta}
\]

I-TOP the KES-NOM who-COP-QUE believe-PST-DECL

The predicate `believe' selects a declarative clause, not an interrogative clause. The syntactic and semantic features of sluicing are thus distinctive from other typical copula constructions. What this means is that sluicing is a type of copula constructions, but it has its own constructional constraints as sketched in the feature structure system of HPSG (see Sag et al. 2002 and Kim and Sells 2008):
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(50) Korean Sluicing Construction

\[
\begin{array}{c}
\text{sluicing-cx} \\
\text{SYN} [\text{QUE} + ] \\
\text{SUBJ} (\text{IND} \overline{x}) \\
\text{SEM} \overline{x} [F(x)] = Qx \\
\text{DTRS} [\text{HEAD-DTR} \text{positive-cop}] \\
\text{COMPS-DTR} (\text{XP'} ([\text{WH} + ]))
\end{array}
\]

These constructional constraints can be represented in the tree-structure format in a more readable way:

(51)

\[
\begin{array}{c}
\text{sluicing-cx} \\
\text{SYN} [\text{QUE} + ] \\
\text{SUBJ} (\text{IND} \overline{x}) \\
\text{SEM} \overline{x} [F(x)] = Qx \\
\text{NP} ([\text{WH} + ]) \\
\text{positive-copula} \\
\text{QUE} + 
\end{array}
\]

As specified here, the Korean sluicing requires the optional subject denoting an iota variable which in turn is linked to the \textit{wh}-expression in the complement daughter. Because there is a question operator Qx binding the \textit{wh}-expression, the sluice is interpreted as an embedded question. The function ‘F’ denotes a propositional content, indicating that the linking processing is context-dependent and indirectly licensed. Consider examples like the following where there is no overt correlate of the \textit{wh}-remnant:

(52) Mimi-ka nakassnutwy, ku kes-i
Mimi-NOM go.out-but the KES-NOM
nwukwu-wa-i-nci/way-i-nci/encey-i-nci molukeyssta
who-with-COP-QUE/why-COP-QUE/when-COP-QUE not.know
‘Mimi went out of the house, but I do not know with whom/why/when.

This sentence contains no indefinite correlate, but the context provides what the
pronoun *ku kes* may refer to, as roughly represented in the following Davidson event structure:

(53) a. $\exists x [\text{go.out}(m, e) \& \text{reason}(x, e)]$
    b. $\exists x [\text{go.out}(m, e) \& \text{reason}(x, e)] = Qx$

The variable ‘x’ here can mean ‘with whom’, ‘why’, or even ‘when’, depending on the context. The role of the *wh*-phrase is thus determined indirectly: its semantic role is ‘indirectly licensed’ at a distance by virtue of its connection to the antecedent (see Culicover and Jackendoff 2005 too).

Note that this analysis opens the possibility of having multiple *wh*-remnants. The only thing we need to modify is to allow the multiple elements in the COMPS-DTR, adding the operator ‘Kleene Plus’:

(54) $\left[\text{COMPS-DTR} \left\{ XP^+ \left( [WH^+] \right) \right\} \right]$

This then allows more than one *wh*-expression in the complement daughter with the *wh*-value, as attested from the following corpus example:

(55) a. *encey nwukwu-i-nci al swu-ka epsta
    when who-COP-QUE know possibility-NOM not.exist
    ‘It is not possible to know when and who.’
    b. encey, etise, nwuka, kuliko way-i-nci amwuto molunta
    when where who and why-COP-QUE nobody not.know
    ‘Nobody knows when, where, who, and why.’

These multiple sluiced *wh*-remnants can thus receive proper interpretations within the present system. Note that the multiple complement expressions need to have the identical Wh-value. For example, the present system does not allow examples like the following where only one is a definite NP:

(56) a. *encey Mimi-i-nci al swu-ka epsta

---

8 As a reviewer points out, when there are multiple remnants, the assumed subject pronoun *ku kes* ‘the thing’ seems not to be overt. This idiosyncrasy may ask for teasing out such cases from the sluicing with a single remnant. In addition, we conjecture that in terms of processing the maximum number of *wh*-phrases is two as that of typical complements. This is why we have the conjunction in (59a).
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when  Mimi-COP-QUE know possibility-NOM not.exist
  "It is not possible to know when and Mimi."
b. *encey, etise, Mimi kuliko way-i-nci amwuto molunta
  when  where Mimi and  why-COP-QUE nobody not.know
  "Nobody knows when, where, Mimi, and why."

The present analysis can also account for island insensitivity cases like the following repeated data:

(57) Seoul-uy han tayhak-ey tani-nun haksayng-ul chotayhayss-nuntey,
      Seoul-GEN one college-at attend-MOD student-ACC invited-but
      etten tahak-i-nci molukessta
      which college-COP-QUE not.know
  ‘I invited the student who attends a college at Seoul, but I don’t know
   which university.’

Since the present analysis refers not to the syntactic structure, but to the flat event structure, it is possible to question the variable as given in the following simple representation:

(58) \[x\{invite(i,j), attend(j,x-university)\} = Qx\]

The analysis thus can offer us a way for the \(wh\)-remnant to be be linked with an indefinite NP located within the island. As shown by Chung et al. (1995), sluicing requires the presence of a free variable in the first conjunct, that is, requiring an indefinite NP. However, as we have pointed out earlier, the presence of an \(wh\)-phrase is not a mandatory condition, whose data we repeat here:

(59) a. nwukwunka-ka o-ass-nuntey ku kes-i Mimi-i-nci molukessta
    someone-NOM come-PST-but the KES-NOM Mimi-COP-QUE not.know
    ‘Somebody came, but I am not sure if it is Mimi.’
b. Mimi-ka o-ass-nuntey ku kes-i atul taymawun-i-nci molukessta
    Mimi-NOM come-PST-but the KES-NOM son because-COP-QUE not.know
    ‘Mimi came, but I am not sure it is because of her son.’

There is no \(wh\)-expression in the second conjunct. There is no variable denoting expression in the second conjunct. What the second conjunct questions is if the
variable’s value is Mimi or not, as represented in (60b):

\[(60)\]

\[
\begin{align*}
\text{a.} & \quad \lambda x [x \text{ came}] \\
\text{b.} & \quad \lambda x [x \text{ came}] = \mathcal{Q}[\lambda x [x \text{ came}](m)]
\end{align*}
\]

Within the present system, the only thing we need to modify is to remove the WH value condition on the complement in (50) or make this value as an optional. This gives one clear piece of linguistic difference between Korean and English: Korean sluicing requires the QUE value inherited from the interrogative marker -nci while English sluicing requires the WH value.

6. Conclusion

It is true that sluicing shares some properties with cleft and copula, but the two cannot be identified as the same source. As a way of accounting for the behavior of sluicing, we have adopted the constructional view of grammar and claim that sluicing, just like cleft, belongs to a family of copula constructions requiring an optional subject pronoun ku kes and an interrogative wh-phrase complement.

This direct-licensing approach to the Korean sluicing presupposes less syntactic structure. For example, there is no pseudo-cleft structure underlingly. There is no deleted expression or phonetically unrealized expression. The analysis supports the ‘Direct Interpretation’ to sluicing (Ginzburg and Sag 2000, Culicover and Jackendoff 2005) in which the remnant clause is generated ‘as is’ as a family of the copula constructions (not ellipsis constructions). Meanwhile, its proper interpretation is obtained from the relation between the subject pronoun ku kes ‘the thing’ and its ‘linguistic’ antecedent in the preceding clause. The paper has shown that this construction-based view of the Korean sluicing provides a simpler way to explain a variety of its functional aspects.

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