Sluicing and Fragments in Korean: A Direct Interpretation Approach

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Two different types of sluicing in English

- **merger**: The remnant *wh*-phrase has an overt correlate (underlined) and the expression within the bracket is understood to be missing or elided:

  (1) a. He looked like someone I know, but I can’t think **who** <he looked like>.

  b. We always knew he would succeed at **something**, but we didn’t know **what** <he would succeed at>.

- **sprouting**: the first clause includes no overt correlate for the *wh*-remnant:

  (2) a. She is complaining, but we don’t know about **what** <she is complaining>.

  b. Unfortunately, the supply seems to have dried up. I don’t know **why** <the supply has dried up>.
Two types of sluicing in Korean

- merger type:
  
  (3) ku-nun nwukwunka-lul talm-ass-nuntey, nwukwu-i-nci he-TOP someone-ACC resemble-PST-but who-COP-QUE molu-keyss-ta.
  
  not.know-PRES-DECL
  
  ‘He resembled someone, but I do not know who.’

- sprouting type:
  
  
  not.know-PRES-DECL
  
  ‘(I) did the first kiss, but I don’t know with whom.’
three main questions

- The syntactic question inquires if there is any syntactic structure for the elided parts in sluicing that are given in the context.
- The identity question concerns the relationship between the understood material in ellipsis and its antecedent, focusing on the question of whether the identity relation is syntactic or semantic.
- The licensing question looks into what allows for the ellipsis of the missing material in sluicing.
three main approaches in answering these


- LF-copying (Lobeck 1995, Chung et al. 1995, 2010, Chung 2006, 2013): the ellipsis site has a null lexical element which is replaced or identified at some level of representation, say, LF.

- Direct Interpretation (DI) approach (Ginzburg and Sag 2000, Culicover and Jackendoff 2005, Sag and Nykiel 2011, Nykiel 2013): there is no syntactic structure at the ellipsis site other than the *wh*-phrase.
Embedded Q-sluicing

- the obligatory presence of the copula verb *i*- followed by the interrogative-clause marker -(nu)nci (or -nyako).
- the interrogative complementizer -(nu)nci is attached only to the head of a clausal expression selected by interrogative verbs

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

   b. John-un [Mary-ka ku chayk-ul
   John-TOP Mary-NOM the book-ACC
   buy-PST-DECL-COMP/QUE say-PST-DECL
   ‘John told us that Mary bought the book.’
Embedded Q-sluicing

- a typical sluicing example again:


who-COP-QUE not.know-PRES-DECL

‘Mimi met someone yesterday, but I do not know who.’

- a clausal structure of the fragment

(7)

```
S[QUE +]   VP
  nwukwu-i-nci    molu-keyss-ta
  ‘who-COP-QUE’    ‘not.know-PRES-DECL’
```
The unrealized subject of the *wh*-remnant clause can be replaced by the pronoun *kukey* ‘it’ (short form of *ku kes-i* ‘the thing-NOM’) in both merger and sprouting.

(8) a. Mimi-ka nwukwunka-lul manna-ss-nuntey, (kukey)
    Mimi-NOM someone-ACC meet-PST-but it
    nwukwu-i-nci molu-keyss-ta.
    who-COP-QUE not.know-PRES-DECL
    ‘Mimi met someone, but I do not know who (it is).’

b. Mimi-ka senmwul-ul pat-ass-nuntey, (kukey)
    Mimi-NOM present-ACC receive-PST-but it
    nwukwu-lopwuthe-i-nci molu-keyss-ta.
    who-from-COP-QUE not.know-PRES-DECL
    ‘Mimi received a present (from someone), but I do not know from whom.’
the pronoun *kukey*

the pronoun *kukey* in (8a) appears to refer to the animate correlate *nwukwunka-lul* ‘someone-ACC’, but in non-sluicing environments it refers to either a nonanimate entity or a situation.

(9) a. Mimi-ka nwukwunka-lul manna-se, *kukes-kwa
Mimi-NOM someone-ACC meet-CONN the.thing-with
iyakiha-yess-ta.
talk-PST-DECL
‘Mimi met someone, and talked with him.’

b. Mimi-ka sihem-ey ttelecy-ess-nuntye, kukey mit-e
Mimi-NOM exam-at fail-PST-but it believe-CONN
ci-ci anh-nun-ta.
become-CONN not-PRES-DECL
‘Mimi failed the exam, but it was unbelievable.’
indeterminate correlate

- the correlate of a *wh*-remnant is in general an indefinite, introducing a variable

(10) a. Mimi-ka **nwukwunka-eykey ku chayk-ul cwu-ess-nuntey,**
Mimi-NOM someone-DAT the book-ACC give-PST-but
nwukwu-i-nci molu-keyss-ta.
who-COP-QUE not.know-PRES-DECL
‘Mimi gave the book to someone, but I do not know who.’

b. *Mimi-ka chesccay tongsayng-eykey ku chayk-ul
Mimi-NOM first sister-DAT the book-ACC
cwu-ess-nuntey, nwukwu-eykey-i-nci molu-keyss-ta.
give-PST-but who-DAT-COP-QUE not.know-PRES-DECL
‘*Mimi gave the book to the first sister, but I do not know who.’
multiple sluicing

The literature has noted that multiple sluicing has a marginal status in English:

(11) a. ?Someone talked about something, but I can’t remember who about what.
    b. ?Mary showed something to someone, but I don’t know exactly what to whom. (Lasnik 2014: 8)
multiple sluicing


(12) a. Mimi-ka ecey mwuesinka-lul nwukwunka-eykey
cwu-ess-nuntey, mwues-ul nwukwu-eykey-i-nci
give-PST-but what-ACC who-DAT-COP-QUE
molu-keyss-ta.
not.know-PRES-DECL
‘Mimi gave something to someone yesterday, but I do not know what to whom.’

b. pemin-i cap-hi-ess-nuntey, encey
criminal-NOM catch-PASS-PST-but when
nwukwu-eykey-i-nci molu-keyss-ta.
who-by-COP-QUE not.know-PRES-DECL
‘The criminal was caught, but I don’t know by whom and when.’
Sluicing also requires case matching effects, displaying a connectivity effect between the *wh*-remnant and its correlate, as noted by Ross (1969) for German and restated in Merchant (2001, 2006, 2012).

(13) Er will jemandem schmeicheln, aber sie wissen nicht, he wants someone.*DAT to.flatter but they know not wem/*wen. who.*DAT/who.*ACC
‘He wants to flatter someone, but they don’t know who.’
(14) a. Mimi-nun nwukwunka-eykey honna-ss-nuntey, Mimi-TOP someone-DAT be.scolded-PST-but nwukwu-eykey/*lul-i-nci molu-keyss-ta. who-DAT/*ACC-COP-QUE not.know-PRES-DECL ‘Mimi was scolded by someone, but I don’t know by whom.’

b. Mimi-nun honna-ss-nuntey, nwukwu-eykey/*lul-i-nci Mimi-TOP be.scolded-PST-but who-DAT/*ACC-COP-QUE molu-keyss-ta. not.know-PRES-DECL ‘Mimi was scolded, but I don’t know by whom.’

(15)  a. Bo talked to the people who discovered something, but we don’t know what (*Bo talked to the people who discovered _ ). (Complex Noun Phrase Constraint)

   b. Terry wrote an article about Lee and a book about someone else from East Texas, but we don’t know who (*Terry wrote an article about Lee and a book about _ ). (Coordination Structure Constraint)

Meanwhile, sprouting fails to repair syntactic island violations:

(16)  a. *I saw the movie that showed Ivy eating, but I just can’t remember what. (Complex Noun Phrase Constraint)

   b. *Agnes wondered how John could eat, but it is not clear what. (Wh-island Constraint)
island violations in Korean

Korean merger examples appear to repair islands as seen from the following examples (data from Sohn 2000):

(17) Shally-ka kunye-uy tongsayng-i nwukwunka-lopwuthe cenhwa-lul
Shally-NOM she-GEN sister-NOM someone-from phone-ACC
pat-un twiey ttenass-nuntey, na-nun nwukwu-i-nci receive-PNE after left-but, I-TOP who-COP-QUE
molu-keyss-ta.
not.know-PRES-DECL
‘Shally’s sister left [after receiving a phone call from someone], but I don’t know from whom.’

Considering sprouting cases in Korean (where the null object is marked as pro), we observe that island constraints are hard to repair:

(18) ??/Mimi-ka pro masisskey mek-ess-ten siktang-ul
Mimi-NOM deliciously eat-PST-PNE restaurant-ACC
find-PST-but it what-COP-QUE not.know-PRES-DECL
‘I found the restaurant [where Mimi ate (something) deliciously], but we do not know what.’
P-stranding generalization

Merchant (2001, 2006) observes a strong correlation between the availability of preposition stranding with *wh*-movement and the possibility for sluicing a *wh*-phrase without a preposition:

(19) a. Peter was talking with someone, but I don’t know (with) who.
   (Merchant 2006: (9))
   b. Who was he talking with?

Korean: no preposition stranding language

(20) a. Mimi-ka nwukwunka-wa nolko-iss-nuntey,
    Mimi-NOM someone-with play-PRES-but
    nwukwu-(wa)-i-nci molu-keyss-ta.
    who-with-COP-QUE not.know-PRES-DECL
    ‘Mimi is playing with someone, but I don’t know with whom.’
   b. *nwukwu Mimi-ka -wa nolko-iss-ni?
    who Mimi-NOM with play-PRES-QUE
    ‘(int) Whom is Mimi playing with?’
P-stranding generalization

It is possible to omit the postposition (-wa) under embedded sluicing. Note that there is a contrast between merger and sprouting in this respect:

(21) a. Mimi-ka nwukwunka-lopwuthe senmwul-ul
Mimi-NOM someone-from present-ACC
pat-ass-nuntey, nwukwu-(lopwuthe)-i-nci
receive-PST-but who-(from)-COP-QUE
molu-keyss-ta.
not.know-PRES-DECL
‘Mimi received a present from someone, but I do not know from whom.’

b. Mimi-ka pinan pat-ass-nuntey,
Mimi-NOM criticism receive-PST-but
nwukwu-* (lopwuthe)-i-nci molu-keyss-ta.
who-(from)-COP-QUE not.know-PRES-DECL
‘Mimi received a criticism (from someone), but I do not know from whom.’
Three Possible Approaches

Deletion Approach

Sluicing in English: Deletion approach

• assume movement of a *wh*-phrase followed by deletion, as originated with Ross (1969) and developed further by Merchant (2001, 2012), and others.

(22) a. Mary met somebody, but I don’t know who.

b. ..., but I don’t know \([CP \text{who}_i [\text{Mary met } t_i] \).

• Korean sluicing can be also taken to include a movement of a *wh*-phrase and a deletion process (Kim, J.-S. 1997):


  who-COP-PST-QUE not.know-PRES-DECL

  ‘Mimi met someone, but I don’t know who.’

b. ..., na-nun \([_{\text{FocP}} nwukwui-lul] [TP [VP Mimi-ka } t_i \text{manna]ss]}-(nu)nci] \) molu-keyss-ta.
the copula

the deletion approach for sluicing in Korean raises an immediate question of why the construction introduces the obligatory copular verb

(24) nwukwu-lul Mimi-ka manna-ss-(*)-nunci molu-keyss-e. who-ACC Mimi-NOM meet-PST-COP-QUE not.know-PRES-DECL ‘(I) do not know who Mimi met.’

Avoiding the issues of introducing the copula to the sluicing construction in the deletion approach and positing rather complex processes of deletion, some works in literature has taken the pseudocleft as the putative source for Korean sluicing

(25) na-nun [Mimi-ka manna-n kes-un] nwukwu-i-ncai I-TOP Mimi-NOM meet-PNE KES-TOP who-COP-QUE molu-keyss-ta. not.know-PRES-DECL ‘I do not know who (Mimi met).’
Issues: discrepancies between pseudoclefting and sluicing

one clear difference comes from the possibility of multiple remnants in sluicing and the impossibility of multi-pivot clefts

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

b. John-i ecey nwukwunka-eykey mwuesinka-lul
john-NOM yesterday someone-DAT something-ACC
cwuess-nuntey, nwukwu-eykey mwues-i-nci molukeyssta
gave-but who-DAT what-COP-QUE not.know
‘John gave something to someone yesterday, I wonder to whom and what.’
Three Possible Approaches

Deletion Approach

Issues: discrepancies between pseudoclefting and sluicing

there are sluicing examples with no cleft counterpart.

(27) a. Mimi-ka cha-lul kochy-ess-nuntey, ettehkey-i-nci
Mimi-NOM car-ACC fix-PST-but how-COP-QUE
molu-keyss-ta.
not.know-PRES-DECL
‘Mimi fixed the car, but I don’t know how.’

b. ?*[Mimi-ka cha-lul kochi-n kes-un] ettehkey-i-ci?
Mimi-NOM car-ACC fix-PNE KES-TOP how-COP-QUE
‘(Int.) The thing that Mimi fixed the car is how?’

c. ?*[Mimi-ka cha-lul kochi-n kes-un] acwu swipkey-i-ta.
Mimi-NOM car-ACC fix-PNE KES-TOP really easy-COP-DECL
‘(Int.) The way Mimi fixed the car is really easy.’
Issues: discrepancies between psuedoclefting and sluicing

floated numeral classifier also displays another constrast between pseudocleft and sluicing

(28) a. [Mimi-ka sa-n kes-un] [chayk sey kwen]-i-ta.
   Mimi-NOM buy-PNE KES-TOP [book three CL]-COP-DECL
   ‘What Mimi bought was three books.’

   b. Mimi-ka chayk-ul myech kwen sa-ss-nuntey, na-nun myech
   Mimi-NOM book-ACC some CL buy-PST-but I-TOP how-many
   kwen-i-nci molu-n-ta
   CL-COP-QUE not.know-PRES-DECL
   ‘Mimi bought some books, but I do not know how many.’

   Mimi-NOM book-ACC buy-PNE KES-TOP three CL-COP-DECL
   ‘What Mimi bought books is three (volumes).’
The LF copying approach introduces a null element (or elements) at the ellipsis site in the syntax. This null element is replaced by an operation of structure copying before the structure is interpreted (see Chung et al. 1995, 2010, Lappin 1996, Fortin 2007).

(29) a. I don’t know $[_{CP} \text{ what } [_{IP} \text{ e }]]$ (Spell-Out)
   b. I don’t know $[_{CP} \text{ what}_i \text{ } [_{IP} \text{ John plays } t_i ]]$ (LF copying/interpreted structure)

Merits:

(30) a. They are jealous, but it is unclear of whom.
    b. *They are jealous, but it is unclear who.
LF copying derivations

- grammatical cases

(31) a. It is unclear \([\text{CP of whom } [\text{IP }]]\) ⇒
   b. It is unclear \([\text{CP of whom } [\text{IP they are jealous}]]\) ⇒
   c. It is unclear \([\text{CP of whom } [\text{IP they are jealous [of whom]]}]]\).

- no new word constraint:

(32) a. It is unclear \([\text{CP who } [\text{IP }]]\) ⇒
   b. It is unclear \([\text{CP who } [\text{IP they are jealous}]]\) ⇒
   c. It is unclear \([\text{CP who } [\text{IP they are jealous who}]]\).
LF copying: an issue

- note that this syntax-based re-use analysis runs into problems for examples requiring semantic identity in both English and Korean.

(33) a. John likes someone, but I don’t know who.
   b. John likes someone, but I don’t know [who [John likes someone]].

- If the antecedent *John likes someone* is re-used, there is a danger for the indefinite *someone* to refer to a different person, as also pointed out by Larson (2013). The re-use analysis would thus do good for examples requiring syntactic identity, but encounters issues with semantic identity.
Direct Interpretation

generate the meanings of the unpronounced material with no underlying syntactic structures (Ginzburg and Sag 2000, Kehler 2002, Culicover and Jackendoff 2005)

(34) A: Mimi-ka ecey manna-ss-e.
   Mimi-NOM yesterday meet-PST-DECL
   ‘Mimi met yesterday.’

B: nwukwu-lul?
   who-ACC?

(35) S[QUE +]

   NP

   nwukwu-lul ‘who-ACC’
Identity issues

- The elided material must be identical in some way or other to a putative antecedent available in the discourse.


- my claim: both semantic and syntactic identity are required.
The semantic identity: There is a semantic relation between E (elided clause) and A (antecedent clause) to license sluicing. Merchant’s (2001) mutual entailment relationship between the elided material and its antecedent.

(36) a. He resembled someone, but I do not know who.
   b. Antecedent clause \([A] = \exists x(\text{He resembled } x)\)
   c. Elided clause \([E] = \exists x(\text{He resembled } x)\)
In a variety of authentic examples where there is no overt linguistic antecedent, the semantic identity seems to work well (see Ginzburg and Sag 2000 for similar discussion with English data).

A dialogue between two bilingual speakers:

(37) A: Mimi-ka nwukwunka-wa ssaw-ess-e?
Mimi-NOM someone-with fight-PST-QUE
‘Did Mimi fight with someone?’

B: Yes, but I don’t know with whom.
pros for the semantic identity

dialogue with a deictic expression:

(38) A: nwukwunka-ka na-lul ttalao-ko iss-e.
    someone-NOM me-ACC follow-CONN be-DECL
    ‘Someone is following me.’

    B: nwukwu-i-nci kwungkumha-ney.
    who-COP-QUE wonder-DECL
    ‘I wonder who is following you ≠ who is following me.’

If the antecedent of the *wh*-remnant in B’s response were based on syntactic identity, we would obtain a wrong interpretation here (see Sag and Nykiel 2011 for similar points in English).
Unlike VP Ellipsis, sluicing does not tolerate voice mismatches.

(39) a. The problem was to have been looked into, but obviously nobody did &lt;look into the problem&gt;.
b. I have implemented it with a manager, but it doesn’t have to be &lt;implemented with a manager&gt;.

(40) a. *Someone shot Ben, but I don’t know by whom &lt;Ben was shot&gt;.
b. *Someone was shot, but I don’t know whom &lt;they shot&gt;.
sluicing does not tolerate argument structure mismatches involving raising, ditransitive, and tough predicates:

(41) a. *Ben believes that someone is insane, but I cannot tell whom <Ben believes to be insane>.
    b. ??Ben gave someone the bike, but I cannot tell to whom <Ben gave the bike>.
    c. *Someone is impossible for Ben to please, but I don’t know whom <it is impossible for Ben to please>.
voice matching in Korean sluicing

Korean sluicing also includes examples where syntactic identity is required. For example, sluicing does not tolerate voice mismatches:

(42) a. *nwukwunka-ka Mimi-lul tayly-ess-nuntey, someone-NOM Mimi-ACC hit-PST-but nwukwu-eykey-i-nci molu-keyss-ta. who-by-COP-QUE not.know-PRES-DECL ‘*Someone hit Mimi, but I don’t know by whom <Mimi was hit>.’

b. Antecedent clause [[A]] = ∃x(x hit Mimi)

c. Elided clause [[E]] = ∃x(Mimi was hit by x)
The Identity Issue

Syntactic Identity

case matching

if the *wh*-remnant has a semantic case, the case value is optional but must match with that of the correlate if it is realized.

(43) a. Mimi-nun nwukwunka-eykey phyenci-lul ponay-ss-nuntey, Mimi-TOP someone-to letter-ACC send-PST-but nwukwu-(eykey/*lopwuthe)-i-nci molu-keyss-ta. who-(to/*from)-COP-QUE not.know-PRES-DECL ‘Mimi sent a letter to someone, but I don’t know to whom.’

b. kong-i kapcaki etinka-lopwuthe nalao-ass-nuntey, ball-NOM suddenly somewhere-from fly-PST-but eti-(*ey/lopwuthe)-i-nci molu-keyss-ta. where-(*to/from)-COP-QUE not.know-PRES-DECL ‘(lit.) A ball suddenly flew in from somewhere, but I don’t know from where.’
Requirements on the semantic case matching in sprouting

Unlike merger examples, sprouting requires the presence of a semantic case on the *wh*-remnant matching with the case value of the covert correlate:

(44) a. pise-ka hwa-lul nay-ss-nuntey, secretary-NOM anger-ACC raise-PST-but nwukwu-*eykey*-i-nci molu-keyss-ta. who-DAT-COP-QUE not.know-PRES-DECL ‘The secretary got angry, but I don’t know at whom.’

b. cek-i hwutoy-lul ha-yess-nuntey, entity-*kkaci*-i-nci enemy-NOM retreat-ACC do-PST-but where-to-COP-QUE molu-keyss-ta. not.know-PRES-DECL ‘The enemy retreated, but I do not know up to where.’
In accounting for the grammatical properties of the sluicing construction, we accept the philosophy of Construction-based HPSG.

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, and grammar is a recursive system of constructions.

\[
\begin{array}{c}
\text{constrution} \\
\text{FORM [...]} \\
\text{SYN [...]} \\
\text{SEM [...]} \\
\text{CXT [...]}
\end{array}
\rightarrow
\begin{array}{c}
\text{constrution} \\
\text{FORM [...]} \\
\text{SYN [...]} \\
\text{SEM [...]} \\
\text{CXT [...]}
\end{array}
\cdots
\begin{array}{c}
\text{constrution} \\
\text{FORM [...]} \\
\text{SYN [...]} \\
\text{SEM [...]} \\
\text{CXT [...]}
\end{array}
\]
An Analysis: Direct Interpretation and Question under Discussion

Basic Assumptions and Theory of Dialogue

examples of the constructions

Constructions also vary in size and complexity, and form and function are specified if not readily transparent.

<table>
<thead>
<tr>
<th>Constructions</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morpheme</td>
<td><em>pre-, -ing</em></td>
</tr>
<tr>
<td>Word</td>
<td><em>avocado, anaconda, and</em></td>
</tr>
<tr>
<td>Complex word</td>
<td><em>daredevil, shoo-in</em></td>
</tr>
<tr>
<td>Complex word (partially filled)</td>
<td><em>[N-s] (for regular plurals)</em></td>
</tr>
<tr>
<td>Idiom (filled)</td>
<td><em>going great guns, give the Devil his due</em></td>
</tr>
<tr>
<td>Idiom (partially filled)</td>
<td><em>jog (someone’s) memory, send (someone) to the</em></td>
</tr>
<tr>
<td>Covariational conditional</td>
<td><em>The X-er the Y-er (The more you have, the better)</em></td>
</tr>
<tr>
<td>Ditransitive</td>
<td><em>Subj V Obj1 Obj2 (He gave her a fish taco.)</em></td>
</tr>
<tr>
<td>Passive</td>
<td><em>Subj Aux VP (PP[by]) (The armadillo was hit by a</em></td>
</tr>
</tbody>
</table>

Table: Examples of constructions, varying in size and complexity (Goldberg 2006)
Representing interrogative expressions

- the *wh*-phrase: represents a parameter consisting of an index and a set of restricting propositions for what the referent of the parameter refers to:

\[(46) \text{Semantic content of } who: \pi^i \{\text{person}(i)\}\]

- semantic representation for interrogatives

\[(47) \begin{align*}
\text{a. Polar question: } & \lambda\{\} [\text{love}(k, l)] \text{ (Does Kim love Lee?)} \\
\text{b. Unary } wh\text{-question: } & \lambda\{\pi^i\} [\text{love}(k, i)] \text{ (Who does Kim love?)} \\
\text{c. Multiple } wh\text{-question: } & \lambda\{\pi^i \pi^j\} [\text{love}(i, j)] \text{ (Who loves who?)}
\end{align*}\]
(48)  

\[
S \left[ \lambda \{ \pi^i \} \left[ \text{meet}(m, i) \right] \right] \\
\text{SEM} \left[ \lambda \{ \pi^i \} \left[ \text{meet}(m, i) \right] \right] \\
\text{PARAMS} \left\{ \pi^i \right\} \\
\] 

\[
\text{VP} \left[ \lambda \{ \pi^i \} \lambda x \left[ \text{meet}(x, i) \right] \right] \\
\text{PARAMS} \left\{ \pi^i \right\} \\
\] 

\[
\text{NP} \left[ \text{PARAMS} \left\{ \pi^i \right\} \right] \\
\text{Mimi-ka} \\
\text{Mimi-NOM} \\
\] 

\[
\text{NP} \left[ \text{PARAMS} \left\{ \pi^i \right\} \right] \\
\text{nwukwu-lul} \\
\text{who-ACC} \\
\] 

\[
\text{V} \left[ \lambda x \lambda y \left[ \text{meet}(x, y) \right] \right] \\
\text{manna-ss-ni?} \\
\text{meet-PST-QUE} \\
\]
The interpretation of a sluiced clause depends on the notion of ‘question-under-discussion (QUD)’ in the dialogue.

Dialogues are described via a Dialogue Game Board (DGB) where the contextual parameters are anchored and where there is a record of who said what to whom, and what/who they were referring to (see Ginzburg 1996, Ginzburg and Fernandex 2010).

DGB monitors which questions are under discussion, what answers have been provided by whom, etc. The conversational events are tracked by various conversational ‘moves’ that have specific preconditions and effects.
Main claim

- The main claim: non-sentential utterances are resolved to the contextual parameters of the DGB.

- Since the value of QUĐ is constantly being updated as a dialogue progress, the relevant context offers the basis of the interpretation for sluicing.

- Interpreting this system in terms of the feature-structure based system: The feature \( \text{MAX-QUĐ} \), representing the question currently under discussion, takes as its value \( \text{questions} \). Meanwhile, \( \text{SAL-UTT} \), taking as its value syntactic as well as semantic information, represents the utterance which receives the widest scope within \( \text{MAX-QUĐ} \).

\[
\begin{align*}
(49) & \quad \left[ \begin{array}{c}
\text{DGB} \\
\text{SAL-UTT ...} \\
\text{MAX-QUĐ ...}
\end{array} \right]
\end{align*}
\]
An example

Uttering the question *Who did Kim meet?* will activate the following feature structure with the appropriate DGB information:

\[
\begin{align*}
\text{FORM} & \left\langle \text{Who did Kim meet?} \rightangle \\
\text{SYN} & \ S \\
\text{SEM} & \lambda \left\{ \pi^i \right\} \left[ \text{meet}(k, i) \right] \\
\text{DGB} & \left[ \begin{array}{c}
\text{MAX-QUD} \lambda \left\{ \pi^i \right\} \left[ \text{meet}(k, i) \right] \\
\text{SAL-UTT} \left[ \begin{array}{c}
\text{SYN NP} \\
\text{SEM} \pi^i
\end{array} \right]
\end{array} \right]
\end{align*}
\]
Constraint for resolved questions

One important constraint working here is that resolved questions cannot be under discussion (Ginzburg and Sag 2000, Sag and Nykiel 2011):

(51) Question Introduction Condition (QIC)
A question q can be introduced into QUD by A only if there does not exist a fact $\tau$ such that $\tau \in \text{FACTS}$ and $\tau$ resolves q.

- an indefinite NP as well as a definite or quantified NP can function as a correlate as long as it can accommodate a compatible MAX-QUD environment.

(52) a. Indefinite NP: **Some senator** is arriving. Who?
   b. Quantified NP: I talked to **most of the players**. Oh yeah, who, exactly?
   c. Definite NP: **The tallest guy of the team** is here. Who else?
   d. Proper Noun: I met **Kim**. Who else?
   e. Pronoun: **She** came to the party. Who else?
But block the following

However, note the following: the question of who arrived or who will visit Pat is no longer under discussion.

(53)  a. No one arrived. *Who?
    b. Kim arrived. *Who?
    c. Kim and Lee will visit Pat. *Who?
the QIC also holds in the typologically different language, Korean.

(54) a. Mimi-lul manna-ss-e. kupakkey nwukwu?
Mimi-ACC meet-PST-DECL else who?
‘(I) met Mimi. Who else?’

b. *amwuto an o-ss-e. nwukwu?
nobody not come-PST-DECL who
‘Nobody came. *Who?’
Korean has a variety of fragment utterances including short answers.

(55) A: Kim-i yeki-ey iss-ni?
Kim-NOM here-at exist-QUE
‘Is Kim here?’

B: iss-e. / eps-e.
exist-DECL. / not.exist-DECL
‘(He) is.’ ‘(He) isn’t.’

The language also allows nominal fragments as short answers:

(56) A: Kim-i nwukwu-lul manna-ss-ni?
Kim-NOM who-ACC meet-PST-QUE
‘Who did Kim meet?’

B: Mimi. / Mimi-lul. / *Mimi-ka.
Mimi / Mimi-ACC / Mimi-NOM
The short answer fragment can be an interrogative *wh*-expression (which we call matrix sluicing), similar to English sluicing.

(57) A: Mimi-ka nwukwunka-lul manna-ss-e.
Mimi-NOM someone-ACC meet-PST-DECL
‘Mimi met someone.’

B: nwukwu? / nwukwu-lul? / *nwukwu-ka?
who? who-ACC? who-NOM
The interpretation of a matrix sluicing fragment, a non-sentential utterance, also depends on the notion of QUD in the given context.

As suggested by Kim and Sells (2013a, 2013b), we first introduce the following construction for Korean, similar to English (Ginzburg and Sag 2000):

\[(58) \quad \text{Head-Fragment Construction} \]

\[
\begin{align*}
\text{SYN} & \quad \text{S} \\
\text{DGB} & \quad \text{SAL-UTT} \\
\text{SEM} & \quad \text{[CAT [nominal]]} \\
\text{IND} & \quad i
\end{align*}
\]

\[
\rightarrow
\begin{align*}
\text{SYN} & \quad \text{[CAT [nominal]]} \\
\text{SEM} & \quad \text{[IND i]}
\end{align*}
\]
a projected structure

(59)

S

\[
\begin{bmatrix}
\text{SYN} & 2 \\
\text{SEM} & 3 \\
\text{MAX-QUD} & \lambda\{\pi^i\}\[\text{meet}(m,i)] \\
\text{SYN} & \text{CAT} \{1\} \\
\text{IND} & i \\
\text{PARAMS} & \{\pi^i\}
\end{bmatrix}
\]

DGB

SAL-UTT

\[
\begin{bmatrix}
\text{SYN} & \text{CAT} \{1\} \\
\text{IND} & i \\
\text{PARAMS} & \{\pi^i\}
\end{bmatrix}
\]

SEM

\[
\begin{bmatrix}
\text{POS} & \text{nominal} \\
\text{CASE} & \text{acc}
\end{bmatrix}
\]

NP

\[
\begin{bmatrix}
\text{SYN} & 2 \\
\text{SEM} & 3 \\
\text{IND} & i \\
\text{PARAMS} & \{\pi^i\}
\end{bmatrix}
\]

nwukwu-lul 'who-ACC'?
Case Omission

Why is the bare case marking NP *nwukwu* possible?

In Korean, different from semantic cases (*scase*), the structural or grammatical case (*gcase*) values can be optional, as illustrated in the following contrast:

(60) a. Mimi-(ka) Mina-(lul) manna-ss-e.
   Mimi-NOM Mina-ACC meet-PST-DECL
   ‘Mimi met Mina.’

   b. Mimi-(ka) Mina-* (wa) nol-ko iss-e.
   Mimi-NOM Mina-with play-CONN exist-DECL
   ‘Mimi is playing with Mina.’
Bare case-marking Fragment Answers

Assumes the case system in Korean in which the unmarked case value subsumes the structural case values (NOM and ACC) (see Kim, J.-B. 2004 and Kim and Choi 2004).

(61)

\[
\begin{aligned}
\text{case} & \\
\text{gc} & \quad \text{sc} \\
\text{vc} & \quad \text{nc} \\
\text{nom} & \quad \text{acc} & \quad \text{gen} \\
\end{aligned}
\]
Sample lexical entries

(62) a. \[
\begin{array}{l}
\text{FORM} \langle nwukwunka-lul \rangle \\
\text{SYN} \begin{array}{l}
\text{CAT} \\
\text{POS} \quad \text{nominal} \\
\text{GCASE} \quad \text{acc}
\end{array}
\end{array}
\]

b. \[
\begin{array}{l}
\text{FORM} \langle nwukwu \rangle \\
\text{SYN} \begin{array}{l}
\text{CAT} \\
\text{POS} \quad \text{nominal} \\
\text{GCASE} \quad \text{gcase}
\end{array}
\end{array}
\]
Bare-case marked fragments with an overt correlate

with an overt correlate, the *wh*-remnant or fragment answer can be bare-case marked even when the correlate is semantic-case marked. This is possible since there is also no conflict in the case features.

(63) A: Mimi-ka nwukwunka-lopwuthe senmwul-ul
    Mimi-NOM someone-SRC gift-ACC
    pat-ass-e.
    receive-PST-DECL
    ‘Mimi received a gift from someone.’

B: nwukwu>?/ nwukwu-lopwuthe>?/ nwukwu-eykey>/?
    who who-SRC who-SRC
    *nwukwu-wa?
    who-COMIT
    ‘Who?/From whom? /To whom? /*With whom?’
(64) a. \[
\begin{bmatrix}
\text{FORM} & \langle \text{nwukwunka-lopwuthe} \rangle \\
\text{POS} & \text{nominal} \\
\text{GCASE} & \text{gcase} \\
\text{SCASE} & \text{src}
\end{bmatrix}
\]

b. \[
\begin{bmatrix}
\text{FORM} & \langle \text{nwukwu} \rangle \\
\text{POS} & \text{nominal} \\
\text{GCASE} & \text{gcase} \\
\text{SCASE} & \text{sca}
\end{bmatrix}
\]
Consider the examples again? Why no bare-case marked?

(65) A: Mimi-ka pinan.pat-ass-e.
    Mimi-NOM criticism.receive-PST-DECL
    ‘Mimi was criticized.’

B: nwukwu-lopwuthe?/*nwukwu?
   who-from/who
Ruppenhofer and Michaelis (2014) distinguish two major types of null complements in English, definite and indefinite null complements:

(66) a. John loves to read [e].
    b. No doubt, mistakes were made [e].
    c. We arrived [e] at 8 pm.

The unexpressed argument in (66a) and the one in (66b) behave alike in that the material that John loves to read or the agent making the mistake need not be mutually known to the interlocutors, whose omission can thus be said to be an instance of **indefinite null instantiation (INI)**.

By contrast, the unexpressed goal argument in (66c) is known to the interlocutors in the given context and the omission of the argument is thus an instance of **definite null instantiation (DNI)**.
Incorporating this idea within the type feature system (where types are in italics), we can introduce two signs *overt* and *ini*, the latter of which can be resolved to a covert argument or an instance of INI.

(67) Lexical entry for *read*: |
\[
\begin{aligned}
\text{FORM} & \langle \text{read} \rangle \\
\text{ARG-ST} & \langle \text{NP}_i, \text{NP}_x \rangle \\
\text{SYN} & \langle \text{NP}[overt] \rangle \\
\text{COMPS} & \langle \text{NP}[ini] \rangle \\
\text{SEM} & \text{read}(i, x)
\end{aligned}
\]
null arguments in Korean

null arguments in Korean

(68) a. [e] cham cal talli-n-ta.
really fast run-PRES-DECL
‘(I/He/She/They/It) really runs fast.’

Mimi-TOP Nana-NOM e/self/he-ACC hit-PST-DECL-COMP
malha-yess-ta.
say-PST-DECL
‘Mimi said that Nana hit herself/him.’

The null subject in (68a) refers to someone physically present, whose reference is provided in the discourse context. Meanwhile, the null object in (68b) is in variation with the overt resumptive pronouns, caki-lul ‘self-ACC’ or ku-lul ‘he-ACC’. Its coindexing relation is controlled (A-bound) by the matrix argument, suggesting it is a pro, but not a variable.
null arguments in sprouting

Sprouting examples we discuss here all include INI cases as evidenced from the fact that we cannot replace the implicit argument by a definite NP:

(69)  a. ches khisu-lul (*ku-wa) ha-yess-nuntey, nwukwu-wa-i-nci
first kiss-ACC he-with do-PST-but who-with-COP-QUE
molu-keyss-ta.
not.know-PRES-DECL
‘*(I) did the first kiss with him, but I don’t know with whom.’

b. Mimi-ka (*ku-lopwuthe) pinan.pat-ass-nuntey,
Mimi-NOM he-from criticism.receive-PST-but
nwukwu-*(lopwuthe)-i-nci molu-keyss-ta.
who-(from)-COP-QUE not.know-PRES-DECL
‘Mimi received a criticism from him, but I do not know from whom.’
The unrealized argument of the matrix verb *pinan.pat*-'be criticized' in (65A) and the one in (69b), both of which are sprouting examples, is realized not as a definite but as an indefinite instantiation, as represented in the following:

\[
\begin{align*}
&\text{Lexical information for } \textit{pinan.pat}- \textit{‘be.criticized’} \\
&\text{FORM } \langle \textit{pinan.pat} \rangle \\
&\text{ARG-ST } \langle \textit{NP}_i, \textit{NP}_x[\textit{SCASE src}] \rangle \\
&\text{SUBJ } \langle \textit{NP}[\textit{overt}] \rangle \\
&\text{COMPS } \langle \textit{NP}[\textit{ini}] \rangle \\
&\text{SEM } \textit{be.criticized}(i, x)
\end{align*}
\]
an example

Now consider the dialogue in (65).

(65) A: Mimi-ka pinan.pat-ass-e.  
     Mimi-NOM criticism.receive-PST-DECL  
     ‘Mimi was criticized.’

B: nwukwu-lopwuthe?/*nwukwu?  
   who-from/who

Uttering the sentence with A would then update the DGB as following, triggered from the verb *pinan.pat*- ‘be criticized’:

(71) \[
\begin{array}{c}
\text{DGB} \\
\text{SAT-UTT} \\
\text{SYN NP} \\
\text{INDEX} \ x \\
\text{SEM be.criticized(m,x)} \\
\end{array}
\]
Projected structure

\[(72)\]

\[
\begin{array}{c}
\text{S} \\
\begin{array}{c}
\text{SYN} 2 \\
\text{SEM} 3 \\
\text{MAX-QUD} \lambda\{\pi_i\}[\text{be.criticized}(m,i)]
\end{array} \\
\begin{array}{c}
\text{DGB} \\
\text{SAL-UTT} \\
\begin{array}{c}
\text{SYN} \\
\text{CAT} 1 \\
\text{SCASE src} \\
\text{INDEX} i
\end{array} \\
\begin{array}{c}
\text{SEM} \\
\text{IND} i \\
\text{PARAMS} \{\pi_i\}
\end{array}
\end{array}
\end{array}
\]

\[
\begin{array}{c}
\text{NP} \\
\begin{array}{c}
\text{SYN} 2 \\
\text{CAT} 1 \\
\text{POS nominal} \\
\text{SCASE src}
\end{array} \\
\begin{array}{c}
\text{SEM} 3 \\
\text{IND} i \\
\text{PARAMS} \{\pi_i\}
\end{array}
\end{array}
\]

nwukwu-lopwuthe ‘who-from’?
A remaining question

- Why the bare-case marked NP is not licensed with the absence of an overt correlate (see (65))? 

- The case marker of the covert or unexpressed NP whose syntactic information is contextually updated must be present. This condition can be phrased as following:

  (73) Full Instantiation Constraint (FIC):
The syntactic information (e.g., case features) not available at surface but updated in the DGB needs to be fully specified in the subsequent syntax.

- This condition has the effect of Chung’s (2006) ‘no new word constraint’ specifying that an ellipsis site cannot contain any ‘new’ words
**Motivation**

- The motivations of the FIC can be found in the anaphoric nature of sluicing and the question of identifying what is an issue (question under the discussion).
- With the merger case with an overt correlate, we have no difficulties in identifying this issue. However, sprouting examples with no overt correlate make it difficult to pick out the issue:

  (74) a. [The cake was eaten by someone], and I want to find out [who] <the cake was eaten by>.
  b. *[The cake was eaten], and I want to find out [who] <ate the cake>.
Fragment answer again

consider the following dialogue in Korean:

(75) A: John-i ecey pam salhaytoy-ess-e.
John-NOM yesterday night be.murdered-PST-DECL
‘John was murdered last night.’

B: nwukwu-eyuyhay? / *nwukwu?
who-by / who
‘By whom?’

The FIC: the syntactic information of the unrealized agentive NP be specified at the subsequent syntax, linking the contextually updated information with syntax (or morphosyntactic) information.

(76) \[
\begin{array}{ccc}
\text{DGB} & \text{SAT-UTT} & \\
\text{SYN NP} & \begin{bmatrix}
\text{ini} \\
\text{SCASE agt} \\
\text{INDEX x} \\
\text{SEM be.murdered}(j,x)
\end{bmatrix}
\end{array}
\]
When there is no correlate for the *wh*-remnant, and its correlate is evoked at the discourse level, the grammar needs to refer to the full grammatical information of the evoked correlate to minimize the processing load.

(77) A: han haksayng-i senmwul-ul pat-ass-e.
a student-NOM present-ACC receive-PST-DECL
‘A student received a present.’

B: nwukwu-lopwuthe?/nwukwu?
who-SRC/who?
‘From Whom?/Who?’

The case-marked NP *nwukwu-lopwuthe* ‘who-SRC’ is asking from whom the student received a present, while the bare-case marked NP *nwukwu* ‘who’ is linked to the indefinite NP subject *a student*.
The embedded sluicing, merger and sprouting alike, can license the optional subject *kukey* ‘it’ here, but this is not possible in matrix (short answer) fragments.

(78) Mimi-ka pinan.pat-ass-nuntey, kukey nwukwu-lopwuthe-i-nci
Mimi-NOM criticism.receive-PST-but it who-from-COP-QUE
molu-keyss-ta.
not.know-PRES-DECL
‘Mimi received a criticism, but I do not know from whom it is.’

Mimi-NOM criticism.receive-PST-DECL
‘Mimi was criticized.’
B: *kukey nwukwu-lopwuthe?
it who-from?

Fragment answers and sluicing are different
matrix sluicing in Korean is a nominal fragment while embedded sluicing is a predicate fragment.

(80) Embedded Sluicing Construction in Korean:

```
\[
\begin{array}{c}
\text{SYN} & \text{CAT} \quad 6 \\
\text{SEM} & \lambda \Sigma \Phi \\
\text{DGB} & \begin{bmatrix}
\text{SAT-UTT} & \begin{bmatrix}
\text{CAT} \quad 1 \\
\text{SEM} \quad 2
\end{bmatrix}
\end{bmatrix} \\
\text{MAX-QUD} & \lambda \{ \} \Phi
\end{array}
\rightarrow
\begin{bmatrix}
5 \text{XP} \\
\text{CAT} \quad 1 \\
\text{SEM} \quad 2 \\
\text{PARAMS} & \text{neset} \\
\text{WH} & \Sigma
\end{bmatrix}
\begin{bmatrix}
\text{SYN} & \text{CAT} \quad 6 \\
\text{MOOD} & \text{que} \\
\text{IC} & - \\
\text{SUBJ} & \left< (\text{NP}[\text{pro}]) \right> \\
\text{COMPS} & \left< 5 \text{XP} \right>
\end{bmatrix}
\end{array}
\]
```
Going back to embedded sluicing

- merger and sprouting: the two types behave differently with respect to the realization of case markings. In particular, with no overt correlate, the *wh*-remnant must have the case value corresponding to that of the covert correlate.

(81) A: Mimi-ka pinan.pat-ko iss-e.
Mimi-NOM be.criticized-CONN exist-DECL
‘Mimi is being criticized.’

B: (kukey) **nwukwu-lopwuthe**-i-nci al-ni?
it who-from-COP-QUE know-QUE
‘Do you know from whom?’
an example

(82)

S

DGB

SAL-UTT 3

SEM

[CAT [2]

IND

PARAMS {\pi_i}

MAX-QUD \lambda\{\pi_i\} [be.criticized(m,i)]

VP

NP

(‘kuky) ‘it’

3 NP

[CAT [2]

PARAMS {\pi_i}

nwukwu-lopwuthe ‘who-from’

V

[POS copula]

[MOOD que]

[IC –]

[SUBJ ⟨NP[pro]⟩]

[COMPS ⟨3 NP⟩]

[SEM 6 [IND s]]

-[i-nci ‘CÌP-QUE’]
reverse sluicing

The present system thus relies on the discourse update, implying that the precedence relationship with the clause including a correlate is not a key issue.

(83)  

a. nwukwu-i-nci molu-ciman, nwukwun-ka nay cha-lul who-COP-QUE not.know-but someone-NOM my car-ACC kocangnay-ss-e. break-PST-DECL  

‘I don’t know who, but someone broke my car.’

b. way-i-nci molu-ciman, Mimi-ka ttena-ss-e. why-COP-QUE not.know-but Mimi-NOM leave-PST-DECL  

‘I don’t know why, but Mimi left.’

Until meeting the second clause in each of these examples, there is no information about the QUD. The overt indefinite nwukwun-ka of the matrix clause in (83a) and the covert indefinite correlate of the matrix clause in (83b) helps to evoke the appropriate QUD for each case.
indexical resolution: semantic identity

- the value of MAX-QUD is constantly being updated as a dialogue progresses, including the record of the denotation of any given referring expression.

(84) A: nwukwunka-ka na-lul ttalao-ko iss-e.
someone-NOM me-ACC follow-CONN be-DECL
‘Someone is following me.’

B: nwukwu-i-nci kwungkumha-ney.
who-COP-QUE wonder-DECL
‘I wonder who is following you $\neq$ who is following me.’

- A’s utterance here would evoke the following DGB:

(85) $\begin{bmatrix}
\text{DGB} \\
\text{MAX-QUD} \\
\text{SYN NP}
\end{bmatrix}
\begin{bmatrix}
\lambda \{ \pi^i \} \left[ \text{follow}(i, \text{spk}) \right]
\end{bmatrix}
\begin{bmatrix}
\text{SEM someone}^i
\end{bmatrix}$
Island repair for merger type of sluicing has been an issue for the deletion approach that involves the application of *wh*-movement: the movement cannot violate island constraints, but sluicing examples license island repair.

As a solution, the deletion approach has suggested that the deletion and movement processes in sluicing are relevant to PF representations (see Merchant 2001, 2004 and subsequent papers).

By contrast, our DI approach, following Ginzburg and Sag (2000), Culicover and Jackendoff (2005), and Sag and Nykiel (2011), avoids this issue: the remnants are directly generated, and no island-sensitive operations are thus involved.
A question arises why island repair in sprouting is in general more difficult to be repaired than island repair in merger.

(86) *I saw the movie that showed Ivy eating, but I just can’t remember what.

This sentence, including no overt correlate for the *wh*-remnant, would update the following DGB, triggered by the lexical expression *eating*:

(87) \[
\begin{array}{c}
\text{DGB} \\
\text{SAT-UTT} \\
\text{SYN NP} \left[ \begin{array}{c}
\text{INDEX x} \\
\text{SEM eat}(i,x) \\
\end{array} \right] \\
\end{array}
\]

The second argument of the verb *eat* is realized as an *ini* argument. The FIC in (73) requires that the syntactic information of the INI NP is fully specified since the correlate’s information is not available at surface. If we specify the syntactic information of this NP, we can easily notice that the NP is positioned within the complex NP, violating the CNPC requiring that no syntactic operation should refer to an expression within the island.
connectivity effects

The CASE compatibility requirement can also account for the voice matching effect in sluicing.

(88) a. *Someone shot Ben, but I don’t know by whom <Ben was shot>.

(89) a. *The criminal was caught, but I do not know who <caught the criminal>.
   b. ku pemin-i cap-hi-yess-nuntey, the criminal-NOM catch-PASS-PST-but nwukwu-(eykey)-i-nci molu-keyss-ta. who-by-COP-QUE not.know-PRES-DECL ‘The criminal was caught, but I do not know by whom.’
Activated DGB

The first clause in (88b) here will activate the following DGB:

\[
(90) \begin{bmatrix}
\text{DGB} \\
\text{SAL-UTT}
\end{bmatrix}
\begin{bmatrix}
\text{MAX-QUD} \\
\lambda\{\pi^i\} [\text{shoot}(i, m)]
\end{bmatrix}
\begin{bmatrix}
\text{SYN NP} \\
\text{SEM someone}^i
\end{bmatrix}
\]

Since the context here provides the overt correlate *nwukwunka-ka* ‘someone-NOM’, but the *wh*-remnant is *nwukwu-eykey* ‘who-DAT’. The two thus cannot be linked because the Embedded Sluicing Construction requires the two to have the same CAT value including CASE. This is why the *wh*-remnant here cannot be either *nwukwu-eykey* ‘who-DAT’ or *nwukwu-lul* ‘who-ACC’.
sprouting in (89b)

The matrix predicate in the first clause would have the following lexical information:

(91) Lexical information for *be.caught*-

\[
\begin{array}{c}
\text{FORM} \langle \text{be.caught} \rangle \\
\text{ARG-ST} \langle \text{NP}_i, \text{NP}_x \text{[SCASE obl]} \rangle \\
\text{SYN} \langle \text{NP}[\text{overt}] \rangle \\
\text{COMPS} \langle \text{NP}[\text{ini}] \rangle \\
\text{SEM } \text{be.caught}(c, i)
\end{array}
\]

The sentence in (89b) with the *wh*-remnant in the second clause would then update the DGB as following:

(92) 

\[
\begin{array}{c}
\text{DGB} \\
\text{SAT-UTT} \langle \text{SYN NP}[\text{ini}] \text{[SCASE obl]} \rangle \\
\text{SEN } \text{someone}^i \\
\text{MAX-QUD } \chi\{\pi^i\}[\text{be.caught}(c, i)]
\end{array}
\]
Both matrix and embedded sluicing, each as a subtype of fragments, is basically an anaphoric phenomenon whose remnant constituents are directly generated without extraction and deletion.

The present analysis has shown that the QUD in the dialogue provides the basis for the interpretation of the fragments (including matrix sluicing) and sluices in embedded environments.

Even though the analysis offers a discourse-based account of sluicing with constantly evolving questions-under discussion, it requires syntactic and semantic identity conditions when in need.

Even with no postulation of hidden syntactic structures, we can offer a satisfactory account for intriguing properties of the sluicing in matrix and embedded environments.
Selected References

Selected References


Selected References


