Suppletion under a locality constraint: an evidence from Korean

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1 Introduction

2 Data
- /cwu/ ~ /tuli/
- /cwu/ ~ /tal/
- Interim summary

3 Theoretical Background
- Distributed Morphology
- Locality Condition

4 Proposal

5 Analysis
- The context for /tal/ insertion
- The optionality of Pruning
- Blocking effects
- The context for /tuli/ insertion

6 Concluding remarks
Overview
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- Korean exhibits three-way suppletive allomorphs of $\sqrt{\text{give}}$. 
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Their distribution depends on intertwined factors such as honorific dative argument, imperative marker and co-referenced anaphor (Bae 2009; Kim 2016).
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Overview

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  1. the dative honorific driven /tuli/
  2. the imperative conditioned /tal/
  3. and the elsewhere form /cwu/.
Overview

(1) a. $\sqrt{\text{VERB}} - \text{NEG} - \text{HON} - \text{TNS} - \text{MOD} - \text{C}$
Overview

(2)  
   a. \(\sqrt{\text{VERB}} - \text{NEG} - \text{HON} - \text{TNS} - \text{MOD} - \text{C}\)

   b. \(\sqrt{\text{VERB}} - \text{NEG} - \text{HON} - \text{TNS} - \text{MOD} - \text{C} [\text{IMP}]\)
Overview

(3)  
\[ \sqrt{\text{VERB}} - \text{NEG} - \text{HON} - \text{TNS} - \text{MOD} - \text{C} \]

b. \[ \sqrt{\text{VERB}} - \text{NEG} - \text{HON} - \text{TNS} - \text{MOD} - \text{C} \text{ [IMP]} \]

- This data provides prima facie counter-examples, which seem to violate the adjacency restrictions on conditioning allomorphy.
Goals of this talk

Our questions:

- What is the distribution of contextual allomorphs of the root $\sqrt{\text{GIVE}}$ in Korean?
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Our questions:

• What is the distribution of contextual allomorphs of the root $\sqrt{\text{GIVE}}$ in Korean?

• What are grammatical restrictions imposed on the conditioning the suppletive allomorphy?
Data
Data /cwu/ ~ /tuli/

\( (4) \) a. chingwu-ka na-ekey satang-ul cwu-ess-ta.
friend-NOM I-DAT candy-ACC give-PST-DECL
‘The friend gave me a candy.’
   friend-NOM I-DAT candy-ACC give-PST-DECL
   ‘The friend gave me a candy.’

   teacher.HON.NOM I-DAT candy-ACC give-HON-PST-DECL
   ‘The teacher gave me a candy.’
   friend-NOM I-DAT    candy-ACC  give-PST-DECL
   ‘The friend gave me a candy.’

   teacher.HON.NOM     I-DAT    candy-ACC  give-HON-PST-DECL
   ‘The teacher gave me a candy.’

   I-NOM  teacher-DAT.HON  candy-ACC  give-PST-DECL
   ‘I gave the teacher a candy.’
friend-NOM I-DAT candy-ACC give-PST-DECL

‘The friend gave me a candy.’

teacher.HON.NOM I-DAT candy-ACC give-HON-PST-DECL

‘The teacher gave me a candy.’

I-NOM teacher-DAT.HON candy-ACC give-PST-DECL

‘I gave the teacher a candy.’

• When the subject NPs are honorific, Korean marks honorification suffix `-si` onto the verb.
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When the indirect object of the sentence is honorified, the allomorph /tuli/ shows up instead of the elsewhere form /cwu/.
/cwu/ ～ /tal/ in Monoclauses

(9) a. (Ne) na-ekey satang-ul cwu/tal-la.
you-NOM I-DAT candy-ACC give-IMP
‘Give me a candy.’

• The alternation of /tal/ is observed in the imperative, where the dative argument is co-referential with a speaker of an utterance.
• /cwu/ appears as a free variant in the same context.
• However, /tal/ is blocked when the verb is negated, or an addressee of an utterance obtains a [+hon] feature.
/cwu/ ~ /tal/ in Monoclauses

(10) a. (Ne) na-ekey satang-ul cwu/tal-la.
    you-NOM I-DAT candy-ACC give-IMP
    ‘Give me a candy.’

b. (Ne) na-ekey satang-ul cwu/*tal-ci-ma-la.
    you-NOM I-DAT candy-ACC give-CI-NEG-IMP
    ‘(Honorific) Do not give me a candy.’

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/cwu/ ~ /tal/ in Monoclauses

(11) a. (Ne) na-ekey satang-ul cwu/tal-la.
you-NOM I-DAT candy-ACC give-IMP
   ‘Give me a candy.’

b. (Ne) na-ekey satang-ul cwu/*tal-ci-ma-la.
you-NOM I-DAT candy-ACC give-CI-NEG-IMP
   ‘(Honorific)Do not give me a candy.’

c. (Sensayngnim,) na-ekey satang-ul cwu/*tal-si-la.
Teacher-HON.NOM I-DAT candy-ACC give-HON-IMP
   ‘(Teacher,) give me a candy (please).’
\( /cwu/ \sim /tal/ \) in Monoclauses

\[(12) \quad \text{a.}\quad (Ne) \quad \text{na-ekey satang-ul } \text{cwu/tal-la.} \]
\[
\text{you-NOM l-DAT candy-ACC give-IMP}
\]
\`
Give me a candy.'
\[
\text{b.}\quad (Ne) \quad \text{na-ekey satang-ul } \text{cwu/*tal-ci-ma-la.} \]
\[
\text{you-NOM l-DAT candy-ACC give-CI-NEG-IMP}
\]
\`
(Honorific) Do not give me a candy.'
\[
\text{c.}\quad (Sensayngnim,) \quad \text{na-ekey satang-ul } \text{cwu/*tal-si-la.} \]
\[
\text{Teacher-HON.NOM l-DAT candy-ACC give-HON-IMP}
\]
\`
(Teacher,) give me a candy (please).'</

- The alternation of /tal/ is observed in the imperative, where the dative argument is co-referential with a speaker of an utterance.
/cwu/ ~ /tal/ in Monoclauses

(13) a. (Ne) na-ekey satang-ul cwu/tal-la.
you-NOM l-DAT candy-ACC give-IMP
‘Give me a candy.’

b. (Ne) na-ekey satang-ul cwu/*tal-ci-ma-la.
you-NOM l-DAT candy-ACC give-CI-NEG-IMP
‘(Honorific)Do not give me a candy.’

c. (Sensayngnim,) na-ekey satang-ul cwu/*tal-si-la.
Teacher-HON.NOM l-DAT candy-ACC give-HON-IMP
‘(Teacher,) give me a candy (please).’

- The alternation of /tal/ is observed in the imperative, where the dative argument is co-referential with a speaker of an utterance.
- /cwu/ appears as a free variant in the same context.
- However, /tal/ is blocked when the verb is negated, or an addressee of an utterance obtains a [+hon] feature.
In embedded clauses, the suppletive allomorph /tal/ occurs when
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(i) the illocutionary force of embedded clause is imperative and
In embedded clauses, the suppletive allomorph /tal/ occurs when

1. the illocutionary force of embedded clause is imperative and
2. the indirect object of embedded clause corefers to the subject of the matrix clause.
told
‘Swumi\textsuperscript{1} told Yusu to give her\textsuperscript{2} a chance.’

told
‘Swumi\textsuperscript{1} told Yusu to give her\textsuperscript{1} a chance.’
(15) a. *Cini-ka (ne-ekey) [Swumi-ekey kihoy-lul cwu/*tal-la-ko]*
    Cini-NOM (you-DAT) [Swumi-DAT [PRO chance-ACC
    malhayssta.
    give-IMP-COMP] told
    ‘Cini told (you) to give Swumi\(^1\) a chance.’

b. *Cini\(^1\)-ka Swumi-ekey [PRO\(^1\) kihoy-lul *cwu/tal-la-ko]*
    Cini-NOM Swumi-DAT [PRO chance-ACC give-IMP-COMP]
    malhayssta.
    told
    ‘Cini\(^1\) told Swumi to give her\(^1\) a chance.’
The generalization for the environment of /tal/ (in Imperatives):

- $\text{SPEAKER}^i \ldots \text{SUBJ}_{\text{matrix}} \ldots \text{RECIPIENT}_{\text{MATRIX}}^1$
- $\text{SPEAKER}_{\text{matrix}}^i \ldots \text{DP}_{\text{dat}} \ldots [\text{RECIPIENT}_{\text{emb}}^i \ldots \text{DP}_{\text{acc}}]$
Theoretical Background
Distributed Morphology

- 'Distributed': division of labor between the components of Grammar. (Halle & Marantz, 1993; Harley & Noyer 1999)
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- Structure could be adjusted by morphological operation.

Suppletion under a locality constraint:

November 24th, 2017 15 / 46
Distributed Morphology

- 'Distributed': division of labor between the components of Grammar. (Halle & Marantz, 1993; Harley & Noyer 1999)

- Syntax only manipulates abstract morpho-syntactic feature.
- Structure could be adjusted by morphological operation.
- **Allomorph** may occur at Vocabulary Insertion, where phonological exponent is replaced during the derivation.
Allomorph in Distributed Morphology

**Linear adjacency hypothesis:** (Embick 2010)

A head $\alpha$ can trigger allomorphy on a head $\beta$ if:

1. $\alpha$ and $\beta$ are in the same spell out domain.
2. $\alpha$ and $\beta$ are linearly adjacent.
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(18) • a. $\checkmark \alpha- \beta$
   $\alpha$ can condition allomorphy on $\beta$

b. $\times \alpha- \gamma - \beta$
   $\alpha$ cannot condition allomorphy on $\beta$
Proposal
We claim that allomorphs selection should be conditioned by a local environment according to the competition.
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• We account for the local context for vocabulary insertion with assumed morphological operations:
We claim that allomorphs selection should be conditioned by a local environment according to the competition.

We account for the local context for vocabulary insertion with assumed morphological operations:

- Pruning rule (Embick 2010)
- Node-sprouting rule (Choi & Harley 2017)
Pruning Operation

(19) **PRUNING:** \(\sqrt{\text{Root}} \sim [x,\emptyset], [x,\emptyset] \sim Y \rightarrow \sqrt{\text{Root}} \sim Y\) (optional)
Pruning Operation

(20) **Pruning:** $\sqrt{\text{Root}} \triangleleft [x,\emptyset], [x,\emptyset] \triangleleft Y \rightarrow \sqrt{\text{Root}} \triangleleft Y$ (optional)

- Pruning rule **eliminate nodes with zero exponents** cyclically, from inside out, so that structurally/linearly non-adjacent nodes can also interact, if all the intervening nodes have zero exponent.
Pruning Operation

(21) **Pruning**: \( \sqrt{\text{Root}} \bowtie [x, \emptyset], [x, \emptyset] \bowtie Y \rightarrow \sqrt{\text{Root}} \bowtie Y \) (optional)

- Pruning rule **eliminate nodes with zero exponents** cyclically, from inside out, so that structurally/linearly non-adjacent nodes can also interact, if all the intervening nodes have zero exponent.
- We claim that this morphological operation is available in Korean, but it is rather weak.
Node-sprouting rule

(22) \( \text{HON}^0\)-sprouting rule: \( v^0 \rightarrow [v^0 \text{HON}^0] / [\text{DP}[+\text{HON}] [\ldots v^0 \ldots]] \)
Node-sprouting rule

(25) \( \text{HON}^0 \)-sprouting rule: \( v^0 \to [v^0 \text{HON}^0] / \text{DP}[+\text{HON}] [... v^0 ...] \)

- Adopting from Choi & Harley (2016), we propose that a sprouted \([+\text{HON}]\) agreement morpheme. \((\text{HON}^0)\) is adjoined to a \(v^0\) node c-commanded by an honorific nominative NP.
Node-sprouting rule

(28) $\text{HON}^0$-sprouting rule: $v^0 \rightarrow [v^0 \text{HON}^0] / [\text{DP}[+\text{HON}] [\ldots v^0 \ldots]]$

- Adopting from Choi & Harley (2016), we propose that a sprouted $[+\text{HON}]$ agreement morpheme. $(\text{HON}^0)$ is adjoined to a $v^0$ node c-commanded by an honorific nominative NP.
- $v^0$ is sprouted into $\text{HON}^0$ Head with $[+\text{HON}^0]$ feature, when the addressee (i.e. Conditioning DP) which c-commands the verb bears an honorific feature.
Node-sprouting rule

(31)  **HON\(^0\)**-sprouting rule: \( v^0 \rightarrow [v^0 \text{HON}\(^0\)] / [\text{DP}[+\text{HON}] [\ldots v^0 \ldots]] \)

- Adopting from Choi & Harley (2016), we propose that a sprouted \([+\text{HON}]\) agreement morpheme. \((\text{HON}\(^0\))\) is adjoined to a \( v^0 \) node c-commanded by an honorific nominative NP.
- \( v^0 \) is sprouted into \( \text{HON}\(^0\) \) Head with \([+\text{HON}\(^0\)]\) feature, when the addressee (i.e. Conditioning DP) which c-commands the verb bears an honorific feature.

(32)  after Spell-out

```
   v'
   /
  v
```
(34)  \( \text{HON}^0 \)-sprouting rule: \( v^0 \rightarrow [v^0 \text{HON}^0] / [\text{DP}[+\text{HON}] [... v^0 ...]] \)

- Adopting from Choi & Harley (2016), we propose that a sprouted \([+\text{HON}]\) agreement morpheme. \((\text{HON}^0)\) is adjoined to a \(v^0\) node c-commanded by an honorific nominative NP.
- \(v^0\) is sprouted into \(\text{HON}^0\) Head with \([+\text{HON}^0]\) feature, when the addressee (i.e. Conditioning DP) which c-commands the verb bears an honorific feature.

(35) after Spell-out
(36) Sprouted

\[
\begin{array}{c}
\text{v'} \\
\parallel \\
v
\end{array}
\]
This is the list of the vocabulary items corresponding to the lexical entries:

| a. | √GIVE | ⇔ | /tal/ | / DP_{DAT}[\pi:Speaker] \_\_\_ [IMP] |
| b. | | ⇔ | /tuli/ | / \_\_\_ DP_{DAT} [+HON] |
| c. | | ⇔ | /cwu/ | elsewhere |
| d. | [HON] | ⇔ | /si/ |
| e. | [PRS] | ⇔ | ∅ |
| f. | [NEG] | ⇔ | /mal/ | / \_\_\_ [IMP] |
| g. | [IMP] | ⇔ | /la/ |
Analysis
The context for /tal/ insertion

- The free variation between /tal/ and /cwu/ can be explained by executing Pruning operation, which applies on the T node with [PRS].
(7a) Step 1: Pruning
• In the case where it operates T node which has a zero exponents are pruned, the verb root and C head become in the local domain and $\sqrt{\text{GIVE}}$ is replaced as /tal/. 
(7b) Step 2: after PRUNING
(7c) Step 3: Vocabulary Insertion

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(7c) Step 3: Vocabulary Insertion

(\(\text{DP}_{\text{subj}}\)\))\textsubscript{i} \rightarrow (\text{vP})

\text{t}_i \rightarrow (\text{v'})

\rightarrow (\text{VP})

\rightarrow (\text{V'})

\rightarrow (\text{V})

\rightarrow (\text{V}_j)

\rightarrow (\text{/tal/})

\rightarrow (\text{DP}_{\text{obj}})

\rightarrow (\text{t}_j)
```
The optionality of Pruning

- Otherwise, it is optional and may fail to apply, too. T head intervenes between IMP and V, and thereby /cwu/ is realized depending on the subset principle.
(8a) Step 1: **Pruning** is Skipped

![Dependency tree diagram for (8a)](attachment:dependency-tree.png)
(8b) Step 2: before Vocabulary Insertion
(8c) Step 3: Vocabulary Insertion
Turning to the case where Addressee holds honorific feature. Due to the presence of $[+{\text{HON}}]$ feature, it triggers $v^0$ to be sprouted into $[v^0 \text{HON}^0]$. 
(9a) Step 1: Addressee has a [+Hon] feature
(9b) Step 2: $v^0$ is sprouted.
(9c) Step 3: Vocabulary Insertion

\[ \pi: \text{Speaker}^1 \]

Address: [+Hon]

\[ \text{Suppletion under a locality constraint:} \]

November 24\textsuperscript{th}, 2017 35 / 46
Negation blocks /tal/

- When the clause is negated, the Neg head intervenes between T and V heads, and thereby we only can get the elsewhere form /cwu/, as described in (10a)-(10b).
(10a) Step 1: the clause is negated

\[
\pi: \text{Speaker}^1
\]

\[
\text{SAP}
\]

\[
\text{SA'}
\]

\[
\text{SA}
\]

\[
\text{CP}
\]

\[
\text{TP}
\]

\[
\text{T'}
\]

\[
\text{T}
\]

\[
\text{NegP}
\]

\[
\text{Neg}
\]

\[
\text{vP}
\]

\[
\text{t}_i
\]

\[
\text{v'}
\]

\[
\text{v}
\]

\[
\text{V}
\]

\[
\text{v}_{j}\sqrt{\text{GIVE}}
\]

\[
\text{DP}_{rec}^1
\]

\[
\text{DP}_{obj}
\]

\[
\text{obj}
\]

\[
\text{rec}
\]

\[
\text{subj}
\]

\[
\pi
\]

Suppletion under a locality constraint: November 24th, 2017
(10b) Step 2: after **PRUNING**
The context for /tuli/ insertion

- As shown in (11a)-(11b) when the dative argument possess a [+Hon] feature, it triggers the other suppletive allomorph /tuli/.
- Otherwise, it is optional and may fail to apply, too. T head intervenes between IMP and V, and thereby /cwu/ is realized depending on the subset principle.
(11a) Step 1: Dative argument has a [+Hon] feature
(11b) Step 2: Vocabulary Insertion

\[ \pi: \text{Speaker}^1 \]

\[ \text{SAP} \]

\[ \text{SA}' \]

\[ \text{CP} \]

\[ \text{SA} \]

\[ \text{TP} \]

\[ \text{C} /\text{la}/ \]

\[ (\text{DP}_{\text{subj}})_i \]

\[ \text{TP} \]

\[ \text{T}' \]

\[ \text{T} \]

\[ (\text{DP}_{\text{subj}})_i \]

\[ \text{vP} \]

\[ \text{v}' \]

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Concluding remarks
Conclusion

- We have investigated three allomorphs of $\sqrt{\text{GIVE}}$ in Korean conditioned by non-local factors in the central tenant of DM.
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• We have investigated three allomorphs of \( \sqrt{\text{GIVE}} \) in Korean conditioned by non-local factors in the central tenant of DM.

• We have provided the analysis of these complex forms of suppletion and shown the further evidence that stringent locality constraint should be hold for suppletion for prima-facie examples.
Conclusion

- We have investigated three allomorphs of $\sqrt{\text{GIVE}}$ in Korean conditioned by non-local factors in the central tenant of DM.
- We have provided the analysis of these complex forms of suppletion and shown the further evidence that stringent locality constraint should be hold for suppletion for prima-facie examples.
- The (optional) free variation can be explained with the optional application of the morphological operation pruning, rather than by unifying the condition of insertion of the two exponent.
Other cross-linguistic data shows a similar pattern of free-variation:
Other cross-linguistic data shows a similar pattern of free-variation:

- Iraqw (Afro-Asiatic, Cushitic), (Mous 1993):
  - xawn
    come.here.2SG.IND
  - xawé
    come.here.2SG.IMP
  - qwalỳ
    come.here.2SG.IMP
References I
