Two Types of Serial Verb Constructions in Korean: Subject-Sharing and Index-Sharing

Juwon Lee
The University of Texas at Austin
juwonlee@utexas.edu

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1. Introduction (1/5)

• **Topic:** Serial verb constructions (SVCs) in Korean

• **Issue:** How the arguments of verbs are realized in SVCs.


• The verbs of an SVC share **the object** or **an internal argument** (e.g. themes, instruments, goals) (Baker 1989, Collins 1997).
1. Introduction (2/5)

• In the canonical Korean SVC (1), verbs share the **subject** and the **object**.

(1) akma-ka wenswungi-lul cap-a mek-ess-ta.
    demon-Nom monkey-Acc catch-Comp eat-Pst-Dec
    ‘The demon caught the monkey and then ate it.’

• But in (2) only the **subject** is shared (contra Baker 1989, Collins 1997).

(2) Jane-i hakkyo-ey Tom-ul chc-a ka-ss-ta.
    Jane-Nom school-To Tom-Acc search.for-Comp go-Pst-Dec
    ‘Jane went to the school searching for Tom.’
1. Introduction (3/5)

• The passive counterparts of (1) in (3) and (4) violate the subject-and object-sharing, and the argument saturation.

(3) wenswungi-ka akma-eykey cap-a mek-hi-ess-ta.
monkey-Nom demon-By catch-Comp eat-Pass-Pst-Dec
‘The monkey was caught and then eaten by the demon.’

(4) wenswungi-ka akma-eykey cap-hi-e mek-ess-eyo.
monkey-Nom demon-By catch-Pass-Comp eat-Pst-Dec
‘The monkey was caught and then eaten by the demon.’
1. Introduction (4/5)

• In (3) and (4), only the passive verb can take the subject and complement due to the **CASE values** of the arguments.

• In (1), *cap-* ‘catch’ shares the nominative subject with *mek-* ‘eat’, but in (3), *cap-* ‘catch’ does not have its nominative subject.

• The same kind of problem applies to *mek-* ‘eat’ in (4).

• The SVCs in (3) and (4) are **not idiomatic, but compositional** (with the constructional meaning of the SVCs, a sequence).
1. Introduction (5/5)

• The SVCs in (3) and (4) are predicted to be ill-formed in the literature, but they are well-formed SVCs.

• In this paper I propose two hypotheses:

  i) Two types of Korean SVCs: subject-sharing SVC and index-sharing SVC

  ii) A semantic argument sharing is a general requirement of SVCs in Korean.

• I also argue that an argument composition analysis can accommodate the data like (4) with ease compared to alternative derivational analyses.
2. Existence of index-sharing SVCs (1/6)

- **Hypothesis 1**: the sentences like (4) are real SVCs, but not coordination- or subordination-like construction.

- **Empirical grounds**: i) lexical passive SVCs like (4) are found in the Web and ii) most participants (8 out of 11) judged (4) acceptable. But (5) was judged unacceptable by most participants (8 out of 11).

(4) wenswungi-ka akma-eykey **cap- hi-e** **mek- ess-eyo**.
monkey-Nom demon-By catch-Pass-Comp eat-Pst-Dec
‘The monkey was caught and then eaten by the demon.’

(5) *wenswungi-ka akma-eykey **ccic- ki-e** **mek- ess-eyo**.
monkey-Nom demon-By tear-Pass-Comp eat-Pst-Dec
(int.) ‘The monkey was torn and then eaten by the demon.’
2. Existence of index-sharing SVCs (2/6)

- About half the participants judged the sentences in (6) and (7) acceptable.

(6) wenswungi-ka akma-eykey ssip-hi-e mek-ess-eyo.
monkey-Nom demon-By chew-Pass-Comp eat-Pst-Dec
‘The monkey was chewed and then eaten by the demon.’

(7) ku-uy phi-ka akma-eykey ppal-li-e mek-ess-eyo.
he-Gen blood-Nom demon-By suck-Pass-Comp eat-Pst-Dec
(lit.) ‘His blood was sucked and then eaten by the demon.’
2. Existence of index-sharing SVCs (3/6)

- SVCs involving more than two verbs systematically have at least one index sharing:

(8) wenswungi-ka akma-eykey **cap-a** mek-**hi-e** cwuk-ess-eyo.
  monkey-Nom demon-By catch-Comp eat-Pass-Comp die-Pst-Dec
  ‘The monkey was caught and then eaten by the demon and then died.’

(9) wenswungi-ka akma-eykey **cap-hi-e** mek-**e** cwuk-ess-eyo.
  monkey-Nom demon-By catch-Pass-Comp eat-Comp die-Pst-Dec
  ‘The monkey was caught and then eaten by the demon and then died.’

- So some constructions like (4) are well-formed sentences (at least for some speakers).
2. Existence of index-sharing SVCs (4/6)

• The sentences like (4) also have typical SVC properties.

• First, the **negative marker** *an* before V1 (i.e. Short Form Negation) scopes over the whole verbal serialization:

(10) wenswungi-ka akma-eykey **an** cap-hi-e **mek**-ess-eyo.
monkey-Nom demon-By Neg catch-Pass-Comp eat-Pst-Dec
‘It is not the case that the monkey was caught and then eaten by the demon.’
2. Existence of index-sharing SVCs (5/6)

• Second, an **adverb** cannot appear in between V1 and V2:

(11) *wenswungi-ka akma-eykey
    monkey-Nom demon-By
    cap-hi-e ppalli mek-ess-eyo.
    catch-Pass-Comp quickly eat-Pst-Dec
(int.) ‘The monkey was caught and then quickly eaten by the demon.’
• Third, V1 cannot have a separate tense marking:


monkey-Nom demon-By catch-Pass-Pst-Comp eat-Pst-Dec
(int.) ‘The monkey was caught and then eaten by the demon.’

• So it seems plausible to consider some sentences like (4) as genuine SVCs.
3. An argument sharing in SVCs (1/3)

- **Hypothesis 2**: an index sharing (i.e. a semantic argument sharing) is necessary for SVCs in Korean.

- The **coordination** in (13) and **subordination** in (14) do not have an index sharing.

    Jenny-Nom water.Acc buy-Pst-Conj Tom-Nom pizza.Acc buy-Pst-Dec
    ‘Jenny bought the water, and Tom bought the pizza.’

(14) Mary-ka Tom-i ttokttokhata-ko sayngkakhay-ss-ta.
    Mary-Nom Tom-Nom smart-Comp think-Pst-Dec
    ‘Mary thought that Tom was smart.’
3. An argument sharing in SVCs (2/3)

- Some constructions that have an index sharing are not SVCs:

(15) ku-nun  o-ko  siph-ta.  (Auxiliary construction)  
    he-Top  come-Comp  want-Dec  
    ‘He wants to come.’

(16) ku-ka  o-n-ta-ko  yaksokhay-ss-ta.  (Subject control)  
    he-Nom  come-Pres-Dec-Comp  promise-Pst-Dec  
    ‘He promised to come.’
3. An argument sharing in SVCs (3/3)

(17) ku-ka Mary-lul o-tolok kangyohay-ss-ta. (Object control)
he-Nom Mary-Acc come-Tolok force-Pst-Dec
‘He forced Mary to come.’

• The Short Form Negation of coordination, subordination, auxiliary construction, and controls cannot have a wide scope unlike SVCs.

• So a semantic argument sharing does not entail SVCs.

• In sum, no index sharing seems to entail non-SVCs in Korean, which supports the necessity of an index sharing in Korean SVCs.
4. Different approaches (1/5)

- Two different underlying sentences are combined to derive an SVC (e.g. Stewart 1963, Bamgose 1974).

- If this is true, in order to generate (4), an ill-formed sentence like (18b) should be licensed first:

(18) a. wenswungi-ka akma-eykey cap-hi-ess-ta.
    monkey-Nom demon-By catch-Pass-Pst-Dec

    monkey-Nom demon-By eat-Pst-Dec

- Or, the analysis should invent a complex derivational system to license SVCs like (4).
4. Different approaches (2/5)

- **Baker** (1989): SVCs requires the **object sharing**, and the component verbs co-head the shared object. But object sharing is not required in Korean SVCs.

- **Collins** (1997): the **internal argument sharing** is the requirement of SVCs in Ewe, and V2 combines with an empty category coindexed with the explicit object of V1. But the internal argument sharing is not required in Korean SVCs.

- Also, it is not clear how the passive V2 in (3) assigns its **CASE values** to the explicit complement: if we assume that V2 somehow assigns its CASE values to the explicit complements to account for (3), then we also need to explain why in (4) V2 may not assign its CASE value to the explicit complement.
4. Different approaches (3/5)

- **Choi** (2003) assumes that the SVCs like (4) are ill-formed. However, it seems plausible to consider them genuine SVCs (at least for some speakers), as illustrated above.

- According to Choi (2003), the subject and object of V1 are moved to the subject and object of V2, respectively.

- Then how are the subject and object of V1 in (3) moved to the oblique complement and subject of V2, respectively?

- And how are the **CASE values** of V1 in (3) changed to the CASE values of V2? Also it should account for how in (4) V2 may not assign its CASE values to the moved arguments unlike V2 in (3).
4. Different approaches (4/5)

- **Sohn and Ko** (2010) categorize the SVCs like (3) as L(ow)-SVC and analyze it as involving the passive form of the verbal serialization (i.e. \[cap-a\mek\]-hi).

- Then they argue for **Distributed Morphology** (i.e. the morphology and the syntax are intertwined).

- However, the data like (4) seem to be a considerable problem for their analysis, although (4) may not necessarily falsify Distributed Morphology.
4. Different approaches (5/5)

- I do not prove that a new derivational analysis accommodating the data like (4) is impossible.

- But an argument composition analysis (e.g. Andrews 1997, Chung and Kim 2008, Kim 2010) can account for the lexical passive SVCs like (4) with ease.

- We can simply add a new SVC type of lexical passive SVCs requiring that the arguments of active verb be coindexed with those of passive verb and only the subject and complements of the passive verb be passed up to the subject and complements of the resulting combination, respectively, in a similar manner of controls.
A VP- or S-complement analysis violates the locality constraint of CASE assignment of, say, the passive V2 in (3) to its complements.

(3) wenswungi-ka [[akma-eykey cap-a] mek-hi-ess-ta].
monkey-Nom demon-By catch-Comp eat-Pass-Pst-Dec
‘The monkey was caught and then eaten by the demon.’

Passive lexemes with active form (e.g. mek-1 ‘eat’ vs. mek-2 ‘be eaten’) may be posited or generated by a lexical rule, but this seems to lack independent motivation.

So I develop a constructional approach based on argument composition analysis.
5. HPSG formalization (2/15)

- I assume that the passive lexeme is generated by the Passive Lexical Rule adopted from Sag et al. (2003) and Kim (2004).

(19) Passive Lexical Rule:

\[
\begin{align*}
\text{INPUT} & \left[ \begin{array}{c}
1, \\
\text{ARG-ST} \left\langle \text{NP}_i, \text{NP}_j, \ldots \right\rangle \\
\text{CONT} \ 2
\end{array} \right] \\
\text{OUTPUT} & \left[ \begin{array}{c}
F_{\text{PASS}} \left( \begin{array}{c}1 \end{array} \right), \\
\text{ARG-ST} \left\langle \text{NP}_j, \text{NP}_i, \ldots \right\rangle \\
\text{CONT} \ 2
\end{array} \right]
\end{align*}
\]
5. HPSG formalization (3/15)

- (20b) is generated from (20a) via the Passive Lexical Rule.

(20) a. \textit{cap}- ‘catch’:

\[
\begin{align*}
\text{PHON } & \text{cap–} \\
\text{PASSIVE } & \text{–} \\
\text{ARG-ST } & \langle \text{NP}_i, \text{NP}_j \rangle \\
\text{RELS< } & \begin{bmatrix}
\text{catch\_rel} \\
\text{ARG1}_i \\
\text{ARG2}_j
\end{bmatrix} > \\
\end{align*}
\]

b. \textit{cap-hi}- ‘caught’:

\[
\begin{align*}
\text{PHON } & \text{cap–hi–} \\
\text{PASSIVE } & \text{+} \\
\text{ARG-ST } & \langle \text{NP}_j, \text{NP}_i \rangle \\
\text{RELS< } & \begin{bmatrix}
\text{catch\_rel} \\
\text{ARG1}_i \\
\text{ARG2}_j
\end{bmatrix} > \\
\end{align*}
\]
5. HPSG formalization (4/15)

- Other lexemes relevant to the SVCs under discussion:

(21) a. *mek* - ‘eat:

\[
\begin{align*}
\text{PHON } & \text{mek--} \\
\text{PASSIVE } & \text{--} \\
\text{ARG-} & \text{NP}_i, \text{ NP}_j \\
\text{REL}_< & \text{ eat _ rel} \\
\text{ARG}_1 & \text{i} \\
\text{ARG}_2 & \text{j}
\end{align*}
\]

b. *mek-hi* - ‘eaten’:

\[
\begin{align*}
\text{PHON } & \text{mek--hi--} \\
\text{PASSIVE } & \text{+} \\
\text{ARG-} & \text{NP}_j, \text{ NP}_i \\
\text{REL}_< & \text{ eat _ rel} \\
\text{ARG}_1 & \text{i} \\
\text{ARG}_2 & \text{j}
\end{align*}
\]
5. HPSG formalization (5/15)

(22) a. * chc- ‘search for’:

```
[PHON chc- 
PASSIVE -
ARG-ST ⟨NP_i, NP_j⟩
RELS_< search_for_rel
ARG1 i
ARG2 j
>]
```

b. * ka- ‘go:

```
[PHON ka- 
PASSIVE -
ARG-ST ⟨NP_i, NP_j⟩
RELS_< go_rel
ARG1 i
ARG2 j
>]
```
5. HPSG formalization (6/15)

- In the type hierarchy of SVCs, I state in (23) the generalization of an argument sharing (the structure-shared [2]) as constraint on the type \textit{hd-svc} with the final verb as the morphosyntactic head.

\begin{equation}
\text{(23) } \textit{hd-svc}
\end{equation}

\[
\begin{array}{c}
\text{HD-DTR } < 1 > \\
\text{DTRS } < \begin{bmatrix}
\text{nonstatic-v} \\
\text{REL} < [\text{ARG1 2}] >
\end{bmatrix}, 1 \begin{bmatrix}
\text{nonstatic-v} \\
\text{REL} < [\text{ARG1 2}] >
\end{bmatrix} > \\
\text{C-CONT} \begin{bmatrix}
\text{REL} < [\text{svc_re1}] >
\end{bmatrix}
\end{array}
\]
5. HPSG formalization (7/15)

- I claim the type *hd-svc* in (23) has two *subtypes*:

(24) \[ \text{hd-subj-sharing-svc} \]
    \[
    \begin{aligned}
    \text{SUBJ} & < 1 > \\
    \text{DTRS} & < \left[ \text{SUBJ} < 1 > \right], \left[ \text{SUBJ} < 1 > \right] > 
    \end{aligned}
\]

(25) \[ \text{hd-index-sharing-svc} \]
    \[
    \begin{aligned}
    \text{SUBJ} & < 1 > \\
    \text{COMPS} & < 2 > \\
    \text{DTRS} & < ..., \left[ \text{SUBJ} < 1 \text{NP}[nom] 4 > \right], ..., > \\
    \text{HEAD} & \mid \text{PASSIVE} + \\
    \text{COMPS} & < 2 \text{NP}[by] 3 > \\
    \text{RELs} & < \left[ \text{ARG1} 3 \right], \left[ \text{ARG1} 3 \right] > \\
    \end{aligned}
\]
5. HPSG formalization (8/15)

- The type *hd-subj-sharing-svc* in (24) in turn has two subtypes:

\[(26) \begin{align*}
hd\text{-}non\text{-}comps\text{-}sharing\text{-}svc \\
\text{COMPS} & \left[ A \oplus B \right] \\
\text{DTRS} & \left< \left[ \text{COMPS} \ A \right], \left[ \text{COMPS} \ B \right] \right> 
\end{align*}\]

\[(27) \begin{align*}
hd\text{-}comps\text{-}sharing\text{-}svc \\
\text{COMPS} & \left< 1 > \oplus A \oplus B \right> \\
\text{DTRS} & \left< \left[ \text{COMPS} \left< 1 > \oplus A \right> \right], \left[ \text{COMPS} \left< 1 > \oplus B \right> \right] \right> 
\end{align*}\]
5. HPSG formalization (9/15)

• The type \textit{hd-index-sharing-svc} in (25) also has its subtypes:

\begin{align*}
\vspace{1em}
\text{(28)} \quad & \begin{bmatrix}
hd\text{-first}\text{-passive}\text{-svc} \\
\text{DTRS} < \text{[PASSIVE +], [PASSIVE -]} >
\end{bmatrix} \\
\vspace{1em}
\text{(29)} \quad & \begin{bmatrix}
hd\text{-second}\text{-passive}\text{-svc} \\
\text{DTRS} < \text{[PASSIVE -], [PASSIVE +]} >
\end{bmatrix}
\end{align*}
5. HPSG formalization (10/15)

- The type hierarchy of Korean SVCs:

(30)

\[ \text{hd-svc} \]

\[ \text{hd-subj-sharing-svc} \quad \text{hd-index-sharing-svc} \]

\[ \text{hd-comps-sharing-svc} \quad \text{hd-first-passive-svc} \]

\[ \text{hd-non-comps-sharing-svc} \quad \text{hd-second-passive-svc} \]
5. HPSG formalization (11/15)

(31) The verbal serialization [cap-a mek-ess-ta] in (1)

```
hd - comps - sharing - svc
SUBJ < [2] >
COMPS < [3] >
HD-DTR < [1] >

DTRS <
PHON cap-a
PASSIVE -
RELS< [catch_rel]
ARG1 i
ARG2 j>
C-CONT [RELS< [svc_rel] >]

PHON mek-ess-ta
PASSIVE -
SUBJ < [2] >
COMPS < [3] >
RELS< [eat_rel]
ARG1 i
ARG2 j>
```
5. HPSG formalization (12/15)

(32) The verbal serialization \([\text{chc-a ka-ss-ta}]\) in (2)

\[
hd-\text{non-comps-sharing-svc}
\]

\[
\begin{align*}
\text{SUBJ} & < 2 > \\
\text{COMPS} & < 3, 4 > \\
\text{HD-DTR} & < 1 > \\
\text{PHON} & \text{PHON} \\
\text{PASSIVE} & - \\
\text{SUBJ} & < 2 \text{NP}[\text{nom}]_i > \\
\text{COMPS} & < 3 \text{NP}[\text{acc}]_j > \\
\text{DTRS} & < \\
\text{REL}\text{S} & < \text{search_for}_{-}\text{rel} > \\
\text{ARG1} & i \\
\text{ARG2} & j \\
\text{C-CONT} & \text{REL}\text{S} < [\text{svc}_{-}\text{rel}] > \\
\text{PHON} & \text{PHON} \\
\text{PASSIVE} & - \\
\text{SUBJ} & < 2 > \\
\text{COMPS} & < 4 \text{NP}[\text{to}]_k > \\
\text{REL}\text{S} & < \text{go}_{-}\text{rel} > \\
\text{ARG1} & i \\
\text{ARG2} & k \\
\end{align*}
\]
5. HPSG formalization (13/15)

(33) The verbal serialization \([\text{cap-a mek-hi-ess-ta}]\) in (3)

\[
\begin{align*}
\text{hd-second-pассив-svc} & \\
\text{SUBJ} & < 2 > \\
\text{COMPS} & < 3 > \\
\text{HD-DTR} & < 1 > \\
\phantom{\text{DTRS}} & < \\
\text{PHON cap-a} & \\
\text{PASSIVE} & - \\
\text{SUBJ} & < \text{NP}[\text{nom}]_i > \\
\text{COMPS} & < \text{NP}[\text{acc}]_j > \\
\text{REL} & < \text{catch_rel} \\
\text{ARG1} & i \\
\text{ARG2} & j \\
\text{C-CONT} & \left[ \text{REL} < [\text{svc}_\text{rel}] > \right]
\end{align*}
\]
5. HPSG formalization (14/15)

(34) The verbal serialization [cap-hi-e mek-ess-eyo] in (4)

```
hd - first - passive - svc
SUBJ < 2 >
COMPS < 3 >
HD-DTR < 1 >

DTRS < PHON cap-hi-e
      PASSIVE +
      SUBJ < 2 [np[nom]_j ] >
      COMPS < 3 [np[by]_i ] >
      RELS < catch_rel
             ARG1 i
             ARG2 j
      >

C-CONT [ RELS < [ svc_rel ] > ]
```

```
PHON mek-ess-eyo
PASSIVE -
SUBJ < np[nom]_i ] >
COMPS < np[acc]_j ] >
REL'S< [ eat_rel
       ARG1 i
       ARG2 j
   ]
```
5. HPSG formalization (15/15)

(35) Another verbal serialization [cap-hi-e mek-hi-ess-ta]

\[
\begin{align*}
\text{hd–comps–sharing–svc} & \\
\text{SUBJ} & < 2 > \\
\text{COMPS} & < 3 > \\
\text{HD-DTR} & < 1 > \\
\text{DTRS} & < \\
\text{PHON cap–hi–e} & \\
\text{PASSIVE +} & \\
\text{SUBJ} & < 2 \text{NP}[nom]_j > \\
\text{COMPS} & < 3 \text{NP}[by]_i > \\
\text{RELS} & < \text{catch}_\text{rel} \text{ARG1}_i \text{ARG2}_j > \\
\text{C-CONT} & \left[ \text{RELS} < \text{svc}_\text{rel} > \right]
\end{align*}
\]

\[
\begin{align*}
\text{PHON mek–hi–ess–ta} & \\
\text{PASSIVE +} & \\
\text{SUBJ} & < 2 > \\
\text{COMPS} & < 3 > \\
\text{RELS} & < \text{eat}_\text{rel} \text{ARG1}_i \text{ARG2}_j > \\
\end{align*}
\]
6. Conclusion (1/1)

- I added the new type of **index-sharing SVCs** in Korean.

- In a Korean SVC, V1 and V2 must share a **semantic argument** rather than the subject, the object, or an internal argument.

- I supported **the argument composition analysis**.

- Cultural factors and cross-linguistic validity?