Korean Serial Verb Constructions: A Constructional Approach

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1. General Properties of Korean SVCs

The so-called serial verb constructions (SVC hereafter) is peculiar in that even though more than one verb appear in the constructions, only a single overall event is involved (Sebba 1987, Schiller 1990, Baker 1989, 1991, Zubizarreta and Oh 2007).

(1)   a. 줄을 끌어 당기다.
        b. 고기를 구워 먹었다.

Even though the sentences here involve two verbs, each denotes a single event: the event of pulling up a rope and of roasting and eating a meat.

In terms of formal properties the SVC constructions have a succession of verbs and their complements (if any), which share one subject and one tense value.

● sharing the subject

(2)   a. *존이 메리가 줄을 끌어 당겼다.
        b. *존이 메리가 고기를 구워 먹었다.

● sharing the object

(3)   a. *존이 밧줄을 쇠줄을 끌어 당겼다.
        b. *존이 고기를 생선을 구워 먹었다.
        c. *존이 고기를 구워 생선을 먹었다.

● one tense

(4)   *존이 어제 고기를 구워 먹을 것이다.

The distribution of an NPI like *amwukesto* 'nothing' also shows that the serial verbs carry only one event that can be negated by either the short form negation or the long form negation, entailing that (3) have a mono-clausal structure:

(5)   a. 존이 아무것도 안 구워 먹었다.

          b. 존이 아무것도 구워 먹지 않았다.

However, when an adverb intervenes between the verbs, the NPI cannot be licensed by the long form negation, showing that (4) have a bi-clausal structures.

(6)   a. 존이 아무것도 구워 (*빨리) 먹지 않았다.

          b. 존이 아무것도 찢어 (*마구) 버리지 않았다.

As another canonical formal property of the SVCs, Korean SVCs also show that the preceding verb is not marked by any overt marker of coordination or subordination (adapted from Collins 1997:462; see also Jansen et al. 1978, Sebba 1987).

Even though the Korean SVCs share such formal properties, as observed by Z & O (2007) and Lee (1992) and others, the SVCs have several sub-constructions with their own constructional properties. In this paper, we accept the view that Korean SVCs can be classified into at least into two major types: Simultaneous SVC (SSVC) and Consequential SVC (CSVC). (following Z&O). The former type is also classified into three main types depending on which verb is the argument head. Given these formal classifications, we provide a construction-based HPSG approach to deal with these types.

2. Constructions of the Korean SVCs

Korean SVCs can be classified into Simultaneous SVC (SSVC) and Consequential SVC (CSVC) depending on the semantics of the SVC. In the SSVC, the events denoted by the two verbs happen simultaneously. The SSVC can be classified into three subtypes depending on which one is the argument head (a-head). In the CSVC, the two events happen in sequence.

(7) Simultaneous SVCs
      Type 1: 고기를 씹어 먹었다.
      Type 2: 동생을 찾아 나섰다.
      Type 3: 친구를 돌려 보냈다.

(8) Consequential SVC

       고기를 구어 먹었다.

2.1 Argument Head

Simultaneous SVC

● Type 1: V1 and V2 are independent a-heads. V1 is a manner of the V2 motion.

(9)   a. 줄을 끌어 당기다.
          b. 줄을 끌다.
          c. 줄을 당기다.

(10)   a. 고기를 씹어 먹었다.
          b. 고기를 씹었다.
          c. 고기를 먹었다.

● Type 2: V1 is the a-head. V1 seems to be the purpose of V2 motion.

(11)   a. 메리가 동생을 찾아 나섰다.
          b. 메리가 동생을 찾았다.
          c. *메리가 동생을 나섰다.

(12)   a. 쥐를 몰아 넣었다.
          b. 쥐를 몰았다.
          c. ??쥐를 넣었다.

(13)   a. 사람들이 피아노를 올려/내려/내/들여 갔다/왔다.
          b. 사람들이 피아노를 올렸다/내렸다/??냈다/들였다.
          c. *사람들이 피아노를 갔다/왔다.

This type appears to behave like the auxiliary verb construction in that V1 is not omissible when its complement exists. However, V1 is omissible when its complement is also omitted:

(14)   a. 메리가 (동생을 찾아) 나섰다.
          b. 메리가 이층에 (피아노를 올려) 갔다.

Such omission is not possible at all in the auxiliary verb construction:

(15)   a. 내가 *(사과를 먹고) 싶었다.
        b. 메리가 *(사과를 먹어) 보았다.

● Type 3: V2 is the a-head. V1 is a manner of the V2 motion.

(16)   a. 메리가 존을 돌려 보냈다.
        b. *메리가 존을 돌렸다.
        c. 메리가 존을 보냈다.

(17)   a. 학교에 걸어/뛰어/기어 갔다/왔다.
        b. *학교에 걸었다/뛰었다/기었다.
        c. 학교에 갔다/왔다.

(18)   a. 강을 헤엄쳐 건넜다.
        b. *강을 헤엄쳤다.
        c. 강을 건넜다.

Consequential SVC

● V1 and V2 are independent a-heads.

(19)   a. 고기를 구워 먹었다.
        b. 고기를 구었다.
        c. 고기를 먹었다.

(20)   a. 편지를 찢어 버렸다.
        b. 편지를 찢었다.
        c. 편지를 버렸다.

Summary of this section:

(21)

		argument head	instances
SSVC	type 1	V1, V2	줄을 끌어 당기다/고기를 씹어 먹다
	type 2	V1	쥐를 몰아 넣다/동생을 찾아 나서다
	type 3	V2	존을 돌려 보내다/학교에 걸어 가다
CSVC	type 1	V1, V2	고기를 구워 먹다/편지를 찢어 버리다

2.2 Adverb Modification and Semantic Headedness in the SVC

It is generally agreed that the morpho-syntactic head of the SVC is the final verb, where all kinds of verbal inflections occur, such as tense, mood, and honorification. So the issue here is which one is the semantic head. In the SVC, each verb carries its own meaning and thus separate modification of each verb is possible in principle. Then the issue may arise as to which one is the semantic head.

According to Z&O (2007), in a Consequential SVC (CSVC),[1] V1 functions semantically as the matrix event (i.e., semantic head) and V2 as the subordinate event. So in this construction, an adverb modifies V1 but not V2:

(22)   존이 생선을 빨리 잡아 먹었다.

Z&O claims that here the adverb *ppalli* 'quickly' modifies only V1, *capa* 'catch'. In contrast, in a Simultaneous SVC (SSVC),[2] V2 is proposed to function semantically as the matrix event and V1 as an adjunct. Thus an adverb modifies only V2:

(23)   a. 존이 호수를 완전히 헤엄쳐 건넜다.
         b. *완전히 헤엄치다.
         c. 완전히 건너다.

However, when we carefully consider other modification possibilities, the determination of the semantic head is not that simple since we can easily observe many counterexamples against

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[1] Here the event represented by V1 is a necessary condition for the event represented by V2.

[2] Here the events represented by V1 and V2 occur simultaneously.

the proposed simple dichotomy. For example, let us consider the following example of CSVC from Z&O, *capa tangkita* 'catch and pull':

(24)   a. *줄을 점점 잡았다.
      b. 줄을 점점 당기다.
      c. 줄을 점점 잡아 당기다.

As shown in (24a), the achievement verb *cap* 'catch' does not represent an action with subinterval and cannot be modified by a gradual adverb like *cemcem* 'gradually/inch by inch'. In contrast, the verb *tangki* 'pull' carries such a subinterval meaning and is compatible with the gradual adverb as shown in (10b). The combination of the two verbs *capa tangkita* 'catch and pull' can be modified by *cemcem* as shown in (10c), which may entail that the semantic head is V2 pace Z&O.

    In contrast, when the same V-V combination is modified by a different type of adverb, e.g., a manner adverb like *kkoak* 'firmly/tightly', only V1 can be modified:

(25)   a. 꽉 잡다.
      b. *꽉 당기다.
      c. 꽉 잡아 당기다.

The observations in (24) and (25) show that we cannot determine the semantic headedness simply based on the adverbial modifiability.

    The same problem also arises from their SSVC analysis. According to Z&O, V2 here functions semantically as the matrix event, which is solely modifiable by an adverb. However, the following examples show that a manner adverb can modifies only V1 even in the SSVC, contrary to their proposal:

(26)   a. 토끼가 깡충 뛰어 올랐다
      b. 깡충 뛰다
      c. *깡충 올랐다.

The following table shows more examples where an adverbial can modify either verb in each type:

(27)

		modification of V1	modification of V2
SSVC	type 1	고기를 <u>자근자근</u> 씹어 삼켰다.	고기를 <u>꿀꺽</u> 씹어 <u>삼켰다</u>.
		줄을 <u>질질</u> 끌어 당겼다.	줄을 <u>갑자기</u> 끌어 <u>당겼다</u>.
	type 2	쥐를 <u>살살</u> 몰아 넣었다.	쥐를 <u>구석에</u> 몰아 <u>넣었다</u>.
		동생을 <u>샅샅이</u> 찾아 나섰다.	동생을 <u>집밖으로</u> 찾아 <u>나섰다</u>.
	type 3	병아리가 <u>종종</u> 걸어 갔다.	존이 <u>학교에</u> 걸어 <u>갔다</u>.
CSVC	type 1	고기를 <u>덜</u> 구워 먹었다.	고기를 <u>게걸스럽게</u> 구워 <u>먹었다</u>.

To summarize, it is not plausible to decide which one is the semantic head solely based on the adverb modification possibilities. A more important issue here seems rather to explore a flexible system where an adverb can modify either of the serial verbs or the whole V-V complex whenever the semantics is appropriate.

2.3 Negation Scope in the SVC

The short or long form negation can scope over the whole V-V complex or only V1. The issue is how we can account for the negation scope over only V1. Examples showing the negation scope over V1 are as follows:

(28)　　a. 줄을 끌어 당기지 않고 잡아 당겼다.
　　　　b. 고기를 씹어 먹지 않고 갈아 먹었다.
　　　　c. 학교에 걸어 가지 않고 뛰어 갔다.
　　　　d. 편지를 찢어 버리진 않고 구겨 버렸다.

2.4 Related Constructions

There are other V-V sequence constructions, which are not considered as instances of the genuine SVC's.

● Auxiliary Verb Constructions
Here V2 carries only an aspectual or modal meaning rather than the verb's literal meaning, and thus V1 is always required:

(29)　　a. 먹어 보았다.
　　　　b. 치워 놓았다
　　　　c. 어두워 갔다

There is a strong bond between V1 and V2 in this construction, and thus no syntactic element can intervene between V1 and V2:[3]

(30)　　a. *먹어 안 버리다
　　　　b. *치워 깨끗이 놓았다.
　　　　c. *어두워 점점 갔다.

● Lexical Compound: V1 and V2 are co-dependent a-heads. They have an idiomatic meaning and may be analyzed as a compound.

(31)　　a. 약속을 까먹었다.
　　　　b. *약속을 깠다.
　　　　c. *약속을 먹었다.

(32)　　a. 존을 구어 삶았다.
　　　　b. *존을 구었다.
　　　　c. *존을 삶았다.

(33)　　a. 건물이 내려 앉았다.
　　　　b. *건물이 앉았다.
　　　　c. *건물이 내렸다.

The V2 in the AUX and compound constructions cannot be repeated in the echo construction:

(34)　　a. *고기를 먹어 보긴 보았다.
　　　　b. *치워 놓기는 놓았다.
　　　　c. *어두워 가긴 갔다.

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[3] In our analysis, *nayta* 'put something out' can be considered as an auxiliary verb, which does not exist as an independent word in the contemporary Korean and carries only an aspectual meaning:

(i) a. 메리가 존을 쫓아 냈다.
　　 b. 메리가 존을 쫓았다.
　　 c. *메리가 존을 냈다.

(35)   a. *약속을 까 먹기는 먹었다.
        b. *존을 구어 삶기는 삶았다.
        c. *?? 건물이 내려 앉기는 앉았다.

A delimiter cannot intervene between V1 and V2 in the compound whereas such intervention is allowed in the AUX construction:

(36)   a. *약속을 까만 먹었다.
        b. *존을 구어만 삶았다.
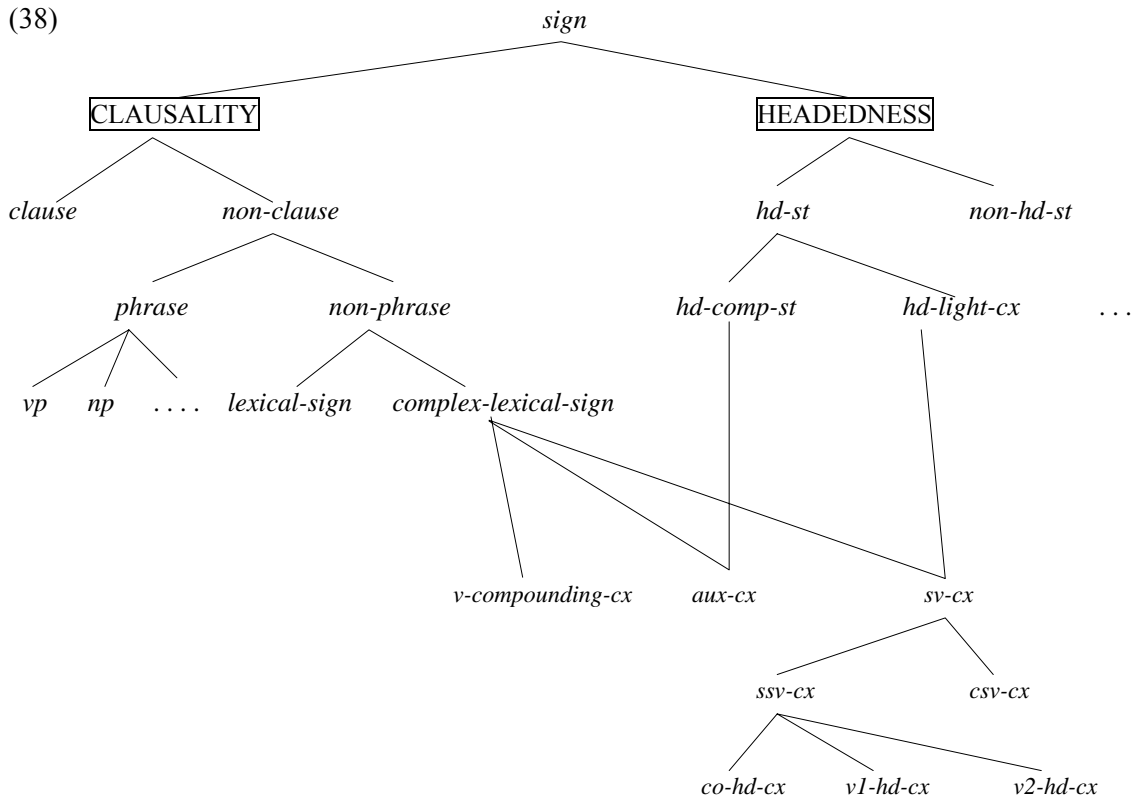   c. ??건물이 내려만 앉았다.

(37)   a. 먹어만 보았다.
        b. 치워는 놓았다.
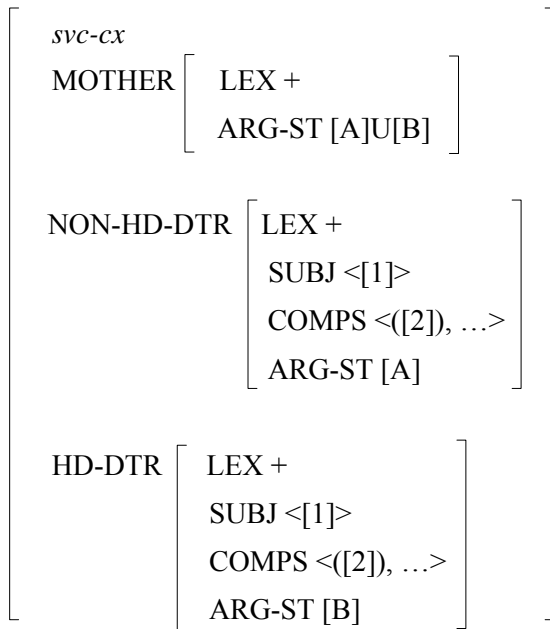   c. 어두워만 갔다.

3. A Construction-Based Approach

3.1 Type Hierarchy

Our analysis assumes the following type hierarchy for Korean that is adopted from Chung (1997) and Kim (2002).

(38)

```
                          sign
         ┌─────────────────┴─────────────────┐
    CLAUSALITY                           HEADEDNESS
     ┌──────┴──────┐                    ┌──────┴──────┐
  clause      non-clause             hd-st        non-hd-st
            ┌──────┴──────┐         ┌────┴────┐
         phrase      non-phrase  hd-comp-st  hd-light-cx   . . .
        ┌──┼──┐      ┌────┴────┐
       vp  np ....  lexical-sign  complex-lexical-sign
```

v-compounding-cx   *aux-cx*   *sv-cx*

```
                    ┌──────┴──────┐
                 ssv-cx        csv-cx
              ┌────┼────┐
         co-hd-cx  v1-hd-cx  v2-hd-cx
```

(39) Constraints on the SVCs:

$$
\begin{bmatrix}
\textit{svc-cx} \\
\text{MOTHER} \begin{bmatrix} \text{LEX} + \\ \text{ARG-ST [A]U[B]} \end{bmatrix} \\
\text{NON-HD-DTR} \begin{bmatrix} \text{LEX} + \\ \text{SUBJ} <[1]> \\ \text{COMPS} <([2]), \dots> \\ \text{ARG-ST [A]} \end{bmatrix} \\
\text{HD-DTR} \begin{bmatrix} \text{LEX} + \\ \text{SUBJ} <[1]> \\ \text{COMPS} <([2]), \dots> \\ \text{ARG-ST [B]} \end{bmatrix}
\end{bmatrix}
$$

● A delimiter can be attached

  -

(40)   씹어는 먹었다./찾아는 나섰다./돌려는 보냈다.

● A pre-verb adverb can occur

(41)   [잘 씹어] 먹었다],   [잘 구어] 먹었다.

● Ambiguous structures

(42)   [안 씹어] 먹고 그냥 먹었다.   안 [씹어 먹고] 버렸다.

● Stacking structure with another type of verb-complex

(43)   a. 씹어 먹어 보았다.
         b. 찾아 나서고 싶었다.
         c. 잡아 당겨 보고 싶었다

● Set union of the ARG-STs: the set union of the head-daughter's ARG-ST with the non-head-daughter's ARG-ST

(44)   a. *존이 메리가 줄을 끌어 당겼다.
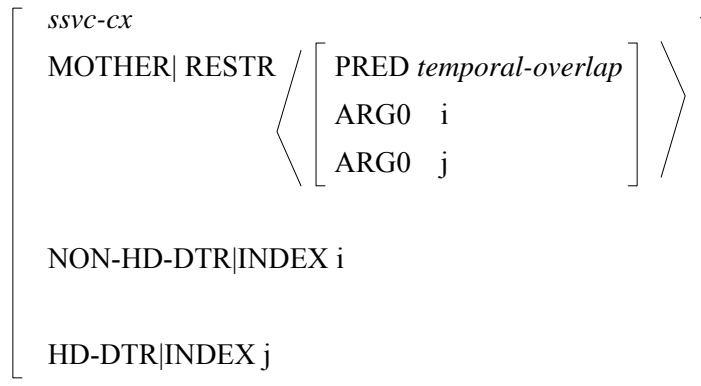   b. *존이 고기를 생선을 구워먹었다.

● SUBJ: identical
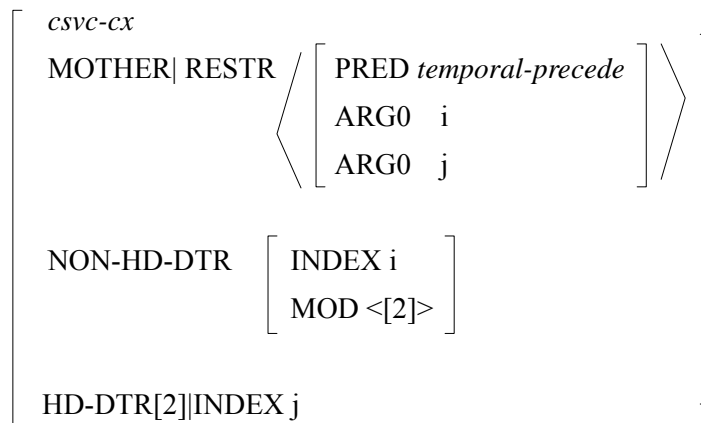   COMPS: the optional [2] is identical if there is any.

● The syntactic head is the final verb: the tense and mood marking is on the final verb

(45)   a. 씹어 먹었다.
         b. *씹었어 먹다.

(46) Constraint on Simultaneous SVC

$$
\begin{bmatrix}
\textit{ssvc-cx} \\[4pt]
\text{MOTHER| RESTR} \quad \Big\langle\; \begin{bmatrix} \text{PRED } \textit{temporal-overlap} \\ \text{ARG0} \quad i \\ \text{ARG0} \quad j \end{bmatrix} \;\Big\rangle \\[10pt]
\text{NON-HD-DTR|INDEX } i \\[6pt]
\text{HD-DTR|INDEX } j
\end{bmatrix}
$$

(47) Constraint on Consequential SVC

$$
\begin{bmatrix}
\textit{csvc-cx} \\[4pt]
\text{MOTHER| RESTR} \quad \Big\langle\; \begin{bmatrix} \text{PRED } \textit{temporal-precede} \\ \text{ARG0} \quad i \\ \text{ARG0} \quad j \end{bmatrix} \;\Big\rangle \\[10pt]
\text{NON-HD-DTR} \quad \begin{bmatrix} \text{INDEX } i \\ \text{MOD <[2]>} \end{bmatrix} \\[10pt]
\text{HD-DTR[2]|INDEX } j
\end{bmatrix}
$$

● This semantic-pragmatic constraint will block examples like

(48)   a. *고기를 소화하여 먹었다.
        b. *고기를 먹어 구웠다.

● Sequential one: the non-head-daughter is syntactically functioning as a modifier

● Subtypes of *ssvc-cx*: *co-headed-cx, v1-headed-cx, v2-headed-cx*

(49) Constraint on Co-headed SVC

$$\begin{bmatrix} \textit{co-headed-cx} \\ \text{MOTHER ARG-ST [A]} \\ \text{NON-HD-DTR|ARG-ST [A]} \\ \text{HD-DTR|ARG-ST [A]} \end{bmatrix}$$

● Co-headed in terms of argument structure means each daughter's argument-structure is identical.

(50)   a. 줄을 끌어 당기다.
        b. 줄을 끌다.
        c. 줄을 당기다

(51) Constraint on V1-headed SVC

$$\begin{bmatrix} \textit{v1-headed-cx} \\ \text{MOTHER ARG-ST [A]} \\ \text{NON-HD-DTR|ARG-ST [A]} \\ \text{HD-DTR|ARG-ST [B]} \end{bmatrix}$$

    The key ARG-ST is from the first verb.

(52)   a. 찾아 나서다
        b. 동생을 찾았다.
        c. *동생을 나섰다.

(53) Constraint on V2-headed SVC

$$\begin{bmatrix} \text{v2-headed-cx} \\ \text{MOTHER ARG-ST [A]} \\ \text{NON-HD-DTR|ARG-ST [B]} \\ \text{HD-DTR|ARG-ST [A]} \end{bmatrix}$$

    The key ARG-ST is from the second verb.

(54)   a. 헤엄쳐 건넜다.
        b. *강을 헤엄치다.
        c. 강을 건넜다.

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