

Korean Serial Verb Construction

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Kim, Jin-Young & Oh, Seong-Rok. (2013). Korean Serial Verb Construction. *The Linguistic Association of Korea Journal*, 21(3), 199-229. Korean serial verb construction (SVC) consists of two serialized verbs representing one event like a complex predicate; non-stative bivalence verbs are flexibly produced. SVC shows the argument sharing and composition, giving a temporal order or simultaneous event. Three-serialized verb construction (3v-SVC) also has a similar pattern with SVC, but its first verb is detached from the V2 and V3 relation. SVC is analyzed as the phrasal construction composed by two non-stative verb lexemes. This analysis based on Sign-Based Construction Grammar provides the plausible explanation for the grammatical properties of SVC and 3v-SVC.

Key Words: SVC, 3v-SVC, V1, V2, V3, Head-Serial Verb Construction

1. Introduction

The so-called serial verb construction (SVC) in Korean employs two or more lexical verbs in a clause without any specific coordination or subordination in-between (Choi 2003; Kim et al. 2011; Pyoun 2011; Sohn and Ko 2010; Song 2007):

- (1) a. Miyoung-i cwul-eul [cap-**a** tangki-ess-ta]
Miyoung-NOM rope-ACC [draw-COMP pull-PAST-DECL]
'Mia pulled a rope, drawing it.'
- b. John-i koki-lul [kwup-**e** mek-ess-ta]
John-NOM meat-ACC [broil-COMP eat-PAST-DECL]
'John broiled the meat and ate it.'
- c. V1 + COMP [a/e] + V2

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As exemplified in (1a) and (1b), the two serialized verbs are connected by the complementizer *-a/e*, and SVC gives semantically one single event, holding the full meaning of two verb lexemes. As schematized in (1c), SVC consists of the first verb (V1) and the final verb (V2), and for example it can productively be generated with the verb *mek-ta* 'eat' as follows:

- (2) *nawnu-e mek-ta* 'divide and eat', *ppal-a mek-ta* 'suck and eat', *kkukhi-e mek-ta* 'boil and eat', *mandeul-e mek-ta* 'make and eat', *cip-e mek-ta* 'pick up and eat', etc.

A variety of verbs are allowed to be inserted in SVC: one-valence, bivalence, and trivalence verbs. On the other hand, in Korean three-serialized verb construction (3v-SVC) is nothing out of the ordinary (Pyoun 2011; Son 2006):

- (3) a. Inho-ka pang-ey [kel-**e** tul-**e** ka-ess-ta]
 Inho-NOM room-OBL [walk-COMP enter-COMP go-PAST-DECL]
 'Inho went into the room, walking'
 b. V1 + COMP [**e/a**] + V2 + COMP [**e/a**] + V3

The sentence in (3a) carries three verbs linked with *-e*, corresponding to the template in (3b).

This two-verb SVC raises several interesting issues. One main point is the argument sharing and composition by two verbs; the question is whether each verb shares the arguments or not. Another thing is to look into what the types of verbs tend to be positioned in the first and final verb of SVC. In a similar vein, we also need the kinds of events that the two verbs of SVC express: consequential or simultaneous relationship. By extension, 3v-SVC has unresolved matters: the headness of the combined predicate and the semantic relation between the V1, V2, and V3. In this case study, I will try to answer these questions, using the 293 examples of SVC and the 32 instances of 3v-SVC, extracted from Sejong POS-tagged Corpus¹.

This study will be structured as follows. In the section 2, We will provide

1) The Sejong Corpus, released by the National Institute of the Korean Language, consists of about 12 million words. See <http://www.sejong.or.kr> for details

the grammatical properties of SVC and 3v-SVC in Korean. The previous analyses of two-verb SVC will be reviewed in the section 3. Section 4 introduces a synopsis of Sign-Based Construction Grammar and then offers its approach for SVC and 3v-SVC.

2. Grammatical Properties of Serial Verb Construction

In this section we will look at the syntactic and semantic properties of two-verb SVC as well as three-serialized verb construction in Korean.

2.1. Two-Verb Serial Verb Construction

2.1.1 Syntactic Headness in SVC

Korean Serial Verb Construction consists of two verbs which are linked each other by the complementizer *-a/e* (Kim et al. 2011; Song 2007; Sohn 1999). Its main property is that SVC has only one tense and aspect on the final verb of SVC:

- (4) a. Mia-ka sayngsen-ul [kwu-(***ess**)-**e** mek-**ess**-ta]
 Mia-NOM fish-ACC [roast-(PAST)-COMP eat-PAST-DECL]
 'Mia roasted fish and ate it.'
- b. Mia-ka [ttwi-(***koiss**)-**e** ka-**koiss**-ta]
 Mia-NOM [run-(PROG)-COMP go-PROG-DECL]
 'Mia is going, running.'

The sentences in (4) are ungrammatical if the first verb has the past tense or progressive aspect in SVC. Honorification morpheme *-si* also appears on the final verb in (5), and its information implies that the subject should agree with the verb in terms of politeness:

- (5) halabeci-kkeyse koki-lul kwu-(***si**)-**e** teu-**si**-ess-ta]
 grandfather-HON(NOM) meat-ACC [broil-(HON)-COMP eat-HON-PAST-DECL]
 'Grandfather broiled the meat and ate it.'

The question marker (*~ni/kka*) is added to the final verb, not the first verb as follows:

- (6) John-i sakwa-lul [kkak-(***ni**)-**a** mek-ess--]
 John-NOM apple-ACC [peel-(QUE)-COMP eat-PASS-QUE]
 ‘Did John peel the apple and eat it?’

These facts advocate the claim that the final verb of SVC functions as syntactic head.

2.1.2 V1 & V2 in SVC

There is no restriction on which types of verbs occur in the V1 and V2 of SVC; intransitive, transitive, and ditransitive are freely used:

- (7) a. Mia-ka lopu-lul [kkul-**e** tangki-ess-ta]
 Mia-NOM rope-ACC [draw-COMP pull-PAST-DECL]
 ‘Mia pulled a rope, drawing it.’
 b. Mary-ka hakkyo-ey [heyemchi-**e** ka-ess-ta]
 Mary-NOM school-OBL [swim-COMP go-PAST-DECL]
 ‘Mary went to school, swimming.’
 c. Mia-ka John-ekey chayk-ul [sa-**a** cwu-ess-ta]
 Mia-NOM John-DAT book-ACC [buy-COMP give-PAST-DECL]
 ‘Mia bought a book and gave it to John.’

All sentences in (7a), (7b), and (7c) consist of only transitives, intransitives, and ditransitives respectively. Among 293 corpus examples, the frequently used verbs in the V1 are the bivalence verb (72.70%), the one-valence verb (21.84%), and the trivalence verb (5.46%) in order whereas the bivalence verb (60.14%) also occurs in the V2 more highly than the one-valence verb (24.91%) and trivalence verb (14.68%). This implies that the bivalence verb is flexibly used in the V1 and V2 of SVC. On the other hand, the remarkable thing is that SVC has the restriction on the composition of the V1 and V2 in SVC as follows:

(8) Composition of V1 & V2

| V1 | V2 | per ct. (n=293) |
|-------------|-------------|-----------------|
| bivalence | bivalence | 52.22% |
| one-valence | one-valence | 18.77% |
| bivalence | trivalence | 13.65% |
| bivalence | one-valence | 6.14% |
| trivalence | bivalence | 4.44% |
| one-valence | bivalence | 3.07% |
| trivalence | trivalence | 1.02% |
| trivalence | one-valence | 0.34% |
| one-valence | trivalence | 0.34% |

It is hard to find the case that the one-valence and trivalence verb are combined each other in SVC; there is two examples in the corpus. The noticeable point is that the composition together with two bivalence verbs (52.22%) occurs the most frequently, and the bivalence verb is allowed to be composed of any types of verbs in SVC. We can notice this flexibility of the bivalence verb:

- (9) a. Mary-ka hakkyo-ey ppang-ul [kwu-**e** ka-ess-ta]
 Mary-NOM school-OBL bread-ACC [bake-COMP go-PAST-DECL]
 'Mary baked the bread and went to school.'
- b. Mia-ka kang-ul [heyemchi-**e** kenne-ess-ta]
 Mia-NOM river-ACC [swim-COMP cross-PAST-DECL]
 'Mia crossed the river, swimming.'
- c. Mia-ka John-ekey ppang-ul [cwip-**e** cwu-ess-ta]
 Mia-NOM John-DAT bread-ACC [pick up-COMP give-PAST-DECL]
 'Mia picked up the bread and gave it to John.'

The sentence in (9a) carries two bivalence verbs while one-valence and bivalence verbs exist in (9b). The example in (9c) employs the trivalence verb with the bivalence one.

According to *Aktionsart*, there only exist non-stative verbs in SVC: activity, achievement, and accomplishment (Van Valin and Lapolla 1997). This implies

that in Korean SVC has the constraint on the occurrence of the stative verbs or adjective predicates, mainly describing the state of an entity²⁾:

- (10) inkan-un ceomceom [nulk-e ka-an-ta]
 Human-NOM gradually [old-COMP go-PRES-DECL]
 ‘Human gets gradually old.’

The sentence in (10) tells that the stative predicate *nulk-* ‘be old’ cannot belong to SVC in that the meaning of the final verb is bleached. In addition, in corpus findings the activity verb occupies the highest percentage in SVC: it indicates 37.88% and 43.00% in the V1 and V2 respectively. The achievement verb as the second frequently used type also shows 36.18% in the V1 and 35.84% in the V2. Another worthy note is that we can look at the pattern about which types of non-stative verbs are composed in SVC:

(11) Composition of Non-Statives

| V1 | V2 | per ct. (n=293) | Examples |
|----------------|----------------|--------------------|-------------------------------------|
| Activity | Activity | 20.82% | kenn-e ttwuita ‘cross and run’ |
| Achievement | Achievement | 17.06% | palp-a kkuta ‘tread and extinguish’ |
| Achievement | Activity | 11.95% | palp-a neomta ‘tread and jump’ |
| Accomplishment | Activity | 10.24% | kk-a meokta ‘peel and eat’ |
| Accomplishment | Achievement | 9.90% | kil-e mwukta ‘grow and tie’ |
| Activity | Achievement | 8.87% | sso-a cwukita ‘shoot and kill’ |
| Activity | Accomplishment | 8.19% | ow-a paewuta ‘come and learn’ |
| Achievement | Accomplishment | 7.17% | hwumchi-e ssuta ‘steal and use’ |
| Accomplishment | Accomplishment | 5.80% | akki-e ssuta ‘save and use’ |

2) If there are any stative verbs in SVCs, it triggers ungrammaticality (Kim et al. 2011:4).

- (1) a. *cap-**a** ppalu-ta/ *ppalu-**a** mek-ess-ta
 catch-COMP fast-DECL/ fast-COMP eat-PAST-DECL
 b. *kel-**e** apu-ta/ *himitul-**e** ka-ss-ta
 walk-COMP sick-DECL/ difficult-COMP go-PAST-DECL

As shown in (11), the composition of two activity verbs is the most frequent type as 20.82% whereas the concurrent accomplishment verbs are not commonly used in SVC. This fact conveys that the activity verb is flexibly produced in SVC.

2.1.3 Consequential & Simultaneous Relation

SVC denotes a consequential action or simultaneous state (Sohn 1999; Zubizarreta and Oh 2007). The consequential SVC makes the event of the first verb be perceived as enabling the second event to take place whereas in the simultaneous SVC two events occur at the same time:

(12) SVC Event Types

| Relation | per ct. (n=293) |
|---------------|-----------------|
| Consequential | 67.92% |
| Simultaneous | 32.08% |

In the corpus findings, the consequential event frequently occurs as 67.92% more than the simultaneous one. The interesting point in each event type is that two co-occurrent activity verbs of SVC are found in the simultaneous event (40.43%) more than the causal relation (11.06%); this implies that the simultaneous action needs the activity verb. In addition, the consequential event pursues more the achievement verb in the V1 and V2. In particular, two existing achievement verbs are marked as 25.13% in the temporal order whereas they occupy 14.89% in the simultaneous event:

- (13) a. John-i pwul-ul [palp-**a** kku-ess-ta]
 John-NOM fire-ACC [tread-COMP extinguish-PAST-DECL]
 'John trod the fire and extinguished it.'
- b. John-i hakkyo-ey [kel-**e** ka-ess-ta]
 John-NOM school- OBL [walk-COMP go-PAST-DECL]
 'John went to school, walking.'

The sentence in (13a) is interpreted as the temporal relation in that the treading-event precedes the extinguishing-event in order; two achievement verbs

are used. In the simultaneous situation in (13b) giving two both activity verbs, the first action ‘walking’ modifies the directed-motion event denoted by *ka-* ‘go’, providing the information of manner or means to where the final verb takes place.

2.1.4 Argument Sharing and Composition in SVC

Two verbs in SVC represent one event like a complex predicate, so they share necessarily one single subject:

- (14) Mia-ka (*Chelswu-ka) hakkyo-ey [kel-e ka-ss-ta]
 Mia-NOM (Chelswu-NOM) school- OBL [walk-COMP go-PAST-DECL]
 ‘(int.) Mia went to school, walking.’
 ‘*Mia went to school, walking and at the different time or place,
 Chelswu went to school, walking.’
 ‘*Mia with Chelswu went to school, walking.’
 ‘*Chelswu with Mia went to school, walking.’

If there are two subjects in SVC, several meanings are given to the sentence in (14); first, the two external arguments have each event simultaneously, implying that ‘Mia and Chelswu go to school respectively at the different place or time’. Another sense is that one subject is ‘together with’ the other subject. This means that ‘Mia together with Chelswu goes to school, walking’, or ‘Chelswu together with Mia goes to school, walking’. At this point, we can notice that only one subject is obligatorily required in SVC. If there is more than one subject, the assertion of SVC triggers the interpretation ambiguity.

In like fashion, two objects cannot also exist in SVC, so they should be reduced to one object:

- (15) Mia-ka (*koki-lul) sayngsen-ul [kwuw-e mek-ess-ta]
 Mia-NOM (meat-ACC) fish-ACC [roast-COM eat-PAST-DECL]
 ‘(int.) Mia roasted the fish and ate it.’
 ‘*Mia roasted the meat and fish, and ate them.’
 ‘*Mia roasted the fish, and ate it with the uncooked meat.’
 ‘*Mia roasted the fish, and then only ate the meat.’

There are three plausible interpretations in (15) if two objects are allowed. One meaning is that ‘both two meat and fish are together roasted and eaten’. Another thing is that ‘the cooked fish is eaten together with the uncooked meat’. The final meaning gives ‘only the ingestion of the meat even if the fish is roasted’. This ambiguity of the sentence in (15) supports the idea that the only one object is required in SVC.

The object in SVC can be connected only to one of two verbs:

- (16) Mary-ka hakkyo-ey ppang-ul [kwu-**e** ka-ess-ta]
 Mary-NOM school- OBL bread-ACC [bake-COMP go-PAST-DECL]
 ‘Mary baked the bread and went to school.’

In (16), the object *ppang* ‘bread’ is the argument of the first transitive verb *kwu-* ‘bake’ while the oblique argument *hakkyo-ey* ‘to school’ is selected only by the final verb *ka-* ‘go’. In addition, in (17a) only the final transitive verb *kenne-* ‘cross’ can take an object:

- (17) a. Mia-ka kang-ul [heyemchi-**e** kenne-ess-ta]
 Mia-NOM river-ACC [swim-COMP cross-PAST-DECL]
 ‘Mia crossed the river, swimming.’
 b. Mary-ka hakkyo-ey [heyemchi-**e** ka-ess-ta]
 Mary-NOM school- OBL [swim-COMP go-PAST-DECL]
 ‘Mary went to school, swimming.’

In the case of (17b), the subject is shared in two verbs, but the oblique argument is linked only to the final verb *ka-* ‘go’.

- (18) a. Mia-ka John-ekey chayk-ul [sa-**a** cwu-ess-ta]
 Mia-NOM John-DAT book-ACC [buy-COMP give-PAST-DECL]
 ‘Mia bought the book and gave it to John.’
 b. John-i namwu-lul jip-ey [olmki-**e** sim-ess-ta]
 John-NOM tree-ACC home-OBL [shift-COMP plant-PAST-DECL]
 ‘John shifted the tree to home and planted it at home.’

The two verbs in (18a) share the same subject and object, but the final verb *cwu-* ‘give’ needs trivalence including the dative argument *John-ekey* ‘to John’. In (18b), two trivalence-verbs, *olmki-* ‘shift’ and *sim-* ‘plant’, bring the sharing of the subject, object, and oblique argument. From these facts we can notice that the external argument is shared whereas the complements in SVC are required by selectively both or one of two verbs; this means that the argument sharing is flexible.

2.1.5 The Scope of Negation and Adverbial Expression in SVC

We can also notice other interesting syntactic and semantic issue: the ambiguity of the negation and the adverbial expression. In the case of the negation, the short negative form *an* cannot separate the two verbs in SVC:

- (19) a. John-i sakwa-lul **an** [kkak-**a** mek-ess-ta]
 John-NOM apple-ACC NEG [peel-COMP eat-PAST-DECL]
 ‘John did not peel and eat the apple.’ or ‘John ate the apple, but did not peel it’
 b. *John-i sakwa-lul [kkak-**a an** mek-ess-ta]
 John-NOM apple-ACC [peel-COMP NEG eat-PAST-DECL]

Negative item only precedes the two-verb SVC as exemplified in (19a). According to the scope of the negation, it can be the wide scope for the whole two verbs or it can affect only the first verb *kkak-* ‘peel’.

On the other hand, the adverbial phrase can be inserted between two verbs in SVC:

- (20) a. ku-ka tamcang-ul **shwipkye** [ttwi-**e** nem-ess-ta]
 he-NOM wall-ACC easily [jump-COMP pass-PAST-DECL]
 ‘He easily jumped the wall and passed it.’ or ‘He jumped the wall easily, and passed it’
 b. ku-ka tamcang-ul [ttwi-**e shwipkye** nem-ess-ta]
 he-NOM wall-ACC [jump-COMP easily pass-PAST-DECL]
 ‘He jumped the wall, and easily passed it.’

Contrast with the scope of the negation, the adverb *easily* in (20b) is positioned between two verbs, giving the modification for the final verb *nem-* 'pass'. In addition, the sentence in (20a) conveys the scope ambiguity of the adverb *easily* which modifies the whole complex predicate or only the first verb *ttwi-* 'jump'. This adverbial insertion implies that two verbs of SVC are considered as the verb phrase which consists of one verb lexeme and the other head verb lexeme.

2.1.6 SVC & Auxiliary Verb Construction & Coordination Verb Construction

The last point is that SVC is different from Auxiliary Verb Construction (AVC) (Choi 2003; Pyoun 2011). They both look very similar each other, but SVC holds each full meaning of the two verbs while in AVC the arguments and lexical meaning of the final verb are bleached³⁾:

- (21) John-i sakwa-lul [kkak-a tay-ess-ta]
 John-NOM apple-ACC [peel-ASM supply-PAST-DECL]
 'John kept on peeling the apple.'

The first verb *kkak-* 'peel' in (21) gives the main lexical meaning to the predicate while the second one expresses the auxiliary meaning of 'continuity'. However, the final verb has the tense and declarative marker as a syntactic headness. The AVC does not have the scope ambiguity of the negation and adverbial item in contrast with SVC as follows:

- (22) John-i sakwa-lul **an/ shwipke** [kkak-a tay-ess-ta]
 John-NOM apple-ACC NEG/easily [peel-ASM supply-PAST-DECL]
 'John did not keep on peeling the apple. / John easily kept on peeling the apple.'

As seen in (22), the negation or adverb does not modify the first verb *kkak-* 'peel', but confines the whole two-verb of AVC. Another simple test for

3) ASM means Auxiliary Suffix Marker.

distinguishing SVC and AVC is whether it is allowed to insert *-se* ‘and then’ in between two verbs:

- (23) a. John-i sakwa-lul [kkak-**a-se** mek-ess-ta] (SVC)
 John-NOM apple-ACC [peel-COMP-SUFFIX eat-PAST-DECL]
 ‘John peeled the apple and then ate it.’
 b. *John-i sakwa-lul [kkak-**a-se** tay-ess-ta] (AVC)
 John-NOM apple-ACC [peel-ASM-SUFFIX supply-PAST-DECL]

The ungrammaticality in (23b) implies that the suffix *-se* ‘and then’ triggers the final verb to produce its lexical meaning; it is acceptable in SVC while it is not in AVC.

SVC is also different from Coordination Verb Construction (CVC). The two verbs in CVC are connected with the conjunction *-ko*:

- (24) a. John-i sayngsen-ul [kwup-**ess-ko** mek-**ess**-ta]
 John-NOM fish-ACC [broil-PAST-CON J eat-PAST-DECL]
 ‘John broiled the fish and ate it.’
 b. John-i sayngsen-ul **an** [kwup-**ess-ko an** mek-**ess**-ta]
 John-NOM fish-ACC NEG [broil-PAST-CON J NEG eat-PAST-DECL]
 ‘John neither broiled nor ate the fish.’

As exemplified in (24a), the first verb as well as the second one in CVC contains a tense marker. Each short negative form in (24b) is positioned in front of the first and the final verb, contrast with SVC.

2.2 Three-Serialized Verb Construction

2.2.1 Syntactic Headness in 3v-SVC

A second one worthy note is about three-serialized verb construction (3v-SVC) (Pyoun 2011; Son 2006). Even if I searched 400 verb types in corpus data, I only found the 32 examples about 3v-SVC. Based on this small amount of

data, I will look into it in that any survey has by no means exhausted all the possible ways of considering its interesting issues: headness and relation between the first verb (V1), the second verb (V2), and the third verb (V3). The most natural ordering of 3v-SVC is as follows:

- (25) say-ka hanul-lo [nal-**a** ol(u)-**a** ka-ess-ta]
 bird-NOM sky-OBL [fly-COMP move up-COMP go-PAST-DECL]
 'The bird went up to the sky, flying'

The V1 and V2 are attached with the complementizer *-a/e* respectively. The first verb shows manner, the V2 is path, and the final verb carries motion. These verbs represent one event like the complex predicate. The final verb also contains the past tense, honorification, and question marker:

- (26) a. halabeci-kkeyse pang-ey [kel-(***si**)-**e** tul-(***si**)-**e** ka-**si-ess-ta**]
 grandfather-HON(NOM) room-OBL [walk-COMP enter-COMP
 go-HON-PAST-DECL]
 'Grandfather went into the room, walking.'
 b. halabeci-kkeyse pang-ey [kel-(***ni**)-**e** tul-(***ni**)-**e** ka-si-**ess-ni**]
 grandfather-HON(NOM) room-OBL [walk-COMP enter-COMP
 go-HON-PAST-QUE]
 'Did Grandfather go into the room, walking?'

The honorific marker *-si* is used only in the final verb of (26a) whereas the question suffix *-ni* in (26b) cannot exist at the first and second verb. This implies that the final verb is the syntactic head.

2.2.2 Verbs in 3v-SVC

The verbs in 3v-SVC allow any valence verbs, but it is hard to find any instance consisting of three trivalence verbs in 3v-SVC:

(27) Composition of Verbs in 3v-SVC

| V1 types | per ct. (n=32) |
|-------------|----------------|
| one-valence | 28.13% |
| bivalence | 46.88% |
| trivalence | 25.00% |

In corpus finding, there is the flexibility on putting any valence verbs in the V2 and V3 of 3v-SVC. In particular, the bivalence verb is the most freely used in the V1, marked as 46.88% in (27). However, if the trivalence verb in the V1 is followed by two trivalence verbs in the V2 and V3, the sentence meaning does not make sense as shown in (28d):

- (28) a. John-i club-ey [kel-**e** tulega-**a** chwumchwu-ess-ta]
 John-NOM club-OBL [walk-COMP go into-COMP dance-PAST-DECL]
 'John went into the club, walking, and danced.'
- b. Mia-ka sakwa-lul [kkak-**a** coliha-**e** mek-ess-ta]
 Mia-NOM apple-ACC [peel-COMP cook-COMP eat-PAST-DECL]
 'Mia peeled the apple, cooked it, and ate it.'
- c. John-i talk-ul sot-e [neh-**e** salm-**a** mek-ess-ta]
 John-NOM chicken-ACC pot- OBL [put-COMP boil-COMP eat-PAST-DECL]
 'John put the chicken in the pot, boiled it, and ate it.'
- d. *Mia-ka kapang-lul John-ekeyse [pili-**e** cwu-**e** twu-ess-ta]
 Mia-NOM bag-ACC John-from [borrow-COMP give-COMP put-PAST-DECL]
 'Mia borrowed the bag from John, gave it (whom?), and put it (where?)'

The sentence in (28a) has one-valence verb, bivalence verb, and one-valence verb in the V1, V2, and V3 respectively. Three bivalence verbs occupy 3v-SVC in (28b) while one trivalence verb exists in (28c). The case of (28d) is ungrammatical in that each *cwu-* 'give' and *-* 'put' lack the recipient and locative argument; three trivalence verbs of 3c-SVC give the abnormal meaning. Another remarkable point in corpus data is that the verb types are also

non-stative verbs which are identical with SVC as exemplified in (28): activity, achievement, and accomplishment. I also looked at the event relation between three verbs in 3v-SVC as follows:

(29) 3v-SVC Event Types

| Relation | per ct. (n=32) |
|---------------|----------------|
| Consequential | 56.25% |
| Simultaneous | 43.75% |

Among 32 examples, the occurrence frequency of consequential relation is higher than one of simultaneous. The interesting point is that the event type is determined by the relation of the V2 and V3, not by the V1 which is not a crucial factor, but just a modifier:

- (30) a. John-i club-ey [kel-**e** tuleka-**a** chwumchwu-ess-ta]
 John-NOM club-OBL [walk-COMP go into-COMP dance-PAST-DECL]
 'John went into the club, walking, and danced.'
- b. John-i club-ey [tuleka-**a** huntul-**e** chwumchwu-ess-ta]
 John-NOM club-OBL [go into-COMP wave-COMP dance-PAST-DECL]
 'Going into the club, John danced, waving.'

The sentence in (30a) provides the temporal order even if the relation of the V1 and V2 shows the simultaneous action. If another activity verb is replaced as *huntul-* 'wave' in the V2 of (30b), the original relation of (30a) is changed into the simultaneous event.

2.2.3 Strong Relation between V2 and V3

At this point, I propose that the second and the third verb are strongly interrelated, giving one event, whereas the first verb expresses extra background information to the event which shows the simultaneous action or the temporal order by the V2 and V3:

- (31) a. say-ka hanul-lo [nal-**a** ol(u)-**a** ka-ess-ta]
 bird-NOM sky-OBL [fly-COMP move up-COMP go-PAST-DECL]
 ‘The bird went up to the sky, flying’
- b. Mary-ka John-eykey ppang-ul [sa-**a** ponay-**e** cwu-ess-ta]
 Mary-NOM John- DAT bread-ACC [buy-COMP send-COMP give-PAST-DECL]
 ‘Mary bought the bread, and sent and gave it to John.’

The V1 gives its additional lexical meaning to the event formed by the V2 and V3; it occurs at the same time with the last two verbs in (31a) while in (31b) the action given by the first verb precedes ‘sent and gave it to John’. We can verify this idea as deleting the V1:

- (32) a. say-ka hanul-lo [ol(u)-**a** ka-ss-ta]
 bird-NOM sky- OBL [move up-COMP go-PAST-DECL]
 ‘The bird went to the sky, moving up’
- b. Mary-ka John-eykey ppang-ul [ponay-**e** cwu-ess-ta]
 Mary-NOM John- DAT bread-ACC [send-COMP give-PAST-DECL]
 ‘Mary sent and gave the bread to John.’

Contrast with the sentences in (31), even if there are not the first verbs, *nal*-‘fly’ and *sa*-‘buy’, respectively in (32), both sentences in (32) make sense. However, if we eliminate the second verb of 3v-SVC, the original meaning will become sound differently:

- (33) a. say-ka hanul-lo [nal-**a** ol(u)-**a** ka-ss-ta]
 bird-NOM sky-OBL [fly-COMP move up-COMP go-PAST-DECL]
 ‘The bird went up to the sky, flying’
- b. say-ka hanul-lo [nal-**a** _____ ka-ss-ta]
 bird-NOM sky- OBL [fly-COMP _____ go-PAST-DECL]
 ‘The bird flew to the sky.’

The clause in (33a) expresses ‘the bird definitely stayed in the sky, going up higher and higher’ while one in (33b) gives the meaning of ‘the bird intended to

fly to the sky, but nobody knew that it actually flew in the sky; it could stay in the ground or in the air.'

Another simple test for distinguishing the V1 from the V2 and V3 is the insertion of *-se* 'and then' and sentence re-ordering:

- (34) a. say-ka hanul-lo [nal-**a-se** ol(u)-**a**(*-se) ka-ss-ta]
 bird-NOM sky-OBL [fly-COMP-SUFFIX move up-COMP go-PAST-DECL]
 'The bird flew and then it went up to the sky'
- b. say-ka nal-**a-se** hanul-lo [____ ol(u)-**a** ka-ss-ta]
 bird-NOM fly-COMP-SUFFIX sky-OBL [____ move up-COMP
 go-PAST-DECL]
 'The bird flew and then it went up to the sky'

As seen in (34a), the suffix *-se* is linked only to the first verb, not the second verb. The V1 in (34b) can be extracted from the complex predicate, giving the same meaning with the sentence in (34a). Moreover, when auxiliary verb construction (AVC) is combined with another verb, there is no unification between three verbs (Choi 2003):

- (35) John-i sakwa-lul [kkak-**a** mek-**e** tay-ess-ta]
 John-NOM apple-ACC [peel-COMP eat-ASM supply-PAST-DECL]
 'John peeled an apple and kept on eating it.'

The verb *kkak-* 'peel' is separated from AVC, and it cannot be adjoined to the second verb *mek-* 'eat' in that the second and final verbs together express a single eventuality.

2.2.4 The Scope of Negation and Adverbial Expression in 3v-SVC

In a similar vein with the detachment of the V1, the scope of the negation and adverbial item also supports the idea of the strong relation between the V1 and V2:

- (36) a. say-ka hanul-lo **an/ shwipkye** [nal-a ol(u)-a ka-ss-ta]
 bird-NOM sky-OBL NEG/easily [fly-COMP move up-COMP
 go-PAST-DECL]
 ‘The bird did **not** go up to the sky, **not** flying’ / ‘The bird went up
 to the sky, **not** flying’
 ‘The bird **easily** went up to the sky, flying’ / ‘The bird went up to
 the sky, **easily** flying’
- b. say-ka hanul-lo [nal-a **an/ shwipkye** ol(u)-a ka-ss-ta]
 bird-NOM sky-OBL [fly-COMP NEG/easily move up-COMP
 go-PAST-DECL]
 ‘The bird did **not** go up to the sky, flying. (=The bird fled, but it did
not go up to the sky.)’
 ‘The bird **easily** went up to the sky, flying. (=The bird fled, and it
easily went up to the sky.)’
- c. say-ka hanul-lo [nal-a ol(u)-a ***an/ shwipkye** ka-ss-ta]
 bird-NOM sky-OBL [fly-COMP move up-COMP NEG/easily
 go-PAST-DECL]
 ‘The bird **easily** went to the sky, moving up and flying.
 (=The bird fled, it moved up, and it **easily** went to the sky.)’

In the sentence in (36a), the short negative form and adverbial expression can have the wide or narrow scope; the whole three verbs or the only first verb *nal-* ‘fly’ is modified. However, in (36b) the negative and adverbial can be inserted between the V1 and V2, and they modify the event of the V2 and V3; this fact supports my proposal that the V1 is detached from the V2 and V3 sequence. Furthermore, the adverb *easily*, not an adverbial negative *not*, exists between the V2 and V3, giving the modification for the final verb *ka-* ‘go’ in (36c). I think this scope ambiguity supports the idea that 3v-SVC is analyzed as the verb phrase, consisting of the first verb lexeme and the last two-verb phrase which can be explained by SVC.

2.25 Argument Sharing and Composition in 3v-SVC

In like fashion we saw the argument sharing in SVC, the subject in 3v-SVC

is also necessarily shared:

- (37) say-ka hanul-lo [nal-**a** ol(u)-**a** ka-ess-ta]
 bird-NOM sky-OBL [fly-COMP move up-COMP go-PAST-DECL]
 'The bird went up to the sky, flying'

The three intransitive verbs in (37) have the identical subject as well as the oblique argument *hanul-lo* 'to the sky'. The object can also be the complement shared by three verbs:

- (38) Mary-ka cipwung-wi-ey kong-ul [tenci-**e** oli-**e** ponay-ess-ta]
 Mary-NOM roof-on-OBL ball-ACC [throw-COMP raise-COMP
 send-PAST-DECL]
 'Mary sent the ball onto the roof, throwing it onto the roof.'

Three trivalence verbs in (38) need the identical the object *kong* 'ball' and the locative argument *cipwung-wi-ey* 'onto the roof'. The dative argument can be connected with two ditransitive verbs in (39):

- (39) Mary-ka John-eykey ppang-ul [sa-**a** ponay-**e** cwu-ess-ta]
 Mary-NOM John- DAT bread-ACC [buy-COMP send-COMP
 give-PAST-DECL]
 'Mary bought the bread, and sent and gave it to John.'

However, if any verbs in 3v-SVC are not linked to its own arguments, the ungrammaticality will occur as follows:

- (40) *Mia-ka kapang-ul John-ekeyse [pili-**e** cwu-**e** twu-ess-ta]
 Mia-NOM bag-ACC John-from [borrow-COMP give-COMP
 put-PAST-DECL]
 'Mia borrowed the bag from John, gave it (whom?), and put it (where?)'

The sentence in (40) is not grammatical because *cwu-* ‘give’ and *twu-* ‘put’ needs the recipient and locative argument respectively. This property of 3v-SVC implies that the argument sharing and composition are quite flexible.

In this section, we have looked into the grammatical properties of SVC and 3v-SVC; their syntactic head is at the final verb, and they are quite flexible in the argument sharing and composition. Non-stative bivalence verb is productively generated in SVC. SVC also expresses the simultaneous action or causal eventuality, holding the full meaning of each lexical verb item; the activity verb is frequently used in the simultaneous event. The first verb in 3v-SVC is detached from the V2 & V3 relation, and it gives extra background information to the event formed by the second and final verbs. In the next section, we will review the previous literature about Korean SVC.

3. A Constructional Perspective

3.1 Sign-Based Construction Grammar

In Sign-Based Construction Grammar (SBCG), a language is considered as an infinite set of signs which are analyzed as Feature Structures (FSs) that specify values for the five features: PHON(phonology), FORM(morphology), SYN(syntax), SEM(semantic), and CNTXT(context) (Boas and Sag 2011; Michaelis forthcoming). The explanation for the features is given as follows:

$$(41) \quad \text{sign} \left[\begin{array}{l} \text{PHON } \textit{phon-obj} \\ \text{FORM } \textit{morph-obj} \\ \text{SYN } \textit{syn-obj} \\ \text{SEM } \textit{sem-obj} \\ \text{CNTXT } \textit{context-obj} \end{array} \right]$$

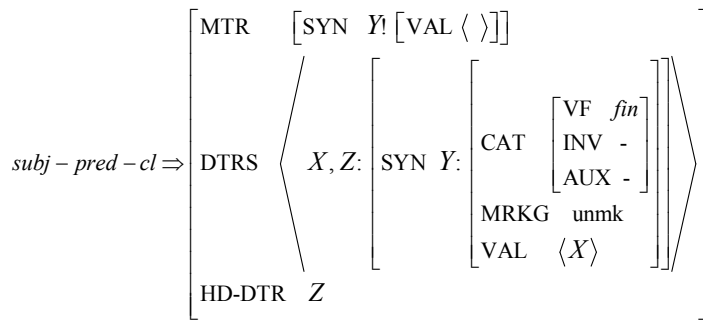
- (42) a. SYN describes the grammatical sign. Its values are CAT(egory) which are grammatical categories, and VAL(ence) that specifies an expression’s syntactic-semantic arguments.

- b. SEM bears the meaning of a sign. Its INDEX identifies the referent of an expression, and FRAMES is used to specify the list of predications.
- c. FORM gives the morphological properties of a given sign.
- d. CONTEXT is used to specify features of contextual elements.

Signs are used to model phrases as well as words. In particular, the lexical-class construction describes the properties of sets of words and lexemes whereas the combinatoric construction explains the head-daughter relation. The types for determining FSs are also hierarchically structured; for example, if a type B is a subtype of a type A, the type B inherits from the type A. This means that the FS of the type B must follow all constraints that satisfy the type A.

In Korean, Subject-Predicate Construction licenses simple declarative clauses:

(43) Subject-Predicate Construction (Boas and Sag 2011: 140):



This construction says that the second sign VP combines with its subject, and the SYN values of mother and head daughter are identified. In addition, Predicational Head-Complement Construction explains that all complements except to the subject are realized within the VP. I provide it in the way of Korean grammar as follows:

(44) Predicational Head-Complement Construction:

$$pred-hd-comp-cxt \Rightarrow \left[\begin{array}{l} \text{MTR} \quad \left[\text{SYN } X! \left[\text{VAL } \langle Y \rangle \right] \right] \\ \text{DTRS} \quad L: \text{nelist} \oplus \langle Z \rangle \\ \text{HD-DTR} \quad Z: \left[\begin{array}{l} \text{word} \\ \text{SYN } X: \left[\begin{array}{l} \text{CAT} \quad \left[\text{XARG } Y \right] \\ \text{VAL} \quad \langle Y \rangle \oplus L \end{array} \right] \end{array} \right] \end{array} \right]$$

The complements precede the verb due to head-final language, which is different from English. These simple rules explain the phrasal construction in Korean.

3.2 Head Lexeme Expression: Serial Verb Construction

I propose that Korean SVC is analyzed as Head-Lexical Construction, built by two lexemes, as shown in (45). The two lexical items are not in complementary relation; although there exists a head, the other lexeme is not the complement of the head:

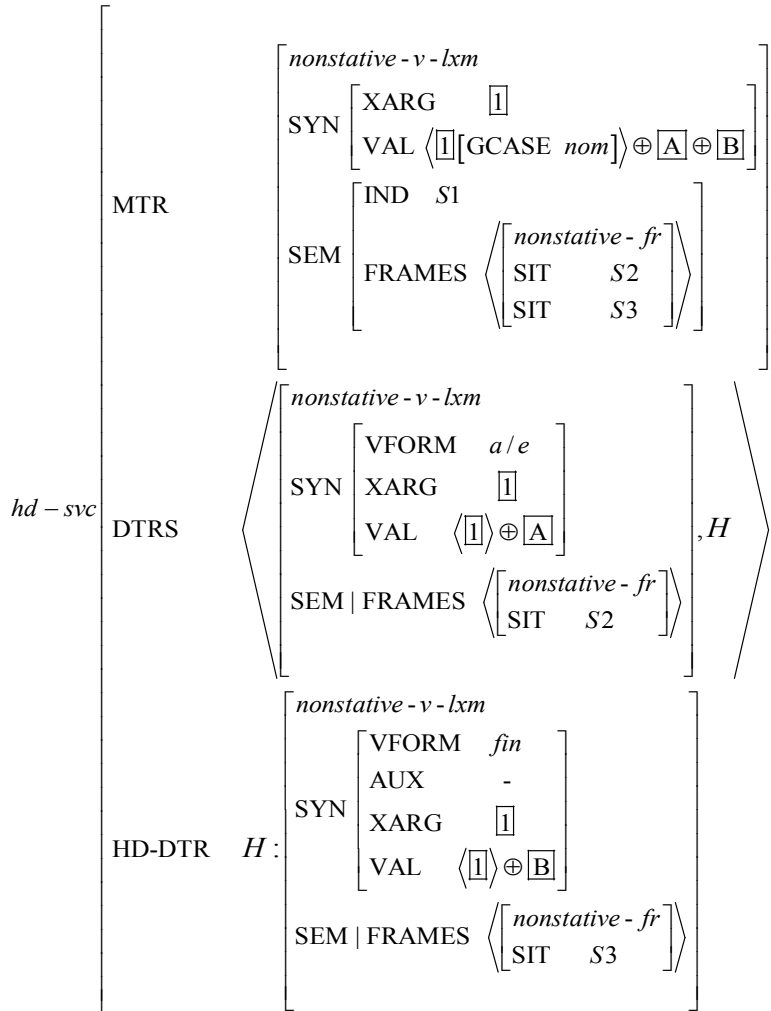
(45) Head-Lexical Construction

$$hd-lex-cxt \Rightarrow \left[\begin{array}{l} \text{MTR} \quad \left[\begin{array}{l} \textit{phrase} \\ \text{LEX } + \end{array} \right] \\ \text{DTRS} \quad \langle \left[\text{LEX } + \right], H \rangle \\ \text{HD-DTR} \quad H: \left[\text{LEX } + \right] \end{array} \right]$$

Korean verb lexeme is distinguished into the main and auxiliary verb according to whether it can be used independently: [AUX ±] (Kim 2004). The main verb has also two sub-categories: stative verb [STATIVITY +] and non-stative verb [STATIVITY -]. The non-stative verb is again classified into one-valence, bivalence, and trivalence verb. At this point, we can remember that

the verbs of SVC are nonstative; it represents action, event or process rather than state. Therefore, the verbs in SVC are defined as [STATIVITY -]. From this explanation, Korean grammar introduces Head-SVC as follows⁴⁾:

(46) Head-Serial Verb Construction



4) \oplus denotes the operation called 'sum', appending one list onto another (Sag et al. 2003)
 GCASE is grammatical case while SCASE means semantic case (Kim 2004).

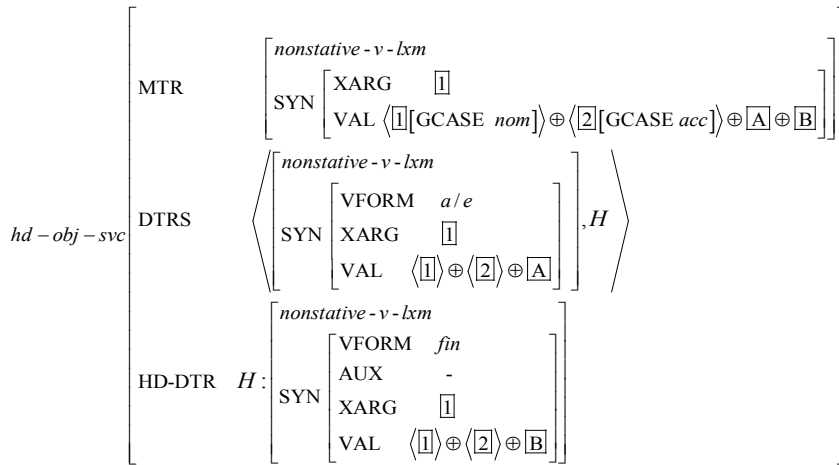
As specified in (46), two serial verbs are not in a selectional relation; two verbs in SVC do not take each other as complement. Each situation S2 and S3 of two verbs becomes like a complex predicate representing one event (S1). Two lexical items forming one verb phrase are non-stative which allows one-valence, bivalence, and trivalence verb. The first verb has the verb form of *-a/e*, and its valence values are the subject [GCASE nom] and A. On the other hand, the final verb is head and finite as well as non-auxiliary. The final point to mention is that there is the argument sharing and composition. Each non-stative verb generally has the shared subject, tagged as 1[GCASE nom] and XARG 1. The remaining complements of two verbs are composed of A plus B. This construction can explain the following sentence mentioned already above:

- (47) Mary-ka hakkyo-ey ppang-ul [kwu-**e** ka-ess-ta]
 Mary-NOM school-OBL bread-ACC [bake-COMP go-PAST-DECL]
 'Mary baked the bread and went to school.'

The first *kwup-* 'bake' has the subject and object while *ka-'go'* needs the identical subject plus the oblique argument. According to the construction in (52), the two verbs in (47) share the subject, and the remaining object and oblique complement are combined each other at the mother node.

Another issue is to look into how to explain the object sharing in SVC:

(48) Head-Object-Serial Verb Construction

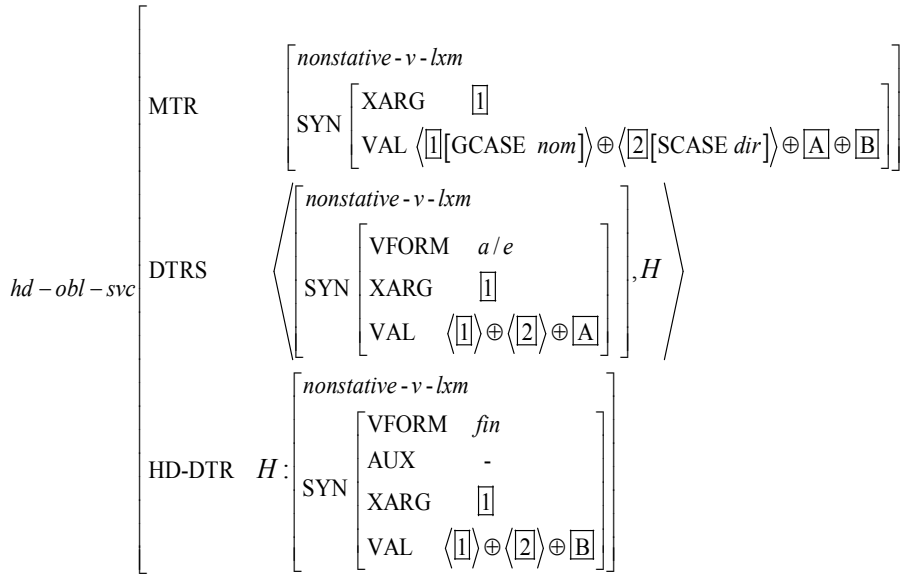


(49) Miyoung-i cwul-eul [cap-**a** tangki-ess-ta]
 Miyoung-NOM rope-ACC [draw-COMP pull-PAST-DECL]
 'Miyoung pulled a rope, drawing it.'

The sentence in (49) is licensed by the construction in (48); I do not specify the semantic information here because this head-object-SVC inherits from Head-SVC. The object is featured as [GCASE *acc*] shared by two verbs.

Another example we looked at is the shared oblique argument in SVC:

(50) Head-Oblique-Serial Verb Construction

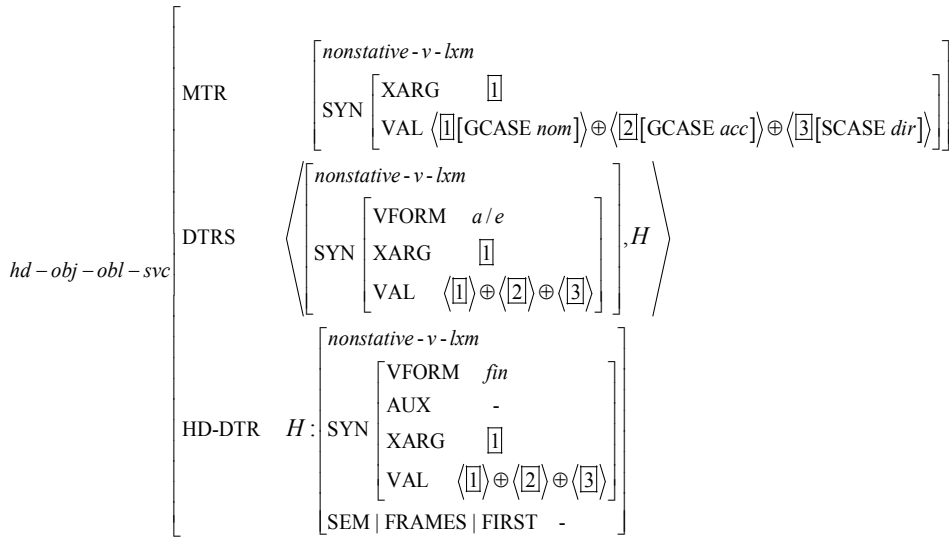


- (51) Mary-ka hakkyo-ey [heyemchi-**e** ka-ess-ta]
 Mary-NOM school- OBL [swim-COMP go-PAST-DECL]
 ‘Mary went to school, swimming.’

This construction in (50) specifies the directional argument as well as the subject shared by the two verbs, so this licenses the sentence in (51).

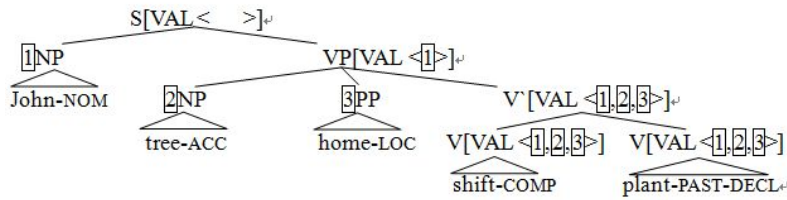
We also saw the causality relation in SVC, so I use [FIRST ±] feature to denote the temporal order. The feature is used in the following construction that three-valence values are shared by the two verbs of SVC:

(52) Head-Object-Oblique-Serial Verb Construction



(53) a. John-i namwu-lul jip-ey [olmki-e sim-ess-ta]
 John-NOM tree-ACC home- OBL [shift-COMP plant-PAST-DECL]
 'John shifted the tree to home and planted it at home.'

b.



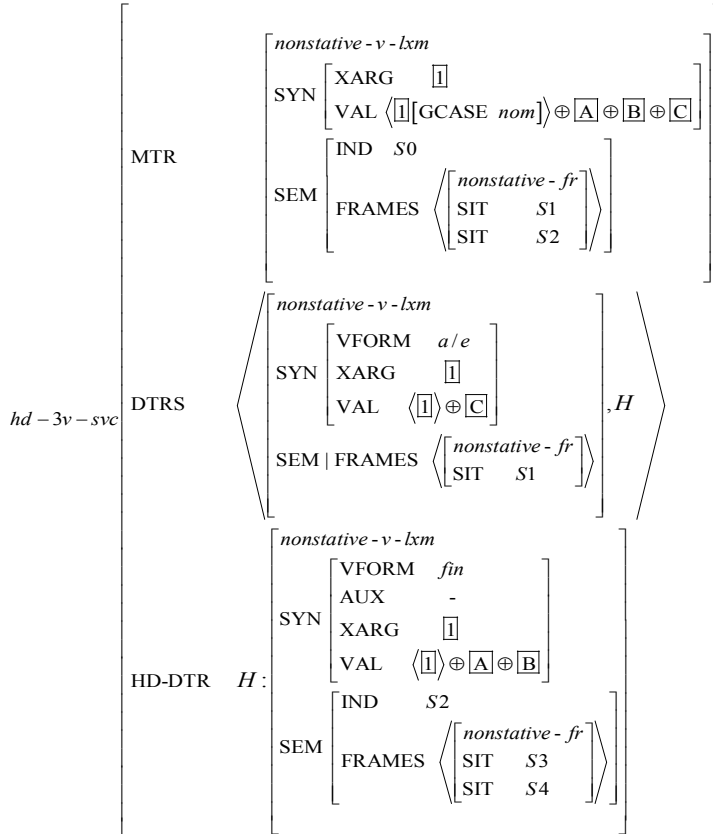
The construction in (52) shows the consequential relation, so the feature [FIRST -] is given to the final verb. This licenses the sentence in (53a) which is structured in (53b). The two verbs share the same arguments: the subject, object, and oblique. For reference, all of Korean SVC sentences are licensed by the Subject-Predicate & Predicational Head-Complement Constructions as well as the Head-SVC constructions.

In this part, I have tried to explain SVC as proposing *hd-svc*. This non-movement approach solves the argument sharing and consequential relation. In the next section, I will offer the explanation for *3v-SVC*.

3.3 Three Serialized Verb Construction

As explained in the previous section, the three serialized verb construction in Korean consists of V1, and V2 & V3 relation; V1 gives extra background information to the event formed by the second and final verbs. At this point, I propose 3v-SVC:

(54) Head-3v-Serial Verb Construction



(55) say-ka hanul-lo [nal-a ol(u)-a ka-ss-ta]
 bird-NOM sky- OBL [fly-COMP move up-COMP go-PAST-DECL]
 'The bird went up to the sky, flying'

The noteworthy thing here is that the head daughter in (54) is already licensed by the Head-SVC in (46); as combining V2 with the final head verb (V3), two situations (S3 and S4) represent one event (S2). The head feature value of V3 is identical with one of this head daughter in (54) by Head Feature Principle; there is also the argument sharing and composition in the head daughter as combining¹ with A and B⁵). This head lexeme phrase finally meets the first verb (V1) at the mother node. These two-verb lexemes are not in a selectional relation; they do not take each other as complement. All verbs are non-stative, and they share the subject [GCASE *nom*]. In this section, I have provided 3v-SVC briefly based on the non-movement approach.

4. Conclusions

In this case study, I searched Korean serial verb construction, based on the 293 examples of SVC and the 32 instances of 3v-SVC from Sejong POS-tagged Corpus. The non-stative bivalence verb is productively generated in SVC, representing one event like a complex predicate. The final verb is generally considered as the head with tense, mood and aspect. The two verbs in SVC also show the temporal order or simultaneous event; the activity verb frequently occurs in the simultaneous action. In addition, we looked at the argument sharing and composition: subject, object and oblique argument. 3v-SVC also has a similar pattern with SVC; its final verb is head and it shows the argument sharing. The interesting point in 3v-SVC is that the first verb is detached from the V2 and V3 relation, giving the extra background to the event formed by the V2 & V3.

The previous approaches for SVC have an unresolved issue: argument sharing. Based on Sign-Based Construction Grammar, I proposed Head-SVC construction; it is the head-lexeme expression which let two lexemes become one phrase. 3v-SVC in Korean inherits the constraints from SVC. This non-movement provides the plausible explanation for the grammatical properties of SVC and 3v-SVC.

5) Head Feature Principle (HFP): in any headed phrase, the HEAD value of the mother and the HEAD value of the head daughter must be identical (Sag et al. 2003)

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