

A Comparative Analysis of SVCs and Korean V-V Compounds

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1. Introduction

This paper is concerned with Korean V-V compounds (KVVCs) in which two verbs V1 and V2 appear adjacent in a single clause, intermediated by the so-called 'infinitive' suffix *-e*.¹ Recent work treats Korean V-V compounds as serial verb constructions (SVCs) (Lee 1992; Chung 1993; Yi 1996), which are often found cross-linguistically in the Kwa languages of West Africa and Caribbean creoles (Baker 1989; Déchaine 1992; Collins 1993, 1994).

(1) Korean

a. Chelsu-nun pam-ul *kuw-e mek-ess-ta*.
 Chelsu-Top chestnut-Acc broil-Inf eat-Past-Dec
 'Chelsu ate the chestnut by broiling (it)'

b. *kkot-i mal-a cuk-ess-ta*.
 flower-Nom dry-Inf die-ess-ta
 'The flower withered to death'

(2) Yoruba (Lord 1974)

a. *Bólá sè dran tá*.
 Bola cook meat sell
 'Bola cooked some meat and sold it'

b. *Fémi tì Akin subú*.
 Femi push Akin fall
 'Femi pushed Akin down'

The motivation behind treating KVVCs as SVCs of the Kwa languages mentioned above stems from grammatical similarities found in (1) and (2). In each example, the events

denoted by the two verbs in the series are serialized; the event denoted by V1 precedes the event denoted by V2 in temporal sequence. In addition, the internal argument is shared by the two verbs.

However, two structural differences should be pointed out. First, V1 and V2 are adjacent in (1), whereas they are intervened by the internal argument they share in (2). Second, Korean lacks a resultative type of SVCs illustrated in (2b), in which V2 (unaccusative) takes as subject the direct object of V1 (transitive). Due to the first difference, I argue that KVVCs undergo an operation of compounding in the overt syntax, whereas SVCs do so at LF (see Collins 1993, 1994). As for the second difference, I attribute the lack of resultative SVCs in Korean to the fact that VP1 projected by V1 does not serve as a predicate with respect to the direct object of V2 due to a head-parameter.²

In this paper, I attempt to provide a comparative account of KVVCs with SVCs by adopting the so-called 'VP-complementation Analysis' adapted by Collins (1993, 1994) building on the basic insights of the 'Argument Structure' framework put forth by Hale and Keyser (1993). Incorporating these theoretical considerations into the minimalist syntax (Chomsky 1995), I argue that KVVCs are verb compounds formed in the overt syntax to check the strong V-feature of the functional category T, differentiating them from SVCs in terms of the feature strength of T and the head-parameter.

This paper is organized as follows. Section 2 presents some working definitions of SVCs and some properties of SVCs in comparison with KVVCs. It is shown that SVCs and KVVCs have the properties of tense and (internal) argument sharing. Section 3

¹ In SVCs and KVVCs with two verbs, I will refer to the first verb as V1 and the second verb as V2.

² Note that Korean is a SOV language and the languages illustrated for SVCs throughout this paper are SVO languages.

introduces an analysis of SVCs provided by Collins (1993, 1994) following the basic insights of the Argument Structure in Hale and Keyser (1993). In his analysis, VP2 is a predicate due to the implication of V1. The direct object of V1 is licensed in Spec VP1 under predication. In section 4, I present properties of KVVCs. As opposed to SVCs, the two verbs in the series in KVVCs should be of the same type, which forces an internal argument to assume the same θ -role with respect to the two verbs. Section 5 argues that KVVCs undergo overt compounding, whereas SVCs undergo covert compounding. This cross-linguistic difference is attributed to the different feature strength of the functional category T. That is, T in Korean is stronger than that in Ewe, and thereby it requires that its V-feature be checked off by the whole verb compound before Spell-Out, not by a single verb alone. This section also argues that Korean lacks resultative SVCs due to a head-parameter.

2. Serial Verb Constructions

2.1. Definition of SVCs

Although the phenomenon of verb serialization has often been discussed by many researchers, SVCs do not have a clear definition within any theory of grammar. As a first approximation, I will introduce some working definitions of SVCs. The phenomenon of verb serialization was first described by Westermann (1930: 126) as "a row of verbs one after another...[in which] the verbs stand next to each other without being connected." Griffiths (1991: 20) observes that while verb sequences in general require complementizers linking the verbs, serial verbs do not. Collins (1993: 91, 1994: 2) provides a more specific definition of SVCs.

(3) Definition of SVC

A serial verb construction is a succession of verbs and their complements (if any) with one subject and one tense value that are not separated by any overt marker of coordination or subordination.

With these basic notions of SVCs in mind, let us consider some properties of SVCs across languages to compare them with those of KVVCs.

2.2. Tense Sharing

In this subsection, I will present some examples of SVCs across languages to see how the definition given in (3) illustrates the properties of the proposed constructions. Collins (1993: 91) gives the following three types of examples to identify a true SVC conforming to the definition given in (3):

- (4) a. e xIε-ε `e anyigba (AõlI)
 he threw-it to ground
 'he threw it to the ground'
- b. me fo ka`εgbε gba
 I hit lamp break
 'I hit the lamp and broke it'
- c. me fo ka`εgbε gba (yεme) tsimini
 I hit lamp break its glass
 'I hit the lamp and broke its glass'

Among these three examples, Collins identifies only (4b) as a true SVC. First of all, example (4a) is precluded from a SVC because `e *anyigba* is treated as a PP rather than a VP. As will be shown throughout the paper, one of two consecutive VPs - VP2 in SVO languages and VP1 in SOV languages - in most SVCs is glossed as a prepositional phrase in English. This is due to the empirical fact that verbs in SVCs are used where English-like languages will use pre-/post-positions (Li 1991: 104). Kadiwéu is a language which shows preposition-like properties of verbs. Let us consider the following examples drawn from Sandalo (1997: 91):

- (5) a. Maria yel:wadi oqoqo:di yatita nod:a:jo.
 Maria y-el:wad oqoqo:di y-ati-t+e-wa n-od:a:jo
 Mary 3sg.SUBJ-kill chicken 3sg.SUBJ-take-rel+3sg.CL-dative alnbl-knife
 'Mary killed the chicken with a knife'
- b. Maria yaqadi nekenigo katiwed:i nam:e:ja.
 Maria y-aqad n-eke-nigo ka-t-w+e-d: n-am:e:ja
 Mary 3sg.SUBJ-find alnbl-dog-animal Loc-rel-inward+3sg.CL-theme alnbl-table
 'Mary found the dog under the table'

Due to a similarity in meaning between a VP and a PP in this language, *oqoqo:di yatita* and *katiwed:i* are treated either as a PP (Griffiths (1991)) or as a VP (Sandalo (1997)). Arguing that these are VPs, Sandalo (1997: 91) claims that the examples in (4) are in fact SVCs. At any rate, since we are dealing with only SVCs which are a sequence of two verbs, example (4a) will be excluded from our discussion.

Turning to (4b) and (4c), we find a similarity in meaning between the two. Nevertheless, they are different in syntactic behaviors. To illustrate, Collins puts the two sentences into the future:

- (6) a. me a fo ka`εgbε gba
 I fut hit lamp break
- b. me a fo ka`εgbε a gba (yεme) tsimini
 I fut hit lamp fut break its glass

If (6a) is put into the future, the future is marked only on the first verb. If (6b) is put into the future, on the other hand, the future must be marked on each verb separately. Collins analyzes (6b) as a sequence of I's or IPs, and thus not a single clause. In this regard, only (4b) counts as a SVC, since it has only one tense value for each of the two Vs.

Korean provides analogous examples, where a V-V complex carries only one tense value.

- (7) a. Chelsu-nun pam-ul kuw-e mek-ess-ta.

Top chestnut-Acc broil-Inf eat-Past-Dec
 'Chelsu broiled and ate the chestnut' (lit. 'Chelsu broil-ate the chestnut')

b. say-ka nal-a ka-ss-ta
 bird-Nom fly-Inf go-Past-Dec
 'The bird flew away' (lit. 'the bird fly-went')

In (7a), the two verbs *kuw* 'broil' and *mek* 'eat' form a verb compound, intermediated by the so-called 'infinitive' suffix *-e*. This suffix always attaches to V1, combining with V2 to form a verb compound. In (7b), the two verbs *nal* 'fly' and *ka* 'go' likewise form a verb compound, intermediated by the suffix *-a* (an alternant of *-e*). What concerns us here is their pattern of carrying a tense marker. As seen above, it is always V2 that carries a tense marker. If V1 in the two examples carries tense, they become ungrammatical, shown as follows:

- (8) a. *Chelsu-ka pam-ul kuw-*ess-e* mek-*ess-ta*
 b. *say-ka nal-*ass-e* ka-*ss-ta*

The fact that only one verb (V1 in SVO languages and V2 in SOV languages) in SVCs and V-V compounds carries tense strongly indicates that V1 and V2 behave as a single syntactic unit.

2.3. Argument Sharing

The main empirical fact about SVCs is the phenomenon of (internal and external) argument sharing (Dechaine 1986: 90; Baker 1989: 516; Collins 1993: 93). The requirement of argument sharing is stated as follows in Collins (1993: 93):

- (9) Argument Sharing in SVCs
 In a serial verb construction, V1 and V2 must share an internal argument.

Collins (1993: 34) presents three types of examples to show the different patterns of

argument sharing.³

- (10) a. me `a nu `u
 I cooked thing ate
 'I cooked something and ate it'
- b. Kofi ts] ati-e fo Yao
 Kofi took stick-def hit Yao
 'Kofi took the stick and hit Yao with it'
- c. me nya `evi-e dzo
 I chased child-def leave
 'I chased the child away' (Ewe, Collins 1993: 34)

Note that Ewe is an SVO language, where the object occurs to the right of a verb. Observing that there is no internal argument to the right of V2, we might think that V2 is missing an object. In addition, it is not possible to have an overt pronoun as the direct object of V2, as opposed to the English gloss. From the point of view of interpretation, however, it is clear that V2 also has an internal argument; it simply shares the object of V1. This effect is known as "argument sharing." In (10a), *nu* 'thing' is understood as the object of V2 as well as V1. In (10b), the instrument of V2 is understood as the object of V1. In (10c), the theme of V2 is understood as the direct object of V1.

Korean V-V compounds also provide analogous examples of argument sharing.

Consider the following Korean examples:

- (11) a. John-i kaymi-lul nul-e cuki-ess-ta.
 Nom ant-Acc crush-Inf kill-Past-Dec
 'John killed the ant by crushing it' (Yi 1996: 2)
- b. ku keci-ka kulm-e cuk-ess-ta.
 that beggar-Nom starve-Inf die-Past-Dec
 'The beggar starved to death'

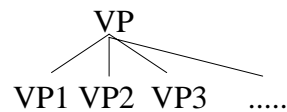
³ Cross-linguistically, there are more patterns of argument sharing. Baker (1991: 79-81), studying the Kwa languages of West Africa and the Bantu languages of East Africa, shows nine patterns of argument sharing: instrumental, manner, causative, locative, directional, benefactive, dative, purpose, ability/modal.

The internal arguments shared by the two verbs, *kaymi* 'ant' in (11a) and *keci* 'beggar' in (11b), assume the same θ -role against V1 and V2 in the series. In this respect, the argument sharing patterns of (10b-c) differ from those of (11). That is, in (10b) *ati-e* serves as the direct object of V1, whereas it serves as the instrument of V2, and in (10c) *`evi-e* serves as the direct object of V1, whereas it serves as the theme of V2. I attribute this difference to a head parameter, which will be illustrated in subsection 5.4 in detail.

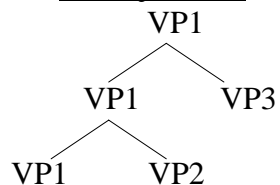
3. The Analysis of SVCs

Within GB Theory, verb serialization has invited a variety of different structures. Broadly speaking, three quite different proposals can be distinguished regarding the underlying form of verb serialization: 'coordination' (Stahlke 1970), 'adjunction' (Hale 1991; Baker 1991), and 'complementation' (Lefebvre 1991; Collins 1993, 1994). Larson (1991: 186-8) introduces three different underlying forms of verb serialization as follows:

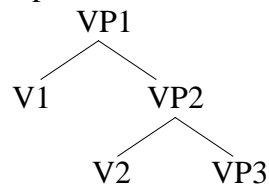
(12) a. VP-coordination



b. VP-adjunction



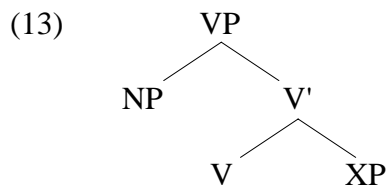
c. Complementation



In this paper, I will basically take up the complementation analysis for discussion of SVCs and Korean V-V compounds for the following reasons. First, the proposed structure depicted in (12c) better illustrates the head-complement relation between V1 and V2.⁴ Second, it provides a better picture of the c-command relation between the two arguments of V1 and V2; one is DP and the other is an empty category such as *pro* or *PRO*, controlled by its antecedent DP.⁵ Third, it is more suitable for the illustration of feature checking in Chomsky (1995). In what follows, I will introduce some basic spirit of Hale and Keyser's (1993) *argument structure*, incorporating them into Chomsky (1995) to depict our structure of SVCs and Korean V-V compounds.

3.1. Argument Structure and SVCs

Collins (1993, 1994) provides a detailed illustration of SVCs in Ewe following the basic spirit of Argument Structure (AS) put forth by Hale and Keyser (1993). The goal of this framework is to give a purely structural account of argument structure, based on the Projection Principle (Chomsky 1981) and the notion that syntax is projected from the lexicon. The core structure of this framework is as follows:



Collins (1993: 5) suggests that the structural relations embodied in (13) are as follows:

- (14) a. if XP is a predicate, Spec VP is licensed under predication.
 b. if XP is not a predicate, Spec VP must be interpreted as a Causer.
 c. V implicates XP.

⁴ In this paper, V1 in SVO languages and V2 in SOV languages are treated as a head with respect to the other V.

⁵ The empty category varies across languages; it is *pro* in Ewe (Collins 1993: 99), whereas it is *PRO* in Japanese (Nishiyama 1996: 9).

(15) V implicates XP iff

- a. the event or state denoted by XP (or XP together with the NP it is predicated of) is the result or consequence of the event denoted by V, or
- b. the event or state denoted by XP (or XP together with the NP it is predicated of) temporally follows the event denoted by V.

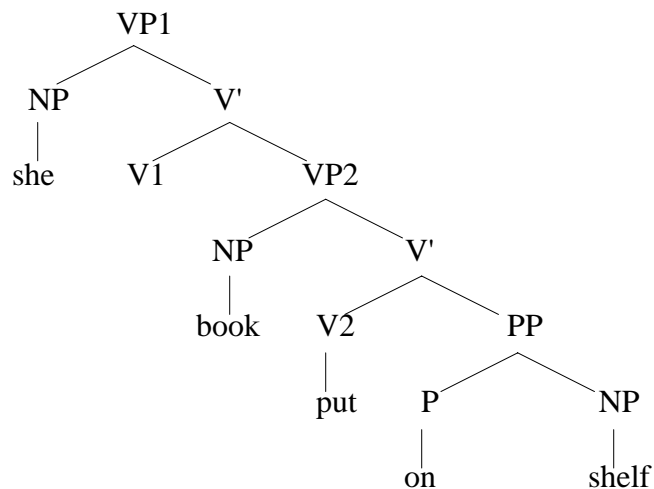
In Hale and Keyser (1993) each of the lexical categories is identified with a particular notional "type," and the relational structures they project define an associated system of semantic relations. Three major lexical categories have the following notional types:

- (16) a. V: (dynamic) event
- b. P: interrelation
- c. A: state

There is an "implication" relation between V and XP. If XP is PP, for example, a (dynamic) event "implicates" an "interrelation". The subject can be licensed to occur in Spec VP only when XP is a predicate. In AS, PP and AP are predicates, while NP and VP are not. If XP is a predicate, it requires that the subject appear in Spec VP.

Let us consider the following example to see how such notational relations are established in a real sentence:

- (17) a. She put the book on the shelf.
- b.



As noted in (16), V denotes a (dynamic) "event" and P an "interrelation." V governs P, the head of its complement. Corresponding to this syntactic relation, V "implicates" PP. To put it another way, a (dynamic) event "implicates" an interrelation. The most salient "meaning" attached to this implication, as Hale and Keyser (1993: 71) notes, is "change." They further note that the elementary semantic expression embodied in this implication corresponds to the situation in which some entity, represented by the subject, comes to be involved in an interrelation with an entity corresponding to the NP object of the P.

In the argument structure of (17), PP serves as a predicate and V implicates PP due to the definition given in (15a); that is, *book's* being on the shelf is the result of her action of putting. In this regard, *book* is licensed in the Spec VP as an (internal) subject under predication, and *she* is an "agent", that is, a causer. In s-syntax, the lexical head *put* moves to the matrix verb V1 by head movement, taking *book* as its object.⁶

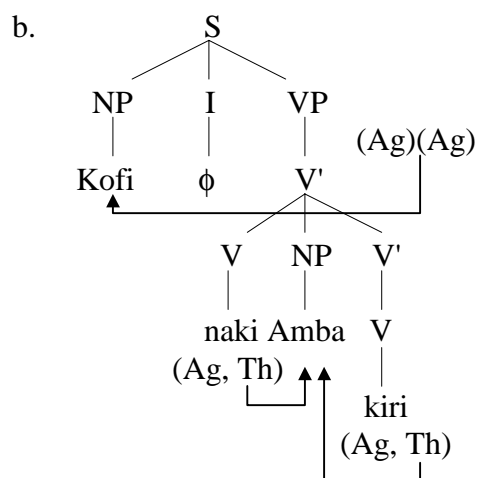
3.2. Argument Sharing and the Structure of SVCs

3.2.1. Baker (1989, 1991)

It was shown in subsection 2.3 that SVCs cross-linguistically must involve internal argument sharing. The phenomenon of argument sharing plays a crucial role in differentiating SVCs from other similar constructions such as coordination and adjunction. Baker (1989: 517) proposes that "object sharing" (argument sharing in our term) takes place in the syntax as well. He gives an example (18a) in Sranan and suggests (18b) as its underlying structure:

- (18) a. Kofi naki Amba kiri.
 Kofi hit Amba kill
 'Kofi struck Amba dead'

⁶ Hale and Keyser (1993) postulate two levels to illustrate argument structure: l-syntax and s-syntax. In their framework, *book* in (17) serves as a subject in l-syntax but an object in s-syntax.



Baker assumes that SVCs are dual headed: V and V' dominated by the upper V'; that is, the two serialized verbs jointly constitute a single predicate. What concerns us at this point is how dual-headedness is expressed. Corresponding to the proposal that argument sharing takes place in the syntax, dual-headedness for Baker (1989, 1991) is expressed directly in the syntax, and thus no lexical relation is assumed to hold between serial verbs prior to D-structure. As shown in the structure, the upper V' contains two competing candidates for head: [_V naki] and [_V kiri]. These two elements count as heads for V', and they both directly assign a θ -role to *Amba*, sharing the direct object.

3.2.2. Collins (1993, 1994)

Collins (1994: 31) points out two main problems with Baker's analysis of SVCs. First, it does not include an empty category within the VP headed by V2. Second, the structure of (18b) does not satisfy the binary branching constraint (Kayne 1984). Additionally and

more importantly, the structure in question will pose a serious problem with Collins's structure of SVCs, which postulates two separate VPs - each headed by V1 and V2, where V1 is a head selecting VP2 as its complement. In what follows, Collins's three major types of SVCs and their structures will be presented, following the VP-complementation analysis and the basic spirit of Argument Structure in Hale and Keyser (1993).

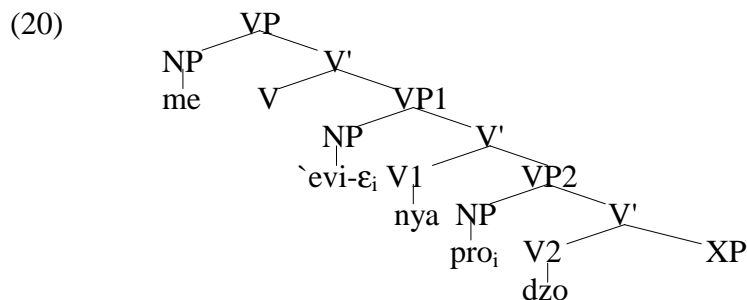
3.2.2.1. Resultative SVCs

A resultative SVC is one in which the second verb is unaccusative, so that it takes as subject the object of the first verb. Let us consider the following examples which represent resultative SVCs, drawn from Collins (1993: 94):

- (19) a. me nya `evi-ε dzo
 I chased child-def leave
 'I chased the child away'
- b. tsitsa y] mi va (suku)
 teacher called us come (school)
 'The teacher called us to come (school)'
- c. Kofi tr] Yao zu adzanta
 Kofi turn Yao become lion
 'Kofi turned Yao into a lion'

As seen above, the object of the first verb serves as the subject of the second verb. In interpretation, the VP headed by the second verb is the result of the action denoted by the first verb. For example, (19a) can be interpreted as 'I chased the child and as a result he left'. Within the AS framework in Hale and Keyser (1993), the first verb can be said to "implicate" the VP headed by the second verb, as defined in (15a), since the event denoted by the first verb is the result of the event denoted by the second verb.

Collins (1993, 1994) assigns (20) to (19a) as an underlying structure, following the basic notions adumbrated in the AS:



Unlike (18b) suggested by Baker (1989, 1991), this structure postulates an empty category *pro* within the subordinate clause, which is coreferential with the object of V1. Argument sharing is established via coreference between the two elements. In addition, V1 and V2 project their own maximal verb phrases, VP1 and VP2. In this regard, dual-headness is not maintained in this structure. V1 selects V2 as complement. When it comes to the status of VP2, it is not a predicate in Hale and Keyser (1993). Collins (1993: 5), however, hypothesizes that in SVCs a VP can be converted into a predicate if one of the NPs contained in the VP is replaced by *pro* (Williams 1980). Note that the NP in Spec VP2 is *pro*, whereby VP2 becomes a predicate. Now *'evi-ε* is forced and licensed as subject under predication.

3.2.2.2. Instrumental SVCs

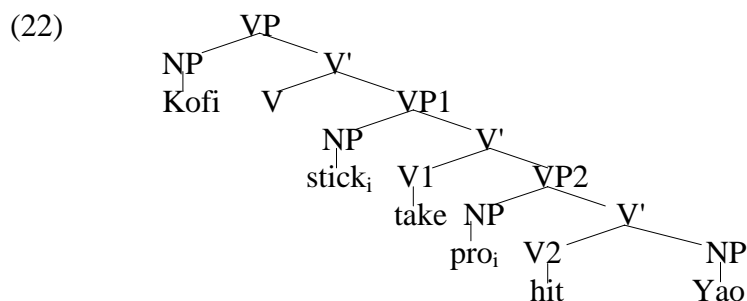
The following examples are representative instrumental SVCs, in which V1 and V2 share an instrumental argument.

(21) a. Ewe

Kofi ts] ati-ε fo Yao
 Kofi took stick-def hit Yao
 'Kofi took the stick and hit Yao with it' (Collins 1994: 47)

b. Yoruba
 olè fi òbe gún oba.
 thief use knife stab chief
 'The thief stabbed the chief with a knife' (Baker 1991: 79)

The underlying structure of (21a) is illustrated as follows (Collins 1993: 48):



The object of V1 is understood as the instrument of V2. Argument sharing is likewise established through coreference between *stick* and *pro*. Due to the presence of *pro* within VP2, VP2 is considered as a predicate. Under predication, *stick* is licensed in Spec VP1 as the subject of V2; however, the agent of the verb *hit* is still understood to be *Kofi* in Spec of the highest VP.

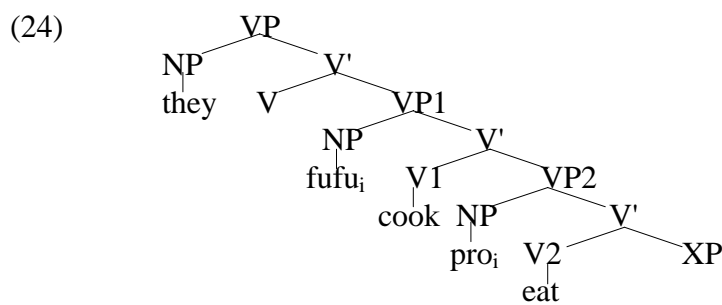
3.2.2.3. Direct Object Sharing SVCs

Another type of internal argument sharing occurs when the direct of V1 is understood as the direct object of V2 as well. This pattern of argument sharing is illustrated in the following examples:

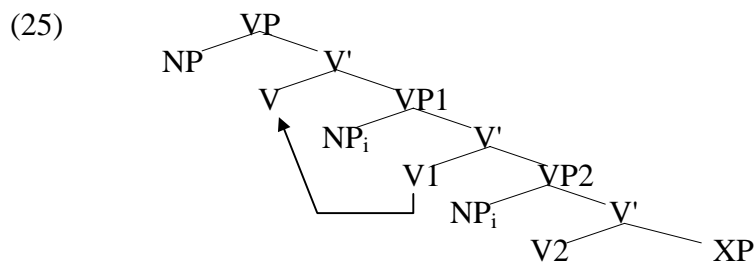
(23) a. wo `a fufu `u.
 they cooked fufu eat
 'They cooked fufu and ate it' (Collins 1994: 2)

b. me fo ka`εgbε gba.
 I hit lamp break
 'I hit the lamp and broke it' (Collins 1993: 91)

In the examples above, V1 and V2 are both a transitive verb, which requires a direct object. Since Ewe is a SVO language, it seems that V2 is missing an object. The fact that (23a) and (23b) are grammatical indicates that V2 also has an object, which is made possible via argument sharing with V1. (23a), for example, will be depicted as follows:



All the structural descriptions of (24) are the same as those of (20) and (22). The underlying structures of three major types of SVCs involve overt verb raising. That is, V1 overtly raises to the matrix verb V, depicted as follows:



V1 raises to the matrix V at S-structure, and it thus takes the NP in Spec of VP1 as object. In this regard, the NP in question is the subject in the I-syntax and then shifts to the object in the s-syntax in the sense of Hale and Keyser.

Baker (1989, 1991) shares with Collins (1993, 1994) one of the most fundamental properties of SVCs, that is, argument sharing. However, they diverge in the manner of sharing an argument. In the former, argument sharing is made possible as V1 and V2, dominated by the same projection V', jointly θ -mark the argument, whereas in the latter

argument sharing is established via coreference between the object of V1 and pro controlled by it.

4. V-V Compounds in Korean

In this section, I will present some properties of Korean V-V compounds (KVVCs) in comparison to those of SVCs. KVVCs share most properties with SVCs such as tense and argument sharing between two verbs in the series. This section will illustrate the argument sharing property of KVVCs in more detail and provide an appropriate account of KVVCs.

4.1. Argument Sharing in KVVCs

In the previous section, we have observed three major types of SVCs across languages. We have seen that argument sharing in Ewe SVCs is possible even when two verbs in the series are of different type, that is, transitive-unaccusative. Argument sharing in KVVCs, on the other hand, is constrained by the following requirement:

(26) Argument Sharing in KVVCs

Two verbs in the series should be of the same type to share an argument.

By constraint (26), the verb sequence in KVVCs should be of transitive-transitive, unaccusative-unaccusative, or unergative-unergative. Look at the verb sequence in the following examples:

- (27) a. John-i kaymi-lul nul-e cuki-ess-ta. (=10a)
 Nom ant-Acc crush-Inf kill-Past-Dec
 'John killed the ant by crushing it' (Yi 1996: 2)
- b. Chelsu-ka koki-lul kuw-e mek-ess-ta.
 Chelsu-Nom meat-Acc roast-Inf eat-Past-Dec
 'Chelsu ate meat by roasting it'

V1 and V2 in the examples above are both transitive, and thus they need their own object. By argument sharing, the objects *kaymi* 'ant' and *koki* 'meat' serve as the direct object of V2 as well as V1.

The ungrammaticality of the following examples clearly shows that KVVCs do not allow argument sharing of resultative-type of SVCs.

- (28) a. *John-i kaymi-lul nul-e cuk-ess-ta.
 John-Nom ant-Acc crush-Inf die-Past-Dec
 'John crushed the ant and as a result it died'
- b. *Chelsu-ka koki-lul kuw-e tha-ess-ta.
 Chelsu-Nom meat-Acc roast-Inf burn(Int.)-Past-Dec
 'Chelsu broiled the meat and as a result it burnt'

In each example, V1 is a transitive verb and V2 is an unaccusative one. The ill-formedness of the examples above is attributed to the requirement in KVVCs that the two verbs in the series should be of the same type.

Argument sharing is possible as far as two verbs in the series are of the same type in KVVCs. The following examples further show the requirement mentioned above:

- (29) a. kkoch-i mal-a cuk-ess-ta.
 flower-Nom dry-Inf die-Past-Dec
 'The flower withered to death'
- b. kong-i thuy-e ol-ass-ta.
 ball-Nom bounce-Inf go up-Past-Dec
 'The ball bounced up'

In each example, the surface subject, which is the underlying object of the two unaccusative verbs, is shared by them.

A last type of verb sequence in KVVCs is unergative-unergative. Hale and Keyser (1991, 1993) and Kayne (1994) assume that unergatives are transitives in the sense that they have covert cognate objects. It follows from this that every verb can be said to have

Top Acc push-topple-Perf fact-Top push-topple-Perf but
'John did push and toppled Bill, but ...'

b. John-wa Bill-o osi-taosi-ta koto-wa *taosi-ta* kedo
Top Acc push-topple-Perf fact-Top topple-Perf but

c. *John-wa Bill-o osi-taosi-ta koto-wa *osi-ta* kedo
Top Acc push-topple-Perf fact-Top push-Perf but

(32) Korean (Yi 1996: 4)

a. John-i koki-lul kuw-e mek-ki-nun *kuw-e mek-ess-ciman*
Nom meat-Acc broil-Inf eat-Noml-Top broil-Inf eat-Past-but
'John broiled and ate the meat, but ...'

b. John-i koki-lul kuw-e mek-ki-nun *mek-ess-ciman*
Nom meat-Acc broil-Inf eat-Noml-Top eat-Past-but

c. *John-i koki-lul kuw-e mek-ki-nun *kuw-ess-ciman*
Nom meat-Acc broil-Inf eat-Noml-Top broil-Past-but

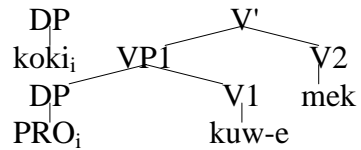
The (a) and (b) examples are good in both languages when V1-V2 or V2 alone is repeated. In contrast, the (c) examples are bad, where V1 alone is repeated. From the asymmetry between the (b) and (c) examples, Nishiyama (1996) and Yi (1996) conclude that V2 is head in Japanese and Korean SVCs.

4.3. Structure of KVVCs

Building on the insights of the VP-complementation analysis (Collins 1993, 1994) and the claim that V2 is head in Japanese and Korean V-V complexes (Nishiyama 1996, Yi 1996), I suggest (33b) as the underlying structure of Korean V-V compound (33a) within the minimalist theory (Chomsky 1995):

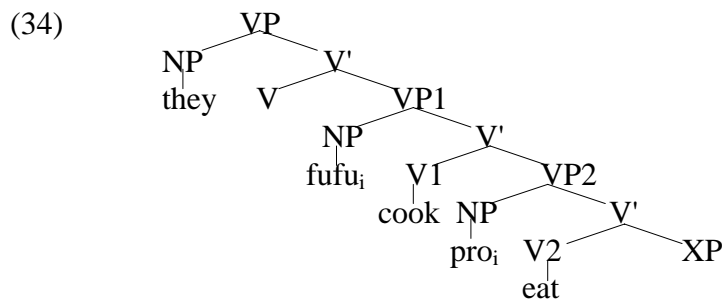
(33) a. Suni-ka koki-lul kuw-e mek-ess-ta.
Nom meat-Acc broil-Inf eat-Past-Dec
'Suni broiled the meat and ate (it)'

b.



4.3.1. Pro vs. PRO

One noticeable difference between the structure of SVCs depicted in (24) and that of KVVCs in (33b) lies in the status of the empty categories, *pro* and PRO. Structure (24) is designated for the direct argument sharing SVC, repeated as (34) here:



We can consider four possibilities of the empty category: A-trace, A'-trace, *pro*, and PRO. First of all, the empty category cannot be an A-trace, since its antecedent is in a θ -position, violating the θ -criterion and the Projection Principle (Chomsky 1981). It cannot be an A'-trace, either, since it is not in a Case-position.⁸ Then, we are left with *pro* and PRO. Collins (1994: 38) asserts that the empty category in Ewe SVCs is *pro* because he assumes that *pro* in Ewe SVCs, unlike PRO in KVVCs, can be assigned Case by the postposition *yi*.⁹ In KVVCs, however, I will argue that the empty category is PRO, following Nishiyama (1996) for Japanese and Yi (1996) for Korean. Looking at the structure in (33b), one might wonder how PRO can occur in a position which is governed by V and assigned Case under government of V. Nishiyama (1996: 9), along the same

⁸ Refer to Burzio's generalization.

line of Bouchard (1993) and Manzini (1983), argues that, with the notion of government discarded in Chomsky (1995), Chomsky's (1981) PRO Theorem should be defined in terms of Case rather than government. Accordingly, he illustrates the distribution of PRO as in (35):

- (35) Distribution of PRO
PRO appears in a non-Case position.

The immediate question arises as to whether the position PRO occupies in (33b) is assigned Case. Referring to Burzio's generalization, I argue that the position is not assigned Case because the verb governing PRO has no external argument.

4.3.2. Verb Serialization and Temporal Iconicity Condition

If we compare the structure of a KVVC in (33b) and that of an Ewe SVC in (34), we find another noticeable difference between the two. That is, the events denoted by the two verbs are in a different temporal sequence in the two languages. In (34), the event denoted by the head (V1 in Ewe, or in SVO languages to be more general) temporally precedes that denoted by the complement verb (V2), whereas vice versa in SOV languages like Korean. Nevertheless, the surface linear order of V1 and V2 is the same in the two languages. Simply due to a difference in word order, V1 happens to be a head in Ewe, whereas V2 in Korean.

This asymmetrical difference with regard to verb serialization can be captured by what Li (1993: 499) calls 'Temporal Iconicity Condition', stated in (36).

- (36) Temporal Iconicity Condition (TIC)
Let A and B be two subevents (activities, states, changes of states, etc.) and let A' and B' be two verbal constituents denoting A and B, respectively; then the

⁹ Collins (1993: 21) dubs *yi* as "doubling *yi*" because it optionally doubles any nominal expression which is in the minimal domain of the verb and is not the direct object. He says that doubling *yi* is a default Case assigner, and thus that it can only double DPs that are not already assigned Case, avoiding "Case conflict".

temporal relation between A and B must be directly reflected in the surface linear order of A' and B' unless A' is an argument of B' or vice versa.

As far as verb serialization is concerned, a typological difference between SVO and SOV languages is obscured by this condition. Li (1993: 500) gives the following two examples of two different types of language for a further facilitation of the condition in (36).

(37) a. Sranan (SVO):

Mi e **teki** a nefi **koti** a brede.
 I Asp **take** the knife **cut** the bread
 'I cut the bread wit the knife'

b. Ijo (SOV):

áràú zu-ye **ákì** buru **teri-mí**.
 she basket **take** yam **cover-Past**
 'She covered a yam with a basket'

Although the structures above are drawn from two different languages in head-parameter, they receive the same interpretation, where the action of holding the instrument precedes that of the central activity. In other words, the two events denoted by the two verbs are temporally in the same sequence, although the event denoted by the head is different. Evidently, the TIC holds cross-linguistically in serial-verb languages, as noticed in the literature that in such languages the same semantic relation between two verbal constituents is always expressed in the same linear order, totally without regard to other syntactic properties of the languages (Sebba 1987; Muysken 1988).

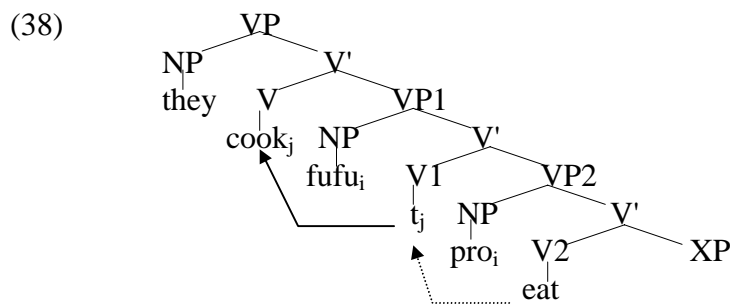
5. Compounding and Feature Checking

Another noticeable difference between SVCs in Ewe (and some other Kwa languages) and KVVCs is that V1 and V2 are adjacent in the latter, whereas they are not in the former, intermediated by an argument shared by V1 and V2. Corresponding to Collins's

(1993: 92) remark that SVCs undergo LF incorporation for compounding, I will argue that KVVCs undergo overt incorporation for the same purpose. The difference in the level of compounding will naturally yield other significant structural differences. In this section, I will examine such differences and illustrate how KVVCs undergo feature checking under the minimalist syntax (Chomsky 1995).

5.1. SVCs as Covert Compounding

Building on the insight of Stowell's LF incorporation analysis of English small clauses, Collins (1993: 93) asserts that in SVCs V2 incorporates into V1 at LF.¹⁰ LF incorporation in (34) will be depicted as follows:



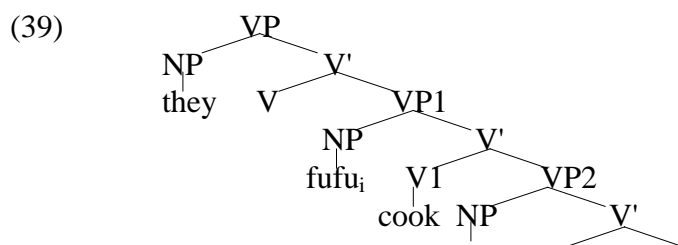
V1 is seen to raise overtly to V. The functional category V is analogous to the light verb *v* in Chomsky (1995). The motivation of overt raising can be explained by the feature-checking mechanism. That is, the functional category V is assumed to be strong in this language, whereby V1 raises to check its strong V-feature. As far as V2 is concerned, Collins remarks that it incorporates into V1 at LF. A technical problem Collins raises with LF incorporation of V2 is how it incorporates into V1 at LF, since the trace of V1 intervenes. If V2 directly incorporates into V1 over the trace, it will violate the Head Movement Constraint (Baker 1988). As a way out of this problem, Collins (1993: 101)

¹⁰ Stowell (1991: 185) argues that in small clauses of the sentence "I consider John foolish" the secondary predicate *foolish* incorporates into the main verb *consider* at LF.

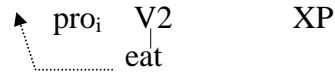
suggests that V2 first adjoins to the trace of V1 and then the resulting complex moves and adjoins to T at LF.

This reasoning still leaves two technical problems to be overcome within the minimalist framework. First, why are the V-features of V1 and V2 checked at two different levels, before Spell-Out and at LF? We can provide an account of this phenomenon in terms of the feature strength of T. That is, T in Ewe is not so strong as that in Korean, and thus only V1 alone raises to T in order to check the V-feature of T before Spell-Out. Second, Collins's suggestion that V2 incorporates into V1 at LF will not be tenable within the minimalist theory, since in Chomsky (1995) it is assumed that at LF only formal features (FFs) move for feature checking.¹¹ Following the spirit of LF movement of FFs advocated in Chomsky (1995), I argue that at LF only FFs of V2 first adjoin to the trace of V1, forming a feature complex, and further raise to T in order to adjoin to V1 for feature checking. It should be noted that the V-feature of V2 is not checked independently of that of V1; rather, it is checked jointly with that of V1.

Collins's LF incorporation analysis has another consequence for agent θ -role assignment. In Hale and Keyser's (1993) AS framework Collins adopts for the illustration of SVCs, the Spec of VP1 is 'theme' and the Spec of VP (called matrix VP) in (39) is 'agent'. These θ -roles are entirely determined by syntactic relations.



¹¹ V2 is taken to move at LF as a whole phonetic content, which violates the Economy Condition in the sense of Chomsky (1995).



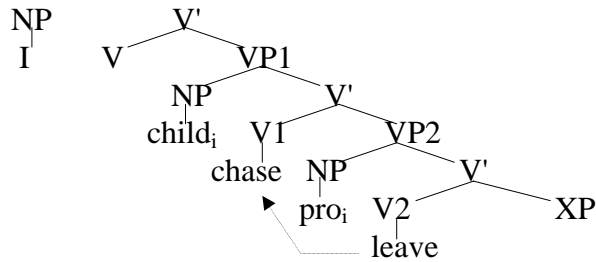
The NP *fufu* is forced to appear in the Spec VP1 as the subject under predication, since VP2, as defined by Collins (1993: 5), is a predicate. This subject NP is called 'theme'. What is the role of 'they' in the Spec VP? By hypothesis in Hale and Keyser (1993: 70), the syntactic relation between the matrix V and VP1, which is not a predicate, corresponds uniformly to the "causal" relation. The external argument of the matrix verb in the "causal" relation is defined as "agent". Although Hale and Keyser do not use the terminology "assign", it is evident that the "agent" role is *assigned* by VP1 headed by the matrix verb (V1).¹² The problem is how V2 participates in "agent" role assignment to *they* in the Spec VP. Collins (1994: 49) explains that it is through LF incorporation of V2 into V1. At LF, V2 raises and adjoins to V1 'cook' and assigns the "agent" role to *they*. In this way, the external argument *they* is shared by V1 and V2, receiving a θ -role from them. Thus, *they* is the agent of both V1 and V2. Within the minimalist framework, however, only FFs of V2 are assumed to raise and adjoin to V1 in order to jointly assign an agent role to *they* in the Spec VP.

Resultative SVCs show the same mechanism of assigning an "agent" role to the external argument, differentiating the notion of "agent" from "subject". Let us consider the resultative SVC (19a), repeated as (40a) here, and its underlying structure (40b):

- (40) a. me nya `evi-ε dzo
 I chased child-def leave
 'I chased the child away'

b. VP

¹² This is essentially consistent with the view developed by Chomsky (1981) and Marantz (1984) that the subject (agent here) receives its semantic role from VP, not from the V itself.

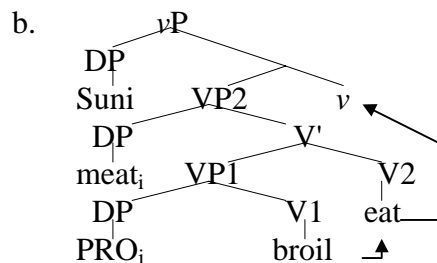


As in (39), at LF the FFs of V2 *leave* is assumed to raise and adjoin to V1 *chase* to assign an "agent" role to *I*. (40a) could be interpreted as follows: 'I chased the child and as a result the child left'. Clearly, *child* is the subject of the verb *leave*, whereas *I*, as a causer, is the agent of not only V1 but also V2.

5.2. KVVCs as Overt Compounding

In comparison to SVCs in Ewe, the formation of KVVCs is straightforward. Since V1 and V2 are always adjacent to each other, V1 (the complement verb) is seen to overtly incorporate into V2 (the head). In addition, the direct object of V2 does not intervene between V1 and V2. The direct object of V2 always occurs to the left of V1 due to a head-final parameter. Let us consider (33), repeated as (41) here:

- (41) a. Suni-ka koki-lul *kuw-e mek-ess-ta*.
 Nom meat-Acc broil-Inf eat-Past-Dec
 'Suni broiled the meat and ate (it)'



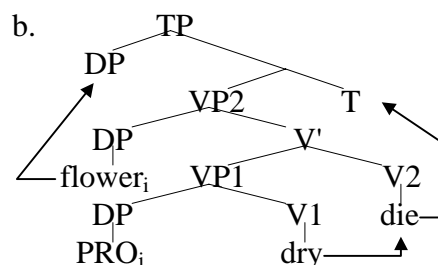
Recall that the complement V in SVCs - V1 in (41b) but V2 in (40b) - raises to the head V at LF. In contrast to covert raising, (41b) clearly illustrates overt verb raising before

Spell-Out. V1 overtly raises to V2 in order to form a verb compound, which in turn further raises to the light verb *v*.

If the analysis of covert raising in SVCs is correct, this structural asymmetry can be attributed to the relative feature strength of the functional category T as follows. First, the head V in KVVCs has a strong V-feature and it forces V2 to raise at overt syntax. This reasoning is, however, inconsistent with the tenet of the minimalist framework that only functional categories can have strong features. Second, the functional category T in Korean is so strong that it requires that its strong V-feature be checked off in the overt syntax by the verb compound as a whole, not by the head V alone. The verb compound in (41a) *kuw-e mek* first raises to *v* and then to T to check its strong V-feature.

In contrast, unaccusative verb compounds directly raise to T for feature checking. Let us consider the unaccusative compound in (29a), repeated as (42a) here:

- (42) a. *kkoch-i mal-a cuk-ess-ta.*
 flower-Nom dry-Inf die-Past-Dec
 'The flower withered to death'



(42b) is roughly the underlying structure of the unaccusative verb compound (42a). In this structure, T selects the verb compound consisting of two unaccusative Vs. As assumed above, T checks its strong V-feature by the whole compound at overt syntax, not by the head V alone. Due to this feature checking behavior of T in KVVCs, V1 is required to

overtly raise to V2, the head verb. In this paper, I take the second hypothesis to account for the phenomenon of overt incorporation of V1 into V2.

5.3. Lexical Verb Compounds

Our analysis sketched above in terms of VP-complementation and feature checking can also provide a more principled account of some lexical verb compounds. The following verb compounds are taken to be formed in the lexicon due to some differences in syntax and semantics.

- (43) Toli-ka ku chayk-ul kaci-e o/ka-ass-ta.
 Toli-Nom that book-Acc get-Inf come/go-Past-Dec
 'Toli brought/took the book'

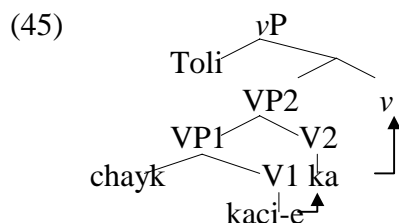
The directional verbs *o* 'come' and *ka* 'go' in Korean often combine with other verbs to form a lexical compound. This example well represents a cross-linguistic difference in expressing events between English and Korean, as noted in Givón (1991: 137) that an event/state that one language codes as a simple clause with a single verb is coded, in another language, as a complex clause with two or more verbs. That is, the simple English verbs *bring* and *take* are expressed as two-word verbs in Korean.

(43) is treated as a lexical compound because the two verbs cannot be split by 'predicate cleft' constructions, shown as follows:

- (44) a. Toli-ka ku chayk-ul kaci-e o/ka-ki-nun **kaci-e o/ka-ass-ciman**
 Toli-Nom that book-Acc get-Inf come/go-Nml-Top get-Inf come/go-Past-but
 'Toli brought/took that book, but ...'
 b. *Toli-ka ku chayk-ul kaci-e o/ka-ki-nun **o/ka-ass-ciman**
 Toli-Nom that book-Acc get-Inf come/go-Nml-Top come/go-Past-but

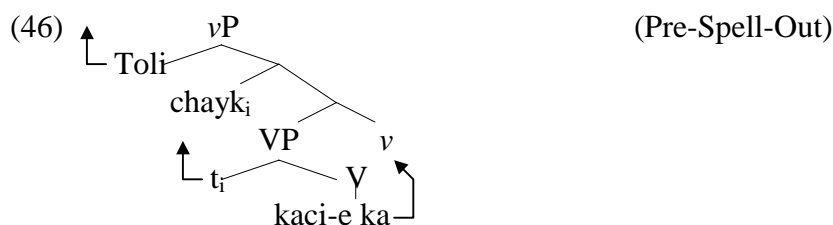
As (44b) shows, V1 and V2 cannot be split, which is due to the fact that they form a verb compound in the lexicon. In addition, (43) shows a different pattern of argument sharing

from regular V-V compounds we have discussed so far. As shown in (43), V1 is a transitive verb taking its direct object *chayk* 'book', whereas V2 is an unergative verb taking no internal argument. This clearly runs against the constraint stated in (26). The syntactic formation account of (43) is also ruled out by the following structure:



If (43) is assumed to be formed in the syntax, it will undergo overt verb incorporation illustrated in (45). The problem with this derivation is that the direct object *chayk* of V1 will not be assigned Case by Burzio's generalization. The functional category v , however, needs to check its Case feature. Thus, the derivation will crash.

If the verb compound in (43) is formed in the lexicon, (46) will be assigned the underlying structure of (43).



The hypothesis that the verb compound in (43) is derived in the lexicon proves to be correct by the convergent derivation in (46). The lexical compound *kaci-e ka* 'take' takes *chayk* as its internal argument with a Case feature, which is checked off in the Spec of v , as desired. Therefore, our prediction that KVVCs sharing an internal argument with the same θ -role are formed in the syntax is borne out, as evidenced in (46).

5.4. Lack of Resultative SVCs in Korean

As noted in (26), two verbs in a KVVC should be of the same type. They should be a pair of transitive-transitive, unaccusative-unaccusative, or unergative-unergative. Due to this requirement, Korean lacks resultative SVCs often found in the Kwa languages, which are composed of a transitive verb (V1) and an unaccusative verb (V2). With regard to this fact, we can raise relevant questions such as why a KVVC has requirement (26), and how this requirement is accommodated within the framework adopted for this paper.

As a first approximation, we had better look at the definition of "implicate" given in (15), repeated as (47) here:

- (47) V implicates XP iff
- a. the event or state denoted by XP (or XP together with the NP it is predicated of) is the result or consequence of the event denoted by V, or
 - b. the event or state denoted by XP (or XP together with the NP it is predicated of) temporally follows the event denoted by V.

XP here corresponds to VP2 in a SVC. By hypothesis (Collins 1993: 5), VP2 is a predicate because it contains an empty category 'pro'. In a resultative SVC, VP2 is the result or consequence of the event denoted by V1, the head V. For concreteness, look at the resultative SVC in (40a). Example (40a) is interpreted as "I chased the child and as a result the child left." Clearly, the event of 'child's leaving' is the result of the event 'chasing the child' denoted by the head V (V1). By definition (47a), V1 is taken to "implicate" VP2. Due to this "implication" relation, VP2 serves as a predicate with respect to the direct object 'child'. The direct object of V1 is licensed in the Spec VP1 as the subject under predication, as defined in (14a).

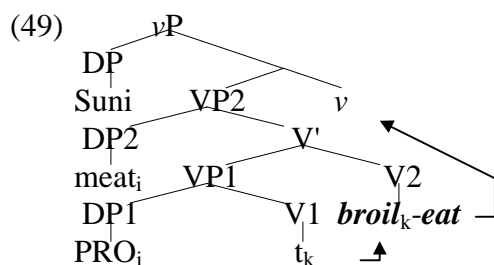
Turning to direct object sharing SVCs, we can ask ourselves whether the "implication" relation holds between V1 and VP2. Consider the following example:

- (48) wo `a fufu `u.

they *cook* fufu *eat*
 'They cooked fufu and ate it' (Collins 1994: 2)

The question is whether the event denoted by *eat* (V2) is the result or consequence of the event denoted by *cook* (V1). The answer is negative. Rather, their relation is a sort of temporal sequence. That is, the event denoted by the complement V (V2) temporally follows the event denoted by the head V. Nevertheless, the head V is said to "implicate" VP2 by definition (47b), and VP2 is a predicate.¹³ The direct object of the head V is likewise licensed in the Spec VP1 as the subject.

Let us turn to the KVVC in (41), which is the counterpart of the direct object sharing SVC in (48). As example (41) shows, the temporal sequence of the head V (V2) and the complement V (V1) is opposite. That is, the event denoted by the complement V (V1) temporally precedes the event denoted by the head V (V2). For this reason, the head V does not "implicate" VP1 in the sense of Collins (1993, 1994). Since VP1 is not "implicated" by the head V, it is not a predicate with respect to the direct object of the head V. To put it another way, the direct object *koki* 'meat' can never become the subject of VP1, as shown in (49):



¹³ Definition (47b) is in fact an extension of the notion of "implicate" to include the relation between V1 and V2 in direct object sharing SVCs, which involve only temporal succession, not consequence.

As (49) illustrates, V1 *broil* overtly incorporates into V2 *eat*, forming a verb compound *broil-eat*. At the stage of the derivation of V', DP2 is merged in the Spec of V2 as an internal argument shared by the compound verb.

6. Conclusion

The comparative investigation of serial verb constructions in the Kwa languages and Korean V-V compounds throughout this paper reveals some similarities in grammatical aspects such as serialization and argument sharing. This has led some researchers to treat Korean V-V compounds as serial verb constructions. In this paper, however, I have argued that they are real verb compounds formed in the syntax by overt incorporation. This overt incorporation is motivated by the requirement that the strong V-feature of the functional category T be checked off by the verb compound before Spell-Out. In addition, Korean verb compounds lack a resultative-type of serial verb constructions. I have attributed the lack of such constructions to the head-parameter; VP1 does not serve as a predicate in the sense of Collins (1993, 1994) because Korean is a head-final language.

References

- Baker, Mark. 1989. Object sharing and projection in serial verb constructions. *Linguistic Inquiry* 20: 513-553.
- Baker, Mark. 1991. On the relation of serialization to verb extensions. Claire Lefebvre ed. *Serial verbs: grammatical, comparative and cognitive approaches*. 79-102.
- Bamgbose, A. 1974. "On serial verbs and verbal status", *Journal of West African Linguistics* 9: 17-48.
- Bouchard, D. 1993. *On the Content of Empty Categories*. Foris, Dordrecht.
- Burzio, L. 1986. *Italian Syntax: A Government and Binding Approach*. Dordrecht: Kluwer.

- Chung, T. 1993. *Argument Structure and Serial Verbs in Korean*. Ph. D. dissertation, University of Texas at Austin.
- Collins, Chris. 1993. *Topics in Ewe Syntax*. Ph. D. dissertation. MIT. Cambridge, MA.
- Collins, Chris. 1994. "Argument sharing in serial verb constructions", ms. Cornell University.
- Déchainé, Rose-Marie. 1992. "Serial Verb Constructions," *Syntax: An International Handbook of Contemporary Research*. Berlin: de Gruyter.
- Givón, T. 1991. "Some substantive issues concerning verb serialization: grammatical vs. cognitive packaging", Claire Lefebvre ed., *Serial Verbs: Grammatical, Comparative and Cognitive Approaches*. 137-184.
- Griffiths, Glyn. 1991. *Wh-Movement in Kadiwéu*. Ph. D. dissertation. Reading University.
- Hale, Ken. 1991. Misumalpan Verb Sequencing Constructions. Claire Lefebvre ed., *Serial Verbs: Grammatical, Comparative and Cognitive Approaches*. 1-36.
- Hale, K. and S. J. Keyser. 1993. On Argument Structure and the Lexical Expression of Syntactic Relations. K. Hale and S. J. Keyser eds., *The View from Building 20*: 53-109. Cambridge: MIT Press.
- Kayne, R. S. 1994. *The Antisymmetry of Syntax*. Cambridge, MA: MIT Press.
- Larson, Richard K. 1991. Some issues in verb serialization. Claire Lefebvre ed., *Serial Verbs: Grammatical, Comparative and Cognitive Approaches*. 185-211.
- Lee, S. 1992. *The Syntax and Semantics of Serial Verb Constructions*. Ph. D. dissertation, University of Washington, Seattle.
- Lefebvre, Claire. 1991. Take serial verb constructions in Fon. Claire Lefebvre ed., *Serial Verbs: Grammatical, Comparative and Cognitive Approaches*. 37-78.
- Li, Yafei. 1991. On deriving serial verb constructions. Claire Lefebvre ed., *Serial Verbs: Grammatical, Comparative and Cognitive Approaches*. 103-135.
- Li, Yafei. 1993. "Structural Head and Aspectuality," *Language* 69: 480-504.
- Manzini, M. R. 1983. "On Control and Control Theory," *LI* 14: 421-446.
- Marantz, A. 1984. *On the Nature of Grammatical Relations*. Cambridge, MA: MIT Press.

- McWhorter, John. 1993. Review of "When verbs collide: Papers from the 1990 Ohio State mini-conference on serial verbs". *Journal of Pidgin and Creole Languages* 8.2: 310-14.
- Muysken, P. 1988. "Parameters for Serial Verbs," ms. University of Amsterdam.
- Nishiyama, Kunio. 1996. V-V Compounds as Serialization. ms. Cornell University.
- Sandalo, Filomena. 1997. A grammar of Kadiwéu: with special reference to the polysynthesis parameter. *MIT occasional papers in linguistics* 11, distributed by *MIT working papers in linguistics*. Cambridge, MA.
- Schachter, P. 1974. A non-transformational account of serial verbs. *Studies in African Linguistics*. Supplement 5: 252-270.
- Sebba, M. 1987. *The Syntax of Serial Verbs*. Amsterdam: John Benjamins.
- Stahlke, H. F. W. 1970. "Serial Verbs," *Studies in African Linguistics* 1. 60-69.
- Stowell, T. 1991. "Small Clause Restructuring," Robert Freidin ed. *Principles and Parameters in Comparative Grammar*. 182-218. Cambridge: The MIT Press.
- Williams, Edwin. 1980. Predication. *Linguistic Inquiry* 11: 203-238.
- Yi, E. 1996. Verb Compound and the Serial Verb Constructions (SVCs) in Korean. ms. Cornell University.

- ** Sandalo (1997: 102): Nagarajannnn (1990) (cited in McWhorter 1993) proposes that Tamil's INFL assigns no morphology to verbs, and suggests that this may be a feature common to serializing languages.
- ** Hale (1991: 8): It is a characteristic of serial constructions that one or more of the verbs involved is reduced, or altered, in terms of its lexical conceptual structure, functioning as a modifier, of sorts, within a composite conceptual structure.
- ** Lefebvre (1991: 37): My proposal is that serial verbs are derived complex predicates which are formed prior to D-structure by means of operations on the Lexical Conceptual Structure of verbs (using the terminology of Hale and Keyser (1987)).
-Refer to previous studies on p. 42-44.
- ** Li (1991: 103-4): Refer to characteristics of SV languages.
- ** Givón (1991: 137): Refer to the definition of verb serialization - "An event/state that one language codes as a simple clause with a single verb, is coded in another language as a complex clause with two or more verbs."