

The Strong Minimalist Thesis (SMT): Form Copy (FC) and the Serial Verb Construction (SVC)*

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1 Introduction

Serial Verb Constructions (SVCs) occur in many languages, e.g. Japanese (and Korean). In an SVC, the two verbs must share Tense. SVCs in Japanese are productive. They have compositional and non-compositional (idiomatic) meanings across transitive and intransitive verb types, as shown in Table 1.

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	Verb Types	SVCs
(a)	Tr.-Tr.	<i>home-tataeru</i> ‘admire-praise’ <i>tate-naosu</i> ‘stand-fix’ (idiomatic: gather oneself together)
(b)	Tr.-Unacc.	<i>tuki-sasaru</i> ‘poke-get.stuck’
(c)	Tr.-Unerg.	<i>ii-yoru</i> ‘say-come close’ (idiomatic only: ‘make advances, hit on’)
(d)	Unacc.-Tr.	<i>yoi-tubusu</i> (get.drunk-crush) ‘get wasted’
(e)	Unacc.-Unacc.	<i>yake-kogeru</i> (burn-char) ‘burn’
(f)	Unacc.-Unerg.	<i>nare-sitasimu</i> (get.used.to-contact) ‘familiarize oneself (with)’
(g)	Unerg.-Tr.	<i>odori-akasu</i> ‘dance-stay awake’
(h)	Unerg.-Unacc.	<i>nige-okureru</i> ‘flee-be.late’ <i>yuki-todoku</i> ‘go-reach/arrive’ (idiomatic only: be well-organized/be satisfying)
(i)	Unerg.-Unerg.	<i>tobi-haneru</i> ‘fly-jump’

Table 1. Japanese SVC types (Tr. = Transitive, Unacc. = Unaccusative, Unerg. = Unergative)¹

SVCs have been the subject of a great deal of research (see Nishiyama 2008, Kageyama 2016, and references therein, as well as the online Comp Compound Verb Lexicon). Kageyama (1989, 1993) proposes that SVCs must be divided into two kinds, lexical compounds and syntactic compounds that behave differently, e.g., the phrase *soo su* ‘do so’ can replace the first verb of a syntactic compound, as in (1)a, but not the first verb of a lexical compound as in (1)b. However, Nishiyama (1998) argues that there is no syntactic/lexical distinction, proposing instead that SVCs are all syntactic in nature. Nishiyama makes use of PRO and proposes a structure in which each V has its own Transitive (Tr) head that can be either active or inactive. In this paper, we develop a Minimalist account, assuming Chomsky’s GK (*Gengo Kenkyu*) theory (Chomsky 2021). Like Nishiyama, we assume a syntactic approach. However, we make use of Form Copy (FC), a fundamental mechanism in GK theory that is (independently) needed to distinguish copy/repetitions at the Conceptual-Intensional interface.

- (1) a. *sime-wasureru* ‘close-forget’ → *soo si-wasureru* ‘do so-forget’
(Kishimoto 2020:146)

¹ In Kishimoto (2020), Japanese verbs that have an accusative-marked internal argument are considered to be transitive. Verbs with a single dative-marked internal argument are intransitive.

b. *tobi-agaru* ‘jump-rise’ → **soo si-agaru* ‘do so-rise’ (Kageyama 1989:79)

Our goal is to explain how SVCs naturally and smoothly fit into the theory of language (GK) and why they exist. We make the reasonably uncontroversial assumption that verbs contribute argument structure that is projected in syntax. The problem then reduces to how SVC verbs may be combined/linked. We claim there is no novel mechanism (either lexical or syntactic) needed. Verbal arguments are linked by Form Copy (FC) (Chomsky 2001), defined in (2), subject to semantic/pragmatic compatibility. We assume Chomsky’s *Duality of Semantics* (Chomsky 2007). External Merge (EM) alone is responsible for building argument structure. We can ask why SVCs exist in language. The Strong Minimalist Thesis (SMT) (Chomsky 2000, 2001, and subsequent work) states that language makes optimal use of the new functionality enabled by some minor rewiring of the brain. That new functionality is Merge and ancillary operations that interpret and externalize structure. Hence, SVCs are permitted under the *enabling function* of SMT. Note that SVCs also improve the economy of language because they permit what can be expressed via multiple clauses (one clause per verb) within a single clause structure (containing two verbs). We observe that this reduction to mono-clausal structure only happens if there is a reduction in the total number of (independently expressed) arguments. Therefore, Valency Reduction, defined in (4) below, must obtain. Under SMT, language does not (and may not) invent a new mechanism solely for this purpose. Instead, it simply achieves this argument sharing via FC. We believe no other assumptions are needed.

- (2) *Form Copy* (FC): establish a copy relation between two (c-commanding) **identical inscriptions** via Minimal Search (*our definition*, adapted from Chomsky 2021).
- (3) *Minimal Search* (MS): stop as soon as the first eligible item is found in the c-command domain (Chomsky 2001).
- (4) *Valency Reduction* (economy condition): the total number of arguments must be reduced (by least one) when *argument-taking* verbs are combined in a mono-clausal structure.

We note that FC is not an extra operation; it can be viewed as fundamental given SMT, i.e. a natural consequence of the simplest possible relations definable on identical inscriptions, viz. dominance and sisterhood (Noam Chomsky, pc.).

We note that our theory does not apply to SVCs with an aspectual verb (e.g., *yomi-hazimeru* ‘read-begin’, *yomi-owaru* ‘read-finish’, *kaki-oeru* ‘write-finish’), as there is no argument sharing in these compounds. More precisely, the aspectual verb in the SVC does not appear to assign a theta role. For example, *hazimeru* ‘begin’ takes a clausal complement; it does not have any arguments of its own to be shared with the substantive verb in the SVC.²

2 SVC Argument Structure

Examples (5)a-c show two transitive verb constructions, and an SVC that is formed from their combination. Each verb assigns a theta-role to an internal argument and an external argument. Under identity, we obtain FC(Ken, ~~Ken~~) and FC(Miki, ~~Miki~~), as shown in Figure 1. FC results in the lower internal and external arguments being unpronounced. Note that the higher external argument *Ken* undergoes Internal Merge (IM) to subject position in INFL.

- (5) a. Ken-ga Miki-o home-ta b. Ken-ga Miki-o tatae-ta
 K.-Nom M-Acc praise-Pst K.-Nom M-Acc admire-Pst
 ‘Ken praised Miki.’ ‘Ken admired Miki.’
 c. Ken-ga Miki-o home-tatae-ta
 K.-Nom M.-Acc admire-praise-Pst
 ‘Ken greatly admired Miki.’

Example (6) also shows two transitive verbs and their corresponding Tr.-Tr. SVC, but with two overtly pronounced objects, which is rare but perfectly grammatical. Note that *mati-o sake-o* ‘town-Acc alcohol-Acc’ appears to violate the Double-*o* Constraint (Harada 1973), but this is still well-formed. In this case, FC cannot apply to the objects because they are different inscriptions. The structure is showed in Figure 2 below.

- (6) a. Ken-ga sake -o non-da
 K.-Nom alcohol-Acc drank-Pst
 ‘Ken drank alcohol.’

² Note that there are a variety of compounds formed from verbs in Japanese which we do not consider to be SVCs. With the exception of the nominalized V-V compounds in (iv), the compounds in (i)-(iii) do not involve compounds formed from two verbs.

(i) V+N: *yaki-niku* ‘broiled meat’, *nomi-mizu* ‘drink-water’ (Kageyama 2016:273)
 (ii) N+V: *tema-doru* (time-take) ‘take time’ (Kageyama 2009:517)
 (iii) N+deverbal N (*suru* ‘do’): *yoko-dori* (side-take) ‘to steal something’, *kuti-dome* (mouth-stop) ‘silence (someone)’ (Sugioka 2002, Akimoto 2023)
 (iv) V+deverbal N (*suru* ‘do’): *tati-gui* (stand-eat) ‘eating while standing’, *osi-uri* (push-sell) ‘selling things aggressively’ (Nishiyama 2008, per Fukushima 2005)

b. Ken-ga yoru-no-mati-o arui-ta
 K.-Nom night-Gen-town-Acc walk-Pst
 'Ken walked the town at night.'

c. Ken-ga yoru-no mati-o sake-o nomi-arui-ta
 K.-Nom night-Gen town-Acc alcohol-Acc drink-walk-Pst
 'Ken went bar-hopping at night.' (cf. Kageyama 1993)

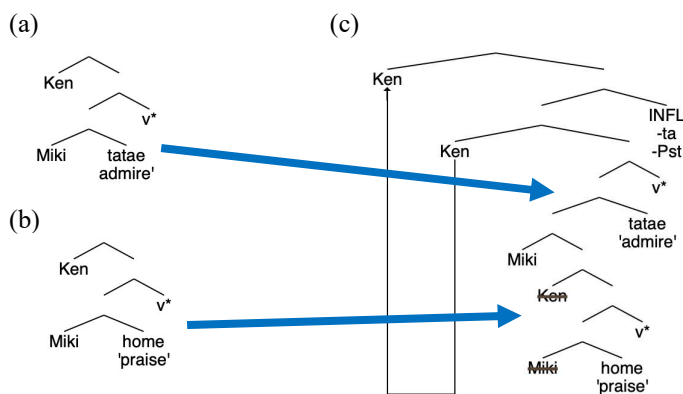


Figure 1. Transitive-Transitive SVC

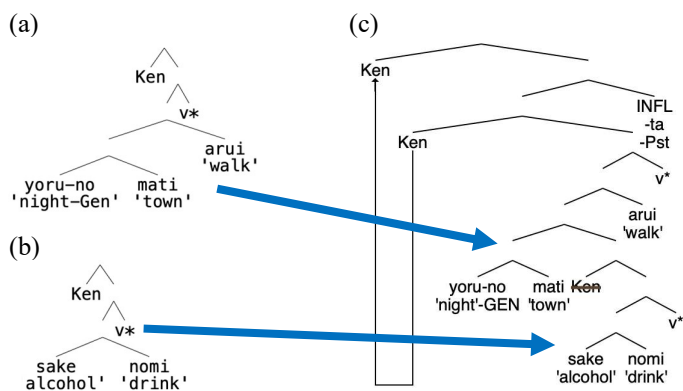


Figure 2. Transitive-Transitive SVC with unique objects

Verb semantic properties also come into play in determining which SVC combinations are possible. In (5)c above, note that *home-tataeru* 'praise-admire' is semantically a combined event that requires the same object *Miki*. In (7)a, however, *osi* 'push' and *taosi* 'topple' are inextricably connected events requiring the same object: a body part is insufficiently similar to the whole,

thus resulting in ill-formedness. In (7)b *karada* ‘body’ refers to Ren’s body, so this is acceptable. Note that because *Ren* and *karada* are not identical inscriptions, FC, cannot apply. However, relations between entities can also be formed during semantic interpretation.

- (7) a. *Ken-ga Ren-o *mune-o osi-taosi-ta.
 K.-Nom R.-Acc chest-Acc push-topple-Pst
 ‘Ken toppled Ren by pushing his chest.’ (cf. Nishiyama 1998)
 b. ?Ken-ga Ren-o karada-o osi-taosi-ta.
 K.-Nom R.-Acc body-Acc push-topple-Pst
 ‘Ken toppled Ren(’s body) by pushing him.’

Our analysis seems to predict that a Tr.-Tr. example such as (8) is possible, in which FC applies to internal arguments, but not to external arguments of the 2 verbs. In (8), Hanako and Ken would both be referring to their son, who Ken admires and Hanako praises. However, (8) seems to only allow the interpretation in which Hanako and Ken are both doing the admiring and praising (as if they are conjoined). One possibility is that language does not permit more than one external argument in a mono-clausal structure, i.e. EM cannot form [EA2, [EA1, [[IA, R], v*]]] in which both EA1 and EA2 get theta roles (EA = External Argument, IA = Internal Argument).³

- (8) a. ?Hanako-ga Ken-ga musuko-o home-tatae-ta.
 H.-Nom K.-Nom son-Acc admire-praise-Pst
 ‘Hanako and Ken admire and praise their son.’
 b. {Hanako, {{{son, {Ken, {son, admire}, v*}}}, praise}, v*}}

Note that Valency Reduction, defined in (4) above, does not imply that Valency Reduction is obligatory for an external argument. For example, in (9), only *mato* ‘target’, which is the internal argument of both *tuki* ‘get’ and *sasat* ‘stuck’, is subject to Valency Reduction.

- (9) Ya-ga mato-ni tuki-sasat-ta
 arrow-Nom target-Dat poke-get.stuck-Past
 ‘The arrow hit the target.’

Furthermore, idiomatic interpretations of SVCs are found for many (if not all) types of V-V combinations. As idioms are explicitly learned, it follows

³ The wide variety of so-called multiple subject constructions (Kuno 1973) in Japanese do not appear to violate this constraint, but we leave this for further examination.

that computed V-V FC relations may be stored in the lexicon too. Some examples are shown in Table 1 above.

3 Passivization

Passivization of the first verb of an SVC is generally banned (Kageyama 1989, 1993). An SVC in which the passive morpheme appears on the second verb, as in (10), is fine. (11)c-d with passivization of the first verb are ill-formed.

- (10) *Ninzya-wa (samurai-ni/ni-yotte) sasi-koros-are-ta.*
ninja-Top samurai-Dat/by stab-kill-Pass-Pst
 ‘The ninja was stabbed and killed by the samurai.’
- (11) a. *sasi-korosu* ‘stab-kill’
 b. *sasi-koros-are-ta* ‘stab-kill-Pass-Pst’
 c. **sas-are-koros-are-ta* ‘stab-Pass-kill-Pass-Pst’
 d. **sas-are-korosi-ta/sin-da* ‘stab-Pass-kill/die-Pst’

Our account of SVCs predicts the passivization facts. We assume that *-rare* ‘Pass’ is a spellout reflex of syntactic passivization introduced into the sentence at externalization. Languages show considerable variation in how passivization is morphologically marked. This variation is expressed in externalization, not in narrow syntax. With that in mind, syntactic passivization universally is simply IM of an internal argument⁴ to surface subject (INFL). How this operation is expressed for individual languages will vary, e.g., Japanese spells out the morpheme *-rare* and English uses *be+en*.⁵ The derivation of (10) is shown in Fig. 3 below. Under identity, we obtain FC(*ninzya*, *ninzya*). Only the higher copy *ninzya* ‘ninja’ may undergo IM to INFL and appear as the surface subject. Thus, passivization appears only on the higher V2. Passivization of V1 is not permitted because the internal object of V1 is not available for IM to INFL.

Aspectual SVCs permit passivation if the first verb is transitive, as shown in (12) and (13). Arguably, the aspectual verb, viz. the 2nd verb, does not introduce any additional arguments, so FC does not apply. As a result, the internal argument of the first verb can undergo IM to INFL, so that the first

⁴ We exclude indirect and adversative passives in which an underlying subject potentially undergoes passivization. The passive suffix *-rare* seems to indicate that what moves to subject position is affected in some way as a result of the event encoded by the verb.

⁵ Crucially, the Spell-Out of passivization is at externalization, and not internal to the syntax (I-language).

verb can be passivized,⁶ as shown in Fig. 4, which shows the structure of (13).

- (12) a. *yom+are-hazimeru* ‘read+PASS-begin = begin to be read’
 b. *izime+rare-tuzukeru* ‘bully+PASS-continue = continue to be bullied’ (Kageyama 1989, 83–84)
- (13) *zyoho-ga (Mari-ni-yotte) nusum-are-hazime-ta*
 information-Nom Mari-by steal.Pass-start-Pst
 ‘The information began to be stolen (by Mari).’

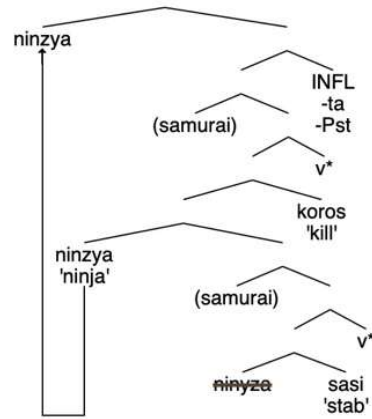


Figure 3. Passivized SVC

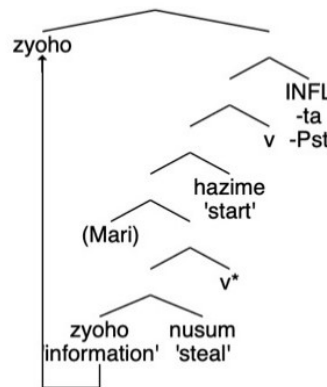


Figure 4. Passivized SVC

Some exceptions to the non-passivization rule exist involving nominal compounds (possibly with an idiomatic interpretation of the passive first verb), as shown in (14) and (15). Although (15) may be considered marginal, we found some examples of this online.⁷ These require further investigation.

- (14) *turare-warai-o suru* (lure.Pass-laugh do) ‘be made to laugh by somebody’s laughter’
 (15) *?hikare-nige-o suru* (hit.Pass-flee do) ‘being hit and flee’

⁶ V2 can also be passivized for some aspectual verbs.

(v) *tonneru-ga hori-tuduker-are-ta*
 Tunnel-nom dig-continue-Pass-Pst
 ‘The tunnel continued to be dug.’

⁷ <https://makkysan.info/2021/02/13/「ひき逃げ」ならぬ「ひかれ逃げ」にご注意！！/>
https://detail.chiebukuro.yahoo.co.jp/qa/question_detail/q14146408994

4 Case

A theory must also account for exhibited Case patterning. We posit, following Chomsky (2001), that the Case system is not part of syntax proper, but belongs to externalization. Case is required to pronounce arguments. Therefore, arguments that are treated as unpronounced copies, as the result of FC, do not need to receive Case. Deviations from the default Case patterns may constitute novel evidence for our FC account.

We predict that Case patterns should be preserved in accord with Stability (16). Therefore, if an object receives non-standard Case, it must be output. In (17)a, *tuku* ‘attach’ assigns its internal argument Dative Case, and in (17)b, the verb *matou* ‘cover’ assigns its internal argument Accusative Case. When these two verbs are combined to form the SVC *tuki-matou* ‘attach-wear’, as in (17)c, the Dative Case on the internal argument is maintained. Thus, the Dative Case pattern of the first verb is retained. In (18), note that *ou* ‘follow’ assigns its internal argument Accusative Case and *sugaru* ‘cling’ assigns its internal argument Dative Case. The SVC *oi-sugaru* ‘follow-cling’ retains Dative Case from the second verb on the internal argument.

(16) *Stability* (Chomsky 2001): Lexical properties must be preserved throughout the derivation.

- (17) a. Doro-ga **kutu-ni/*-o** tui-ta
mud-Nom shoes-Dat/Acc attach-Pst
‘Some mud got on my shoes.’
b. Kanozyo-ga kegawa-o/*-ni matot-ta
she-Nom fur-Acc/Dat cover-Pst
‘She wore fur.’
c. Huan-ga kanozyo-ni/?*-o **tuki-matot-ta**.
Anxiety-Nom her-Dat/-Acc attach-wear-Pst
‘Doubts tormented her.’
- (18) a. Ken-ga haha-**o** ot- b. Ken-ga haha-**ni** sugat-ta
K-Nom mother-Acc follow- K.-Nom mother-Dat cling.to-Pst
ta
Pst
‘Ken followed his mother.’
c. Ken-ga haha-**ni**/?*-o oi-sugat-ta.
K-Nom mother-Dat/Acc cling.to-Pst
‘Ken followed his mother, clinging to her.’

5 Conclusions and Further Issues

In conclusion, we propose that SVCs are formed in the syntax. SVCs are part of language, and they make use of the same evolutionary toolkit, in particular EM and FC under MS. There is no separate lexical theory with its own set of operations (contra Kageyama 1989, 1993). Note that English has *go eat, come live* (Tallerman 2011:99), which appear similar to SVCs, but they are not productive in English.⁸ Thus an outstanding mystery is why all languages don't productively form SVCs. We leave this issue for future research.

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⁸ English is not considered to be a SVC language, yet it permits V-V compounds such as untensed *go eat* and *come live*. Other V-V compounds (which do inflect) include *dry-clean, freeze-dry, drip-dry, stir-fry*, and *crash-land* (cf. Altakhaineh and Zibin 2017).

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