

Serial verb constructions, parameter settings and thematic restrictions on argument sharing

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0. Introduction

Serial verb constructions (henceforth SVCs) are considered to be constructions containing at least two (main) verbs in what appears to be a single clause.¹ Only one (phonologically non null) subject and no overt markers of sub- or coordination are present (Jansen et al 1978, Sebba 1987). They have a single (accomplished) event interpretation and all the verbs have the same specification for tense, mood, aspect and polarity. They occur in a wide variety of genetically unrelated languages, ranging from West African languages, Sino-Tibetan languages to the Caribbean creoles.

Since the publication of Baker (1989), the study into the nature of verb serialization has become a central area of interest in the principles-and-parameters approach to language. Several issues arise in the analysis of SVCs (cf. Muysken 1987). First, is verb serialization a unified phenomenon or, in other words, are all SVCs structurally alike? Second, is the sharing of arguments, both subject and object, obligatory in SVCs? And if so, what kind of mechanism is involved? Third, is verb serialization a syntactic process or should it be accounted for by lexical operations on argument structure? Related to this issue is the question whether there are empty positions in SVCs. Evidently, if one opts for an analysis in lexical terms, this question is non-existent, but if, on the other hand, one opts for a syntactic analysis and, moreover, takes the Projection Principle seriously, it is a question that calls for an answer. The last issue is how to account for the distinction between serializing and non-serializing languages. Are we to derive the difference between the languages by means of different options of a single parameter or do SVCs come about through different ways of doing syntax and morphology?

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Baker (1989) addresses all these issues. According to him, verb serialization is a unified phenomenon that a syntactic analysis should account for. Argument sharing is obligatory and, moreover, thematically restricted. Due to his specific syntactic mechanism (to be discussed below) no empty categories are present in SVCs. The difference between serializing and non-serializing languages he derives from the setting of a single parameter.

In this paper I will argue against this analysis of SVCs and propose an alternative analysis along the lines of Law & Veenstra (1992a, 1992b). The organization is as follows. In section 1 I review Baker's proposal. In section 2 I present evidence against it. The discussion is centered around the following three issues: thematic restrictions on argument sharing, the behavior of quantifiers in SVCs and the weak island properties of the second predicate in SVCs. The data on which the discussion is based comes primarily from Haitian (HA), Saramaccan (SA) and Sranan (SR). In Section 3 I give an outline of an alternative analysis. I argue that verb serialization is not a unified phenomenon (there are at least two subclasses to distinguish) and that there is no need to posit an independent serialization parameter in the grammar. Instead, the parametric variation is the result of differences between languages with respect to the availability/richness of agreement morphology and independently motivated assumptions concerning verb movement. The overall conclusion will be that a modular approach to serialization stands a better chance of providing a more fruitful analysis than a parametric approach.

1. Baker (1989)

Baker starts out with the observation, that overt subjects and overt objects in SVCs are semantically related to both verbs, i.e. the verbs share their arguments. This is exemplified in (1):

- | | | |
|-----|---|----|
| (1) | Amba ta-siba-en kii.
Amba ASP-curse-3sg kill
'Amba is hexing him dead' | SA |
|-----|---|----|

In (1) the NP *Amba* is interpreted as the subject of both verbs and the NP *en* 'him' is interpreted as the object of both verbs, although both NPs are only overtly realized as arguments of the first verb. For him, especially 'this "object-sharing" phenomenon is still the most challenging aspect of SVCs for current syntactic theory' (Baker 1989:515). Consequently, his focus is mainly on this property of SVCs. He proposes that this object sharing takes place in the syntax.

He starts out with discussing the Head-Licensing Condition (HLC) of Chomsky (1986). The HLC requires a head to be traced up to a single maximal projection. This gives way to the possibility of one maximal projection licensing

(2) *Generalized Serialization Parameter*

(5) a Olú mú òbè gé búrédi. Yoruba
 Olu take knife cut bread
 b *Olú mú búrédi gé òbè.
 Olu take bread cut knife
 'Olu cut the bread with the knife'

- (6) a Mín è tú kpá nè pábia. Gokana
 child TNS take book give woman
 b *Mín è tú pábia nè kpá.
 child TNS take woman give book
 'The child gave the book to the woman'

I will return to the generality of this thematic restriction in the next section, but note that for Baker's analysis to go through, it is necessary that we find the same pattern of argument sharing across all serializing languages.

I will end this section by making some general comments on the specific proposal of Baker. First, it is not possible to make the configuration in (3) strictly binary branching. Second, it has to posit parametric differences in specific phrase structure rules, contra the spirit of Stowell (1981) and later work. Third, it is crucial for the analysis that optional arguments, like Instruments, Manner and Comitatives, are part of the thematic grid of verbs. If one considers the following paradigm, it is unlikely that this is the case for English (cf. Law & Veenstra 1992b):

- (7) a ?[_{CP} which man_i do you wonder [_{CP} when to meet t_i]]
 b *[_{CP} when_i do you wonder [_{CP} who to meet t_i]]
- (8) a *[_{CP} with which pen_i do you wonder [_{CP} what to write t_i]]
 b ?[_{CP} which pen_i do you wonder [_{CP} what to write with t_i]]

A proper diagnostic for determining argument status is extraction out of wh-islands. If you extract an argument, as in (7a), a subjacency violation is the result. Adjuncts, on the other hand, invoke an ECP-violation (7b). The whole Instrumental PP resists extraction out of a wh-island on a par with an adjunct, as shown in (8a). This suggests that the PP is not an argument of the verb. Extraction of the NP contained in the Instrumental PP gives rise to a subjacency violation (8b), just like argument extraction, suggesting that the NP is θ -governed. The conclusion I therefore draw is that the verb does not θ -mark the Instrumental PP, i.e. Instrumentals are not part of the thematic grid of the verb. This considerably weakens Baker's proposal for the analysis of SVCs.

2. Empirical problems

I now turn to some empirical problems for the analysis discussed in the previous section. I will discuss two of them. First, I consider the generality of the thematic restriction on argument sharing in SVCs. It is shown that it cannot be maintained. Not all serializing languages behave as Baker predicts. Second, I question the mono-clausal status of SVCs. Recall that in his proposal the two verbs and their

arguments are contained within a single VP. The prediction is that SVCs exhibit a syntactic behaviour in accordance with this status. I show that this prediction is not borne out. The evidence concerns the behaviour of quantifiers and adjunct extraction.

The first point is relatively easy to establish. The following data sets from SA and SR are direct counter-examples to Baker's claim that argument sharing is thematically restricted (see Law & Veenstra 1992a for HA):

- (9) a A-tei di faka koti di gwamba. SA
 3sg-take the knife cut the meat
 b A-tei di gwamba koti ku di faka.
 3sg-take the meat cut with the knife
 'He cut the meat with the knife'
- (10) a A-tei di foto lei-en. SA
 3sg-take the picture show-3sg
 b A-tei-en lei di foto.
 3sg-take-3sg show the picture
 'He showed the picture to him'
- (11) a Jon e teki a knefi koti a brede. SR
 John ASP take the knife cut the bread
 b Jon e teki a brede koti nanga a knefi.
 John ASP take the bread cut with the knife
 'John cut the bread with the knife'
- (12) a Jon e teki a buku sori Iwan. SR
 John ASP take the book show Iwan
 b Jon e teki Iwan sori a buku.
 John ASP take Iwan show the book
 'John showed the book to Iwan'

According to Baker's generalization, all the (b)-examples in (9)-(12) are predicted to be ungrammatical, contrary to fact. Moreover, there is no way whatsoever to accommodate these facts in a Baker-type of analysis.²

The second body of evidence concerns the mono-clausal status of SVCs. If both arguments of the second verb are quantifiers, we predict scopal ambiguity. Consider the examples in (13):

² This raises the question of why there are languages (Yoruba, Gokana) that do exhibit the apparent thematic restriction. Although we do not have a conclusive answer to this question, we note that it is more likely to involve a language-particular constraint than a universal constraint on serialization.

- (13) a Mi-tei wan faka koti iniwan gwamba. SA
 1sg-take a knife cut every meat
 'I cut every piece of meat with a knife'
- b Yo pran brike boule chak kai nan lakou a. HA
 3pl take torch burn every house LOC village the
 'They burned every house in the village with a torch'

We expect, for instance, that the universal quantifier *iniwan gwamba* 'every meat' can have scope over the existential quantifier *wan faka* 'a knife' in (13a). This is contrary to fact, however. In both examples in (13), the universal quantifier only has a narrow scope interpretation, i.e. there is no scopal ambiguity.

Another argument against the mono-clausal status is formed by the extraction possibilities of adjuncts. The prediction is that an adjunct wh-phrase can be construed with the second verb. This prediction is not borne out:

- (14) a *Ufa_i mi-tei di faka koti di gwamba t_i. SA
 how 1sg-take the knife cut the meat
- b *Fa_i mi teki a knefi koti en t_i. SR
 how 1sg take the knife cut 3sg

The adjunct wh-phrase can only be construed with the first verb and construal with the second verb results in ungrammaticality.

This ends our discussion of Baker's proposal for the analysis of verb serialization. I have shown that his account is unsatisfactory for several reasons. First, not all serializing languages exhibit a thematic restriction on argument sharing. Second, there is syntactic evidence against the mono-clausal status of SVCs. In the next section I will sketch an analysis that takes these facts into account.

3. An alternative analysis

In this section I give an outline of an alternative analysis along the lines of Law & Veenstra (1992a, 1992b).³ In this analysis the two verbs in a SVC have their full array of arguments and both head their own phrasal projection. The second predicate is V'-adjoined to the first predicate. The single event interpretation derives from the fact that both verbs are in the immediate scope of the same Tense operator, i.e. there is no Tense projection inside the second predicate. The argument-sharing property is established by the movement of a null operator (NO)

³ Similar proposals have been made by Bickerton & Iatridou (1987), Carstens (1988), DeGraff (1993) and Larson (1991).

from its base-position inside the second predicate to a position adjoined to that predicate.⁴ The object of the first verb is co-indexed with the NO by principles of predication (cf. Muysken 1989). This results in the following structure for SVCs (in which the categorial status of the second predicate can vary cross-linguistically, see below):⁵

- (15) $[_{VP} NP_1 [_{V'} [_{V'} V1 NP_j] [_{XP} O_j [_{XP} PRO_i V2 t_j \dots]]]$

The object of the first verb can either be construed as an obligatory argument of the second verb or as an optional argument. Let us call the first group of SVCs *Theme*-serials, the second one *Instrumental*-serials. I argue that only the former exhibits the argument sharing property and, hence, has an operator in the second predicate. I give two arguments for this distinction.

The first involves P-stranding (cf. Veenstra 1989). Jamaican Creole in general allows for P-stranding. If a NO is present in *Instrumental*-serials, we expect a stranded preposition inside the second predicate to assign Case to the trace left by operator movement. This is contrary to fact, as shown in (16):

- (16) *Mi tek naif kot bred wid.
1sg take knife cut bread with

I draw the conclusion that no NO is present in *Instrumental*-serials.

The second argument concerns the interaction of NOs and quantifiers in SVCs.⁶ Consider again the examples in (13) above. Note that both are examples of *Instrumental*-serials. In these examples the universal quantifier, realized as the

⁴ There are several reasons to rule out [spec, CP] as the target position for NO-movement in SVCs. First, extraction out of the second predicate is expected to be ungrammatical, contrary to fact. Second, a PRO-subject embedded in a CP can receive an arbitrary reading. This is, however, not the case in SVCs. The subject of the second predicate is obligatory coreferent with the matrix subject. Third, if we have an embedded CP inside SVCs, it is not evident how to account for the single event interpretation.

Furthermore, not all NO-movement has [spec, CP] as its target. If tough-movement involves NO-movement, the NO cannot end up in that position, given the (otherwise unexpected) grammaticality of (i):

(i) which violins_i are sonatas easy [O_j [PRO to play t_j on t_i]].

⁵ As the structure stands, it is not obvious if PRO is not governed by the first verb. This problem can be resolved in the following way. Koster (1987) argues that PRO can be governed. In this case it acts as an anaphor. Note that in SVCs the embedded subject has anaphor-like properties (see fn 4).

⁶ A little digression on the typology of NOs is in place. We can distinguish two types of NOs: quantificational and non-quantificational (Lasnik & Stowell 1991). The former functions semantically as λ -extraction, the other does not (Hornstein, Lectures 1992). Since SVCs involve (secondary) predication structures, we are arguably dealing in this case with the quantificational one, as opposed to e.g. purpose clauses. This would account for the absence of scopal ambiguity of quantifiers, the topic of discussion in the main text, in the latter type of construction.

object of the second verb, cannot have scope over the existential quantifier, the object of the first verb. I take this to mean that the second predicate constitutes a quantificational domain, i.e. the scope of the embedded (universal) quantifier is determined within the second predicate.

In the case of *Theme*-serials, on the other hand, the embedded universal quantifier can have scope over the existential one:

- (17) a Mi-tei wan foto lei iniwan sembe. SA
 1sg-take a picture show every person
 'I showed a picture to everyone'
- b Mwen pran foto montre chak gason nan sal la. HA
 1sg take picture show every boy LOC room the
 'I showed a picture to every boy in the room'

(17a) can either have the reading in which there is one picture, such that I showed it to everyone or the reading in which for every person, there is a picture, such that I showed it to him. The conclusion is that the two classes of SVCs differ with respect to the scope possibilities of the embedded (universal) quantifier.

The question is how to account for this difference? According to May (1985) scopal ambiguity arises when two quantificational elements are dominated by the same maximal projections. Under the assumption that the second predicate constitutes a quantificational domain in both classes, it is possible to relate this difference in scope-assignment to the presence vs absence of the NO. In the case of *Theme*-serials the universal quantifier and the NO, a placeholder for the existential quantifier, are dominated by the same maximal projections and scopal ambiguity is possible.⁷ This situation does not exist in *Instrumental*-serials, due to the unavailability of a NO inside the second predicate, and therefore scopal ambiguity does not occur.

Concluding, the presence vs absence of a NO results in different behavior of quantificational elements in SVCs. A corollary of this observation is that there is no NO present in *Instrumental*-serials. Consequently, the structure for this class of SVCs is the following:

- (18) [_V [_V V1 NP_j] [_{XP} PRO V2 NP ...]]

The partition of SVCs into two classes having different syntactic properties allows for the possibility that a given language might have one class, but not the other

⁷ Also in tough-movement constructions it is possible to have a wide scope reading for the embedded (universal) quantifier (thanks to Frank Byrne for discussion):

(i) a solution_i is hard [O_i [PRO to find t_i for every problem]]

In section 2 we saw that adjunct extraction out of the second predicate leads to ungrammaticality. In light of the fact that argument extraction is grammatical, as in (19), I conclude that the XP headed by the second verb inside SVCs constitutes a weak island:

- An interesting cross-linguistic difference arises. HA, as opposed to SA and SR, allows for both argument and adjunct extraction out of the second predicate, examples taken from Law & Veenstra (1992b):

- This difference appears to be related to the possibility of marking Aspect on the second verb. SA and SR allow for it, HA does not, as shown below:

- Thus, while in HA XP is a VP, it is an Aspect Phrase (AspP) in SA and SR.

Without going into a specific analysis of these facts (see Veenstra in prep. for a proposal), our data are compatible with Borgonovo's (1992) conclusion, based on evidence from extraction out of participials in English, that the functional projection AspP is responsible for the weak island effect. Thus, the presence vs

the absence of AspP in SVCs correlates with the difference in extraction possibilities.

The adjunct status of the second predicate in SVCs (i.e. not being θ -governed by a lexical category) seems in contradiction with the Condition on Extraction Domain (CED: Huang 1982), which states that 'a phrase α may be extracted out of a domain β only if β is properly governed'. According to Huang's CED, we expect extraction out of the second predicate to be ungrammatical altogether, but this is clearly not so. Law & Veenstra (1992b) therefore propose that quite generally constituents inside a VP are L-marked by the verbal head, and reformulate the CED as follows:

- (22) A phrase α may be extracted out of a domain β only if β is L-marked.

Note that the formulation of L-marking assumed here is significantly different from the one Chomsky (1986a) assumes in that it does not require θ -government.

Independent evidence for this reformulation comes from the behaviour of Instrumental PPs in English. If the conclusion in section 1 is correct in assigning an adjunct status to such PPs (i.e. not being θ -governed by a verb), we need to allow extraction out of them, given examples like (23):

- (23) What_i did you cut the chorizo with t_i.

From the formulation in (22) it follows that extraction out of Instrumental PPs as well as second predicates in SVCs is possible since they are L-marked by the verb (but see Law & Veenstra (1992b) for more details of this proposal).

I would like to stress the difference between this version of L-marking and head-government. It is not necessary for a category to be (lexically) selected in order to be L-marked, but a category must be selected in order to be (properly) head-governed. Since selected categories generally appear in complement positions, it then follows that they are necessarily L-marked (by the selecting head). As we will see below, the property of being L-marked without being properly head-governed turns out to be crucial in accounting for the cross-linguistic variation.

The last issue I want to discuss concerns the difference between serializing and non-serializing languages. It has been noted (Muysken 1987, Larson 1991) that, in general, serializing languages lack inflectional morphology (in particular, overt morphological inflection for number and person agreement features on verbs) and that INFL elements are particularly lexical in nature. Suppose that there is no verb movement to INFL. A consequence is that the verb in the second predicate need not move to INFL. Thus, the structure of SVCs, as given in (15), is legitimate in serializing languages.

The question, then, is why non-serializing languages disallow this structure. Note that those languages usually have a richer inflectional morphology for number/person agreement. Suppose that this difference in availability/richness of agreement morphology sets the two sets of languages apart, i.e. in non-serializing languages the verb must move to INFL (in order to pick up agreement morphology), but not in serializing languages. Then, structures like (15) are not allowed in non-serializing languages, because verb movement out of the second predicate would violate the Head Movement Constraint (Travis 1984), since the second predicate is neither a complement to the first verb nor to I^0 . This would account for the cross-linguistic variation without having to adhere to a single serialization parameter.

4. Conclusion

In this paper I have shown that the proposal of Baker (1989) for the analysis of SVCs is unsatisfactory for a number of reasons. First, I gave evidence that the thematic restrictions on argument sharing in SVCs are not found in all serializing languages, as Baker predicts. Second, I presented two arguments against the mono-clausal status of SVCs. The first argument involved the behaviour of quantifiers in SVCs. The second one was centered around the weak island effects found in SVCs in the Surinamese creoles.

In the last section I outlined an alternative approach to serialization in which SVCs are analyzed as subordinating adjunction structures. In this analysis NO-movement derives the argument sharing effect. I also argued that serialization is not a unified phenomenon; there are two classes to be distinguished, of which only one involves argument sharing. The difference between serializing and non-serializing languages does not reside in the setting of one parameter, but derives from differences between languages with respect to the availability/richness of agreement morphology. In this way parametric variation is reduced to different properties of functional categories and their interaction with independently motivated assumptions concerning verb movement, a desirable result in view of the task of acquiring language (Ouhalla 1991).

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