Revisiting the structure of serial verb constructions[1]

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1   Introduction

Serial verb constructions (SVCs) are phenomena that occur cross-linguistically in a number of the worlds' languages; they occur most frequently in African, Asian, and Creole languages of the Atlantic and Pacific, though the construction is found in other areas as well. Although there has been growing interest in the semantics of serial verb constructions recently (Aikhenvald 2005), the construction has largely been viewed in syntactic terms. Syntactic explorations of serial verbs peaked in the late 1980s and early 1990s in the Principles and Parameters framework, however most of these investigations have focused narrowly on the construction in one particular language (e.g. Awoyale 1988 for Yoruba, Schiller 1991 for Khmer) or language family. More recently, comparative studies into SVCs have been emerging, often using serial verbs as a feature for finding parametrization and typological correlates in polysynthetic languages (Baker 2002).

Throughout these various studies in theoretical syntax, the structure of SVCs has been analized as a subordination structure (i.e. the second verb in the construction is an argument of the first verb, thus embedded within the first VP). Sebba (1988) examines the syntactic structure and argues that the structure for the the construction is one of subordination as opposed to coordination, but does not investigate the possibility of adjunction. Later investigations of serial verbs have called for a reanalysis of the construction, including adjunction as a possible structure. Law and Veenstra (1992) cite evidence from Haitian and Saramaccan

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to give a new analysis of the structure of serial verb constructions to be a structure of adjunction.

Though Law and Veenstra fail to support their analysis with syntactic evidence, they do raise the question of what structure exists in SVCs: subordination or adjunction. This paper will re-examine the syntactic structure of serial verb constructions while drawing from the literature of both syntax and creoles. The goal of this paper is to show what type of evidence is needed to analyze the structure of SVCs and to provide at least preliminary evidence from Krio that the structure of SVCs is a subordination structure.

2   Features of serial verbs

Serial verb constructions consist of two verbs (or verb phrases) that occur in sequence without an intervening conjunction (subordinating or coordinating) between the verbs. The following sentences illustrate frequent types of serialzing verb constructions in Krio (Finney 2004).

(1)   i   bai klos   gi   im pikin
          he buy clothes give his child
          'He bought some clothes which he gave to his child.'

(2)   a tek nɛf   kut di bred
          I take knife cut the bread
          'I cut the bread with a knife.'

The SVC in (1) uses the second verb phrase ("give his child") in order to express a benefactive interpretation. In (2), the serializing verb 'take' is used in order to get an instrumental interpretation. Both of these constructions contrast with the English equivalents in that the English sentences need either a relative clause or coordinating conjunctions to express the same meanings.

Muysken and Veenstra (1995) provide a comprehensive list of several other characteristics of serial verb constructions. The two (or more) verbs in SVCs must have:

(3)
          a.   only one expressed subject
          b.   at most one expressed direct object
          c.   one specification for tense/aspect
                    i. often only on the first verb
                    ii. sometimes on both verbs, but semantically one specification
                    iii. sometimes only on the second verb

     d. only one possible negator
     e. no intervening coordinating conjunction
     f. no intervening subordinating conjunction
     g. no intervening pause possible.

Sentences (1) and (2) above display all of these characteristics. Crucially, the absence of coordinating and subordinating conjunctions is responsible for the controversy over the structure of SVCs.

3 Structural possibilities of SVCs

There are three types of possible structures for SVCs to consider: coordination, adjunction, and subordination.
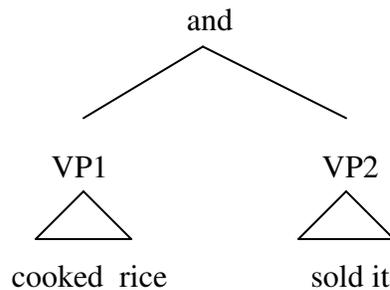
3.1 Coordination

Coordinate structures are typically represented as two phrases that are conjoined by a coordinating conjunction, which is absent in SVCs.

(4)   di uman kuk rɛs sɛl
        the woman cook rice sell
        'The woman cooked some rice and sold it.'

The syntactic structure of how the verb phrases are adjoined in the English gloss of Sentence (4) is shown below.
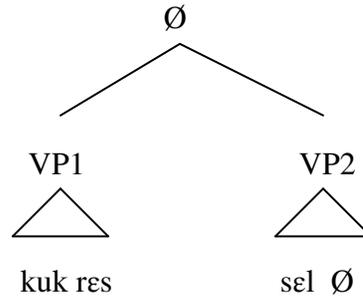
(5)

If we want to assume a parallel (coordinated) structure for (4) in Krio, minimally we have to posit a phonologically null coordinating conjunction as a feature of SVCs. Additionally, we see the elimination of one of the overt nominal arguments in the coordinated VPs to avoid redundancy (as opposed to the use of pronominal

reference). Sentence (6) shows the (minimal) structure of SVCs if coordination is used in these structures.

(6)

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                              Ø
                             / \
                            /   \
                           /     \
                          /       \
                       VP1         VP2
                        △           △
                     kuk rɛs       sɛl Ø
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One question that may be raised is why to propose a syntactic structure that has to rely on phonologically null conjunctions? These phonologically null elements may seem dubious, but other phonologically null elements are rampant in the syntax (null complementizers, PRO, and other empty categories among others), so phonologically null coordinating conjunctions should not pose a problem for the syntax or semantics.

One advantage that this construction offers is an explanation of temporal ordering of the actions expressed by the different verbs in SVCs. In coordination constructions, the event of VP1 is interpreted as occurring before VP2. In the SVC shown in (4),"di uman kuk rɛs sɛl", the interpretation of this can only be "the woman cooked then rice and then sold it", and crucially not "the woman sold the rice and then cooked it." This temporal ordering restriction is also gives rise to contrasts of verbs allowed in certain SVCs in various languages, illustrated by the Sranan data below (Muysken and Veenstra 1995).

(7)   Mi teki fisi seri
        I   take fish sell
        'I sold the fish'

(8)   * Mi teki fisi bai
          I   take fish buy
        'I bought the fish'

Although choosing a coordination structure for SVCs is attractive, many researchers (Jansen et al. 1978, Sebba 1987, and others) have shown that SVCs do not show island effects that other coordinated structures show. The island effects are formalized in the Coordinated Structure Constraint (Ross 1967).

Coordinated Structure Constraint: a conjunct in a coordinate structure may not be moved out of that coordinate structure.

An example of a violation of this constraint is shown in Sentence (9).

(9)   *Which book did you read Harry Potter and?

By the elimination of a coordinated structure by looking at how the construction behaves syntactically, there are only two choices: adjunction or subordination.
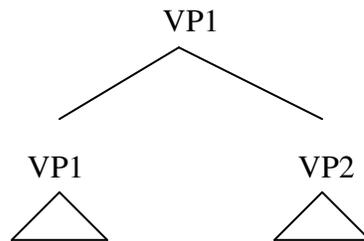
3.2   Adjunction

There are two possible adjunction structures to consider for SVCs that yield the correct word order: V1 can be adjoined to V2 or V2 can be adjoined to V1. These possibilities are illustrated in (10) and (11), respectively.

(10)   Adjunction of V1 to V2

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                VP2
              /     \
          VP1        VP2
          /\          /\
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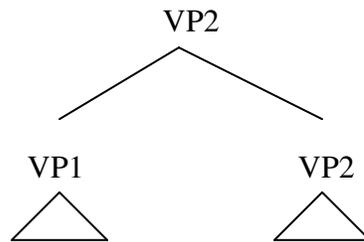
(11)   Adjunction of V2 to V1

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                VP1
              /     \
          VP1        VP2
          /\          /\
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The first difference between the adjunction structure and the coordinated structure is that in adjunction, the two VPs merge forming a separate phrase instead of merging with a lexical head. While the difference between (10) and (11) is slight, it has important syntactic consequences. Phrases that are projected higher in the

syntax have dominance to those that are lower, which can yield syntactic restrictions.

Muysken and Veenstra (1995) argue that the structure in (11) is the correct structure for SVCs, citing work on referential prominence by Dèchaine (1988) and adjunct extraction by Veenstra (1993). Dèchaine shows that the object of the first verb is referentially more prominent than the object of the second verb. Since the object of the first verb can bind a pronoun that is an object of the second verb and this relationship is asymmetrical, VP1 must have a higher projection in the syntax than VP2, which suggests that the correct structure is (11). Additionally, Veenstra shows that "it is only possible to construe an adjunct WH-phrase with the first VP and not with the second VP" (Muysken and Veenstra 1995), which additionally shows its prominence which must be projected in the syntax.

3.3   Subordination

Although Law & Veenstra conclude that the structure in SVCs must be an adjunction structure, they provide no theoretical insight as to why one should choose an adjunction structure over one of subordination. The structure of subordination of V2 under V1 will still give the same effects of asymmetrical c-command and semantic interpretations with adjunct WH-phrases as adjunction of V2 to V1. With subordination, the second verb phrase in a SVC is an argument of the first verb; thus, VP2 is embedded in VP1, so VP1 is necessarily higher than VP2. The structure of SVCs when the first verb is intransitive is shown below in (12).

(12)   Subordination of V2 to V1

$$VP_1$$
$$V_1 \qquad VP_2$$
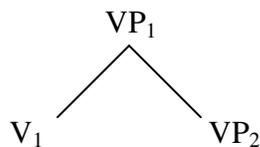
The structure of SVCs if the first verb is transitive will be parallel to the structure of ditransitive verbs. The most noticeable difference between (11) and (12) is that in (11), there are two separate VP1 nodes, which allows VP1 to function separately from VP2. This separation is eliminated with a subordination structure.

In the Principles and Parameters framework, the structure of SVCs has been assumed to be a form of subordination. Baker (1989) views the subordination as one of the defining characteristics of this construction, which sets itself apart from adverbial and prepositional modifiers of verbs. Although the structure is merely assumed, there are arguments for this supposition that have

been linked to this structure: the extractability of elements from SVCs (e.g. stranding, clefting) and the close semantic relationship between the verbs in most SVCs, which can be explained by an argument structure.

4 Evidence for structure

So far, we have seen arguments against coordination from evidence of island effects despite the theoretical appeal of the structure and we have reviewed arguments for adjunction of V2 to V1 despite any direct evidence that adjunction is present in the structure. We have also seen arguments for subordination occurring, despite any evidence that the structure is one of subordination. What is now needed is conclusive evidence in favor of either adjunction or subordination.

The problem of adjunction and subordination can be solved by the examination of asymmetries associated with arguments versus adjuncts. One such test is the "do so" substitution test in English—"do so" can substitute for a verb with an adjunct following it (13b), but cannot substitute for the verb with an argument following it (14b).

(13)   a. John left in the morning.
            b. John did so in the morning.

(14)   a. John ate an apple.
            b. John did so an apple.

Unfortunately, tests such as the "do so" substitution test are language specific and rely on constructions that are marked cross-linguistically (such as do-support) where they do exist.

One cross-linguistic test that can be examined is adjunct island effects (Ross 1967) associated with violations of the Empty Category Principle (Chomsky 1981). The ECP can be generalized as follows.

(15)   An empty category must be properly governed.

Apart from the debate on what constitutes "proper government," the general idea is that if there is movement in a syntactic derivation that leaves behind a trace (an empty category), the trace must be governed by the moved element. Adjunction structures violate proper government (with whatever definition of proper government that is used), and so it leads to the contrast in grammaticality of the following examples, where arguments are properly governed with WH-movement, but adjuncts are not.

(16)   John ate an apple.
         What did John eat [e]?

(17)   John ate an apple after the movie.
         *What did John eat an apple after [e]?

This contrast can be used as evidence for structure in serializing languages. If the structure of SVCs is one of adjunction, then WH-extraction should be ungrammatical; thus, if WH-extraction is possible, the structure of SVCs will be subordination. There are some issues that surface when one tries to find appropriate evidence to argue for the structure of SVCs. The first problem is that many serializing languages are *WH-in-situ*. Another issue is that not all languages seem to show ECP effects. In order to find evidence for either subordination or adjunction, one must find a language with serial verb constructions that allows WH-movement and shows ECP effects. Krio, an English-lexified creole of Sierra Leon, is one such language.

         The following examples from Nylander (1985) show the relevant examples of wh-movement in SVCs Krio.

(16)   Uda John bin   lay gi [e]?
         who john PAST lie give?
         "Who did John lie to?"

(17)   Uda i   kin bay orinc   gi   [e]?
          who he HAB buy orange give [e]?
         "Who does he usually buy an orange for?"

As we can see, the WH-movement[2] in the examples is grammatical. This grammaticality is not expected if Law and Veenstra's adjunction analysis of SVCs were correct, since the extraction of the adjunct would lead to an adjunct island violation.

5   Conclusion

The investigation of the structure of SVCs by Law and Veenstra shows the danger of looking only within the literature of a specialized field when conducting studies; syntacticians made assumptions of the structure based what was en vogue

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[2] Other sources on wh-question in Krio have shown the presence of an obligatory focus particle "na". With or without this particle, there would still be extraction out of a lower position, which would still cause adjunct island violations if the structure of SVCs is an adjunctions structure.

for syntactic analyses at the time, while creolists failed to make use of an abundance of data collected in order to analyze a separate, but related, phenomenon in syntactic theory. Positing structures without evidence does nothing to further understanding in any discipline, especially when evidence is out there for analysis.

While there is not a plethora of data supporting subordination as the structure of serial verb constructions, particularly since conclusive evidence can only come from a language with SVCs and WH-movement that also shows island violations, this reinvestigation of the phenomenon shows at least primary support for the structure of subordination based on evidence from Krio. From the three structural possibilities, a subordinating structure is the only possibility after elimination of coordination and adjunction with island effects. Additionally, the theoretical motivations for the structure strengthen the analysis subordination as the correct structure for SVCs.

A continuation of this study would look at SVCs in different languages to see if there is just one "serializing" type language, another assumption made in syntax, or if SVCs in different languages behave differently. In particular, is it the case that languages with SVCs but without WH-movement behave differently? While the structure may very well differ from language to language, this study shows that at least for Krio, evidence points to a structure of subordination for SVCs.

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