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Notes about Serial Verb Construction in Chinese

Unlike English, Chinese sentences are able to contain a sequence of verbs or verb phrases without any coordinating or subordinating markers intervening between them in the form of "NP + V1 + (NP1) + V2 + (NP2)". Many linguists have used the term "Serial Verb Construction (SVC)" to label such strings. English, in contrast, only allows one verb or verb phrase in a single clause; two or more verbs are treated with conjunction, complementation, or predication. SVCs in Chinese raise the question of whether the NPs act like they are all in a single clause or whether one is in a distinct clause. This paper attempts to investigate what explanations UG might offer for verb serialization in Chinese by looking at how SVCs behave in Chinese and what parameters can be adopted to realize basic principles. First, I will clarify the definition of SVCs based on Baker's syntactic view of SVCs. Second, on the basis of a literature review, I suggest that some of Chinese SVCs included in Li and Thompson's functional treatment (1981) should in fact not be considered SVCs. Finally, a different approach of Chinese SVCs by Chang will be presented to suggest that Chinese requires the use of higher-level conceptual analysis and thematic structure to resolve ambiguity.

What is Serial Verb Construction (SVC)?

Baker defines SVCs as "constructions in which a sequence of verbs appears in what seems to be a single clause" (1989, p513). Usually, there is only one tense/aspect specification for the whole chain of verbs; the verbs have a single structural subject and share logical arguments (Baker, 1989). He claims that SVCs behave differently in different languages with

respect to coordinations, embedded clauses, or adjectival predicates (small clauses), and that the key difference between serializing languages and nonserializing languages can be expressed as a parameter in 1(1989, p519):

1. Generalized Serialization Parameter

   VPs (can/cannot) count as the projection of more than one distinct head.

   CAN: Yoruba, Sranan, Ijo……

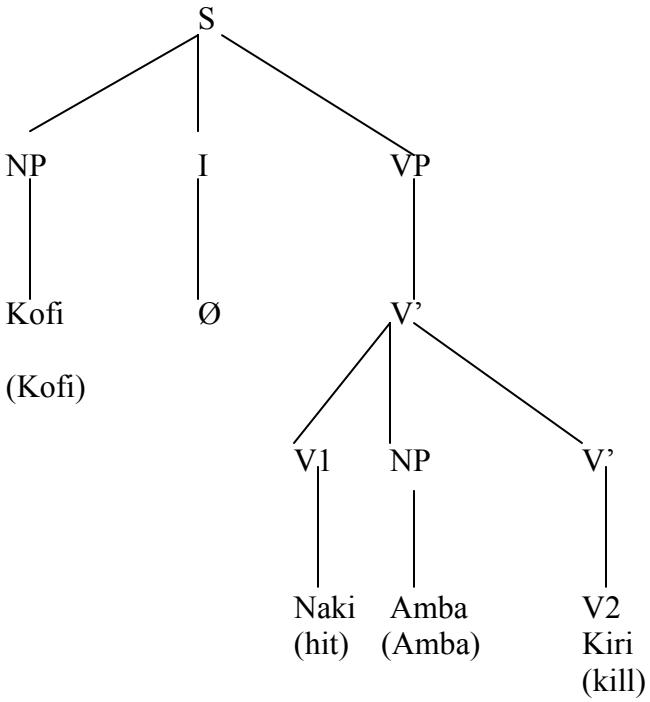
   CANNOT: English, French……

Based on African languages, Baker proposes that an SVC is a double-headed structure, in which two heads (verbs) share an internal argument (object). For instance, in an African language Sranan:

2. Kofi naki Amba kiri.
   Kofi hit Amba kill
   Kofi struck Amba dead.

The tree structure of this sentence Baker provides for an SVC is (1989, p520):

3.



This structure permits both V1 (Agent, Theme) and V2 (Agent, Theme) to assign a theta-role to "Amba", the shared object of V1 and V2[1]. According to the Projection Principle (Baker, 1989),

4. The Projection Principle (based on Chomsky (1981, p38)):

Suppose α is a lexical category and β is a position of argument type.

a. If β is an immediate constituent of a one-bar level projection of α at some syntactic level, then α theta-marks β in α'

b. If α theta-marks β as a lexical property, then α theta-marks β at all syntactic levels.

if V1 of an SVC takes an object, then V2 must theta-mark this object as well. Baker continues to argue that current versions of Theta-Criterion can allow an argument to receive more than one theta-role as long as all its theta-roles are assigned to the same structural position. Therefore, one crucial element in this structure is that V2 must be able to assign a theta-role to an NP, and that the NP is in object position for that V2, as well as for V1. Additionally, it also explains that no object can appear after V2 because it cannot assign two internal-theta roles. This double-headed structure creates the possibility and obligation of two verbs to theta-mark the same internal argument, in accordance with the Projection Principle.

The nature of SVC in Chinese

Chinese has similar serial verb structures, for example:

5. Wo zhong cai mai le.
   I plant vegetable sell. ASP
   I planted vegetables to sell.[2]

Due to the nature of Chinese, the structure of SVCs in Chinese might vary. Not surprisingly, the phenomenon of a sequence of verbs or verb phrases without any coordinating or subordinating markers intervening between them in Chinese turns out to be so complex and covert that some linguists have mistakenly categorized some structures into SVCs. (My analysis

is based on Baker's definition of SVC.) According to Li and Thompson (1981, p594), Chinese serial verb constructions can be categorized into five types, depending on the structural and semantic relationships between the verbs. They are: (A) two or more separate events, (B) the first verb phrase/clause being the subject of the second verb, (C) the second verb phrase/clause being the direct object of the first verb, (D) pivotal constructions, and (E) the second verb phrase/clause acting as a descriptive clause. Nevertheless, this functional approach does not give an explicit definition of Chinese SVCs. I would like to briefly overview the five different types of Chinese serial verb constructions proposed by Li and Thompson and assess whether or not each is a canonical SVC (i.e. SVC in Baker's sense).

A) Two or More Separate Events—two or more verb phrases denote two or more separate events with different relationships, including 'alternating', 'consecutive', 'purpose' and 'circumstance'.

- Alternating (The subject alternates between two actions.)

6. Wo chang ge tiao wu.
   I sing song dance dance.
   I sing and dance.

The order of the two events of *chang ge* and *tiao wu* is insignificant. This sentence is semantically equivalent to *Wo tiao wu chang ge*. This is a very typical structure in Chinese. Even though the two verbs are juxtaposed, they do not share the same object. The two VPs are coordinate instead of being serial. One experiment we can do is to insert *ji…you …*, which is a Chinese coordinator (CO):

7. Wo ji chang ge you tiao wu.
   I CO sing song CO dance dance
   I sing and dance.

Therefore, I suggest this structure is not a canonical SVC.

- Consecutive (One event occurs after the other.)

8(a). Ta mai piao jin qu.
He buy ticket enter go
He bought a ticket and went in.

This order of the two events of *mai piao* and *jin qu* is fixed. In other words, "mai piao" takes place before *jin qu.* Therefore, the reversal order will change the sentence value completely. Obviously, V1 (Agent, Theme) and V2 (Theme) do not share the same object. It's doubtful 8(a) is an SVC based on Baker's definition.

- Purpose (The first event is done for the purpose of achieving the second.)

8(b). Ta mai piao jin qu V2 (Experiencer)
He buy ticket enter go
He bought a ticket to enter.

Interestingly, this sentence has another reading in Chinese. In order to achieve the event of *jin qu*, one has to experience the first event of *mai piao*. [3] "*Jin qu* serves as a purpose of *mai piao*.

9. Wo mai shu kan le. V2 (Experiencer, Theme)
I buy book read ASP
I bought a book to read.

Within this category, the relationship of the two verbs is subordinate. The two events indicated by VPs are sequential and serial. With the identical surface structure to 6, sentences 8(b) and 9 are not alternating because they do not satisfy the *ji …you …* test. It can be noticed that the theta-role assignments of V2 in 8 and 9 are different. In 8, there is no shared object. In 9, *shu* is the shared object. According to Baker's definition of SVC, 8 is not an SVC, but 9 is. Therefore, it can be suggested that only some sentences in this category are truly SVCs.

- Circumstance (The first verb phrase describes the circumstances under which the event in the second verb phrase or clause occurs.)

10. Wo yong kuaizi chi.
    I use chopstick eat.
    I eat with chopsticks.

Only rarely can this sentence be interpreted as : 'I use chopstick to eat'. The semantic relationship of *yong* and *chi* is circumstantial rather than purposeful. Therefore, the first verb phrase indicates a circumstance, while the main predicate of the sentence is the second verb phrase. Li and Thompson (1981) point out that the two events are carried out simultaneously. Chan (1999) argues that the first verb phrase can be seen as a modifier of the central verb (V2) and these two actions are a single complex event. One observation of this category is that V2 can take an additional argument that must be different from the object of V1. e.g.

11. Wo yong kuaizi chi fan.
    I use chopstick eat meal
    I eat (the meal) with chopsticks.

Within this structure, there is no shared object. This can also be ruled out of SVCs.

B) First Verb Phrase/Clause Being Subject of Second Verb

12. Xue Yingyu nan.
    learn English difficult
    Learning English is difficult.

C) Second Verb Phrase/Clause Being Direct Object of First Verb

13. Wo yao qu.
    I want go
    I want to go.

SVCs assume that the verbs in sequence are different from the subject/object of the construction. VP1 (*xue yingyu*) in 12 plays a dual role of both a subject and a verb phrase, while VP2 (*qu*) in 13 functions as both an object and a verb phrase. Therefore, these two types should not be considered SVCs.

D) Pivotal Constructions

14. Wo qiu ta chi fan.
    I beg him eat meal.
    I begged him to eat.

A distinctive and interesting feature of this construction is that the NP inserted between V1 and V2 is the object of V1 and subject of V2. Chan (1999) argues that Pivotal Constructions are different from canonical SVCs in that the first NP bears a subject-predicate relationship with V2 in SVCs, but not in Chinese Pivotal Constructions. This construction is similar to English Object Control Constructions.

E) Second Verb Phrase/Clause Acting as Descriptive Clause

Some sentences of this category should also not be considered SVCs, because they share the same property with Pivotal Constructions: there is no shared object.

The above analysis suggests that only some of the Chinese sentences that consist of a sequence of verbs or verb phrases without any coordinating or subordinating markers intervening between them are canonical SVCs. Baker's well-formed syntactic view of SVCs provides a tool for defining and examining this group of Chinese SVCs. However, further analysis is required to determine how well this explanation fits Chinese SVCs.

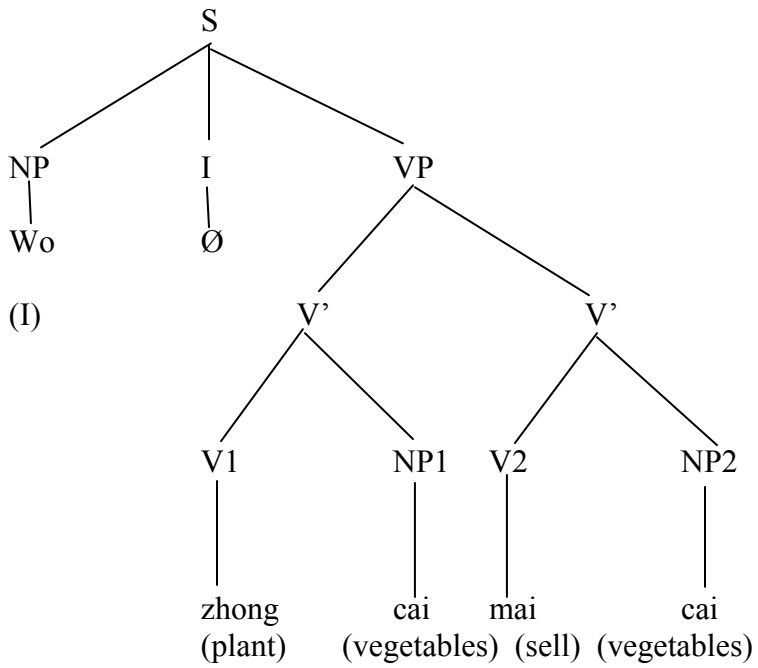
Let's look at a Chinese sentence first.

15. Wo zhong cai mai4 cai.
I plant vegetable sell vegetable
I planted vegetables and sold vegetables.
I planted vegetables to sell.

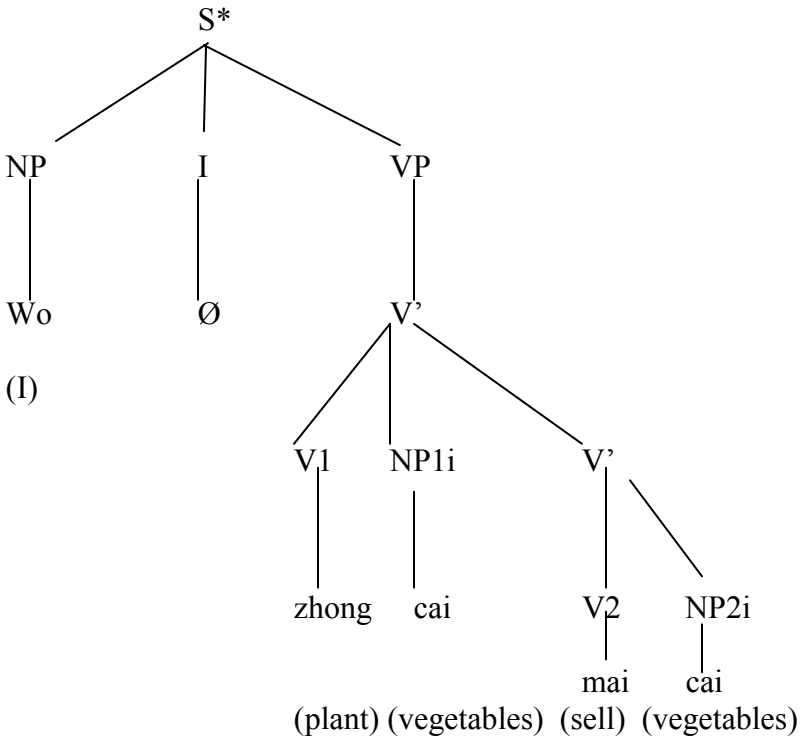
This sentence potentially has two readings. One reading indicates the two events, *zhong cai* and *mai*4 *ca*i, are independent and coordinate, so the sentence value does not change if we reverse the two events: *Wo mai*4 *cai zhong cai* This reading is not an SVC because V1 and V2 take different object arguments. The other reading holds a subordinate relation between V1 and V2, equating to 5 which is an SVC. The event of *mai cai* depends on the preceding event of *zhong cai*. Our real world knowledge assures us that we have to first plant vegetables in order to sell

them. Therefore, in this reading the two "*cai*"s are co-indexed. The structures of the two readings (16 and 17) can be represented as the following:

16.



17.



Obviously, 16 presents a type of coordinate structure where there is no conjoining particle. V1 and V2 share the same subject, and their objects are different. V2 is not able to assign a theta-role to NP1, and has to take its own internal argument. While in 17, V2 should assign a theta-role to NP1, according to the Projection Principle. However, this is wrong because V2 only assigns theta-roles to the subject *wo* and NP2. In order to get a true SVC, NP2 must be deleted, according to Baker's restrictions on SVCs. The consequence turns out to be that NP1 and NP2 must merge into one in SVCs in that they are co-referential. In other words, 15 is not an SVC (in Baker's sense) even though the semantic relationship between V1 and V2 is the same as that in an SVC. Empirically, the first reading is preferred to the second reading for native speakers apart from a specific context. The interpretation of 15 does not come from the clueless surface structure, but relies on context or other knowledge.

The covert coordination structures like 16 can be perceived as a sequence of distinct events, while the SVC is perceived as a single event (Sebba, 1987). This distinction between covert coordination and an SVC can be seen by comparing 2 with 18 in Sranan:

18. Kori naki Amba kiri en.
    Kori hit Amba kill her.
    Kofi struck Amba and killed her (=Amba or someone else).

We can further assume that SVCs derive from deleting the complement of V2. However, the problem of interpreting the second reading of 15 syntactically and semantically still remains. A different approach by Chang seems to be more functional constraining SVCs in Chinese.

Chang's analysis and definition of SVCs in Chinese

One of the important elements in Baker's definition of SVCs assumes that both verbs head VP and V' so that they should both copy the same tense/aspect features from the Infl node. In some serializing languages the same tense/aspect and subject agreement morphology appears on every verb in the SVC(Baker, 1989). Chinese shows very few overt linguistic markings to

indicate the relation between verbs when these verbs are in a serial relationship. The ambiguity of 15 illustrates this problem: the first reading indicates a coordinate structure in which the two events are independent, and the second reading infers a subordinate structure where the two events are sequential. If we reverse the order of the two events in 15:

19. Wo mai4 cai zhong cai.
    I sell vegetable plant vegetable
    I sold vegetables and planted vegetables.
    * I sold vegetables to plant it.

the coordinate structure remains, while the subordinate structure disappears. Why? Because our real world knowledge tells us it is impossible to sell vegetables before they are planted. In this case, we have to depend on the semantic relation between these two verbs to interpret the sentence. Chang points this out in PTS (1990, p291),

20. Principle of Temporal Sequence (Tai, 1985)
    The interpretation that an event depends on the event preceding it is based on our understanding of the real world, in which events unfold along a time dimension.

Thus it is reasonable to say that our knowledge of the real world will generally determine the structural relations between two VPs in a sentence. To be more specific, the first reading of 15 indicates no dependency between V1 and V2, while their relationship is determined by the temporal order of the two events represented in our concepts for the second reading. With the PTS as a constraint for SVCs, the structural ambiguity of 15 is not yet solved: 15 can be interpreted as a coordinate structure or as a subordinate structure. If it is coordinate, it is not an SVC. If it is subordinate, is it an SVC?

In addition to PTS, Chang proposes another constraint for SVCs in Chinese, which is the shared reference (1990). Shared reference is more accurate than ‘shared object’ because of the existence of classifiers (CL) in Chinese. For instance:

21. Wo dao le san bei shui he le yi bei *e*.
I pour ASP three CL water drink ASP one CL Ref.
I poured three glasses of water and drank one of them.

This structure seems to conform to Baker's definition of an SVC. *Shui* is the shared object of V1, *da* and V2, *he*. In fact, *shui* is deleted under coordination reduction (Chang, 1990). The 'genuine shared object' should include the classifier, *bei*, which actually carries the referential meaning, as in 22:

22. Wo dao le san bei shui he le[4].
I pour ASP three C water drink ASP
I poured three glasses of water to drink.

In 22, the deleted *san bei shui* (three glasses of water) is not the effect of coordination reduction (like in 21), but under the same reference. Therefore, 21 is not an SVC due to the fact that V1 and V2 do not share the whole NP, but only the head noun; this is a reduced coordination construction. Sentence 22, though, is an SVC, which precisely follows the criteria proposed by Baker.

In this respect, Chang adopts the notion of shared reference to make sure the two NPs in SVC would be precisely identical. The two constraints: PTS and shared reference, will sufficiently provide a guideline to distinguish coordination structures from SVCs in Chinese (Chang, 1990). On the basis of these assumptions, 15 is not an SVC with the existence of 5.

The above discussion can conclude a more precise definition of SVCs in Chinese: structures in which verbs in a series hold a temporal dependency relation and share a common NP (Chang, 1990). The shared common NP denotes a shared reference. Chang's analysis suggests that Chinese SVCs undergo the deletion of a redundant NP2 following V2 for the sake of economy. Even though 15 can have the second reading in Chinese, it is preferable to produce 5 in order to get the subordinate structure.

Conclusion and One Problem

Let's look at 15 again. Is it an SVC or not? There seems to be a discrepancy between Baker's SVCs and Chang's SVCs. Baker's double-headed structure would not allow 15 to be an SVC, due to the inability of V2 to assign a theta-role to NP1. However, Chang's two conditions, which are from semantic (shared reference) and conceptual (PTS) points of view, will allow 15 to be an SVC corresponding to the second reading. So what is the solution? One piece of evidence mentioned earlier is that 15 will become an SVC with the deletion of NP2. Empirically, 15 tends to turn into 5 when the native speaker intends the second reading. In other words, with the existence of 5, 15 should be reduced to a coordinate structure.

Baker's syntactic view of SVCs uses X'-Theory, Projection Principle and Theta Criterion to constrain the serialization of verbs. His double-headed analysis of SVCs has distinguished this class of verb constructions as being significantly different from other comparable constructions, such as conjunctions, embedded clauses and small clauses. His discussion also predicts that there seems to be no fundamental differences between serializing languages and non-serializing languages in terms of the lexical properties of verbs and the principles by which they are presented. According to the constraints provided by Baker, only some of Chinese SVCs defined in Li and Thompson's Chinese grammar book are true SVCs. How well Baker's theory explains Chinese SVCs remains in question when taking the lack of inflection morphology in Chinese into consideration. Chang's two restrictions, namely, temporal sequence and shared reference, on Chinese SVCs are more precise in the way that the thematic structure (PTS) is mapped into the functional structure (shared reference). Baker's approach does the mapping from the constituent structure to the thematic structure: double-heads are designed to suit the needs of theories rather than to describe and explain language in real use (Chang, 1990).

Among the above data I provide, I argue that three Chinese sentences are SVCs: 5, 9, and 22. There is a possibility that they are actually purpose clauses accompanied by the pro-drop of the redundant object when present. The interpretations of the three sentences are indicative of the fact that V2 is actually modifying V1 and functioning as the purpose of V1. It seems that V1 should dominate a higher position than V2 in the hierarchical tree structure. My native intuition of these sentences feels that V1 and V2 should not have hierarchical differences, but can be sequential. In other words, syntactically, V2 is not in the lower place than V1 in the tree diagram. The difference between V1 and V2 lies in their linear word order and related semantic relationship. Baker's double-headed structure perfectly explains this intuition. Due to the lack of overt marking in Chinese, there is no indication whether the two verbs actually carry the same tense/aspect features. That is where Chang's two constraints on Chinese SVCs come in. In order to justify these sentences are true SVCs, we might do WH tests on 5(ask question on NP1):

23. Ni zhong shenme mai?
    You plant what sell
    What did you plant to sell?

Nevertheless if we ask question on NP1 in 24 ("weile" is inserted to form purpose clause), we find ungrammaticality in 25:

24. Wo zhong cai weile mai.
    I plant vegetables to sell
    I planted vegetables to sell them.

25. *Ni zhong shenme weile mai?
    *You plant what to sell
    *What did you plant to sell?

The same result comes out of sentences 9 and 22 when tested with WH questions on NP1. The contrast between 23 and 25 shows that V1 and V2 hold different syntactic relations in sentence 5 and 24. The serialization of V1 and V2 can be perceived as a complex verb which infers a serial action and shares the same object reference in some languages.

Notes

[1] In the following analysis, V1 and V2 represent the first and second verb in an SVC respectively.
[2] This is the closest English translation of the original Chinese sentence. However, *mai* in 5 is not a purpose clause as I will argue in the conclusion.
[3] Not all sentences with the purpose interpretation can normally be interpreted as having a consecutive interpretation, or vice versa.
[4] The aspect marker *le* indicates that both events, 'pour' and 'drink', have been achieved. In syntactic terms, V1 and V2 here carry the same tense/aspect feature, which is further evidence that 22 is a true SVC. The same situation is also applied to sentences 5 and 9.

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