THE UNIVERSITY OF CALGARY

THE CHINESE SERIAL VERB CONSTRUCTION PROPER

by

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A THESIS
SUBMITTED TO THE FACULTY OF GRADUATE STUDIES
IN PARTIAL FULFILLMENT OF REQUIREMENTS FOR THE
DEGREE OF MASTER OF ARTS

DEPARTMENT OF LINGUISTICS

CALGARY, ALBERTA
AUGUST, 1990

ISBN 0-315-61983-X

THE UNIVERSITY OF CALGARY

FACULTY OF GRADUATE STUDIES

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled "The Chinese Serial Verb Construction", submitted by Cai-Xia Liu in partial fulfillment of the requirements for the degree of Master of Arts.

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ABSTRACT

This thesis is primarily concerned with the *serial verb construction proper* (SVCP) in Chinese. Chinese SVCPs, which do not have a corresponding syntactic structure in English and other European languages, present a problem for the Projection Principle in early GB Theory as the V2 in the SVCP, even if transitive, does not have a following NP argument.

Baker's (1989) approach of analyzing an SVCP as two verbs with a shared theme is shown in this thesis to provide a good account for the Chinese SVCP. Within this framework, not only is the Projection Principle obeyed, but the Theta Criterion and Case Filter are also satisfied. Furthermore, the limitations on what kinds of verbs can occur in the SVCP and their relative linear order are explained.

Apart from SVCPs, BA constructions also receive an explanation in this thesis.

ACKNOWLEDGEMENTS

The University of Calgary is the first foreign university I have ever attended. The gratitude I feel toward the people who have helped me in my two years' study cannot be adequately expressed with words.

I am glad that I had a chance to study in the Linguistics Department. It provides a friendly and homey environment for students. The two years' work has been interesting and worthwhile. There are a number of people who were especially helpful.

First of all, I would like to thank the members of my thesis committee: Dr. W. D. O'Grady, Dr. M. Dobrovolsky and Dr. J. Smart for the time they spent on reading my thesis and their helpful comments and criticism.

In particular, I thank my advisor Dr. W. D. O'Grady for his excellent supervision. It was an enjoyable and stimulating experience to work with him. His support, his patience, advice, encouragements and constructive criticisms were invaluable throughout my study in this department.

I would also like to express my gratitude to the Department of Linguistics, the University of Calgary, for providing me with financial assistance during my graduate studies.

I owe much to Dr. V. P. DeGuzman who helped me in various ways and provided much needed advise whenever I came to her.

I also want to express my thanks go to Dr. Cook, Dr. Dobrovolsky, Dr. Izzo, Dr. Libben and Dr. Murray for their teaching and to Dr. Southerland and Betty Lewis for their various helps.

Thanks also go to my fellow graduate students for their helping me in being confident and determined. It was also a challenging experience to work with them.

Special thanks to Lorraine Shelstad, Kazuwe O'Grady, and David Bellusci for their help in preparing my presentation and reading part of my thesis.

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LIST OF ABBREVATIONS

Adv: adverb

Adv.P: adverbial phrase

Ag: agent

AP: adjective phrase

COMP: complementizer

Det.: determine

Go: goal

INFL: inflection

LE: an aspect or a particle in Chinese

Loc: loctive

MW: measure word

N: noun

NP: noun phrase

P: preposition

PP: prepositional phrase

Q: quantifier

SVC: serial verb construction

SVCP: serial verb construction proper

Th.: theme

V: verb

Vi: intransitive verb

VP: verb phrase

Vt: transitive verb

CHAPTER I
INTRODUCTION

1.0 Introduction

Although *serial verb constructions* (SVCs) in Chinese[1] have been the subject of a number of studies, *serial verb constructions proper* (SVCPs) have rarely been investigated by Chinese linguists. It is these Chinese SVCPs, which have the sequence of NP V NP V (NP), that are the concern of this thesis.

Following is an example of an SVCP. Since its meaning is intermediate between coordination and purpose, there is no precise translation into English. A dash shows that the sentence has a meaning between coordination and purpose.

(1). zhangsan yang zhu mai
Zhangsan raise pig sell
' Zhangsan raises pigs and sells them/ to sell.'

Chinese is an SVO language, that is to say, a neutral declarative sentence should consist of a subject followed by a verb, which, if transitive, should be followed by an object. In (1), there is no problem for the first three words. *Zhangsan* appearing before *raise* is the subject of the verb and the NP *pig* appearing after *raise* is its direct object. However, for the second verb *sell*, there is no following noun phrase even though it is a transitive verb.

Mark C. Baker's (1989) theory of SVCPs, which provides an account for a similar phenomenon in some African languages,

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[1] In this thesis, the term 'Chinese' refers to Mandarin Chinese.

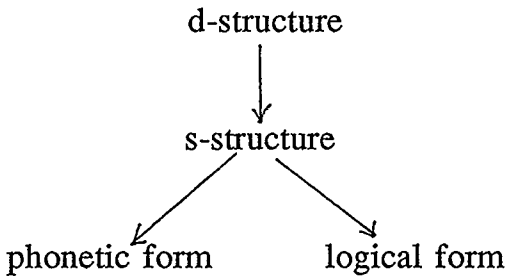
provides the theoretical framework used in this thesis. I will be using this approach to investigate different types of Chinese SVCPs and I will show that no matter whether the SVCP is composed of two transitive verbs, a transitive and an intransitive or two intransitives, the construction can be accounted in a relatively simple and straightforward manner.

This thesis will be arranged as follows. In the remaining part of Chapter 1, I will give a brief introduction to GB theory. In Chapter 2, I will describe various types of serial verb constructions in Chinese. I will employ several syntactic processes to distinguish SVCs from other constructions. In particular, I will introduce the main topic, *serial verb constructions proper* (SVCPs), to the reader together with some syntactic processes that distinguish between SVCPs and other SVCs. It is indicated in this chapter that early GB Theory fails to account for the facts that the V2 in the SVCP, though transitive, does not permit its direct object to follow it. Chapter 3 is an overview of Baker's theory (1989) of SVCPs. This chapter provides a brief presentation of the theoretical framework of the thesis. Chapter 4 and Chapter 5 are the main parts of the thesis, where I will investigate different types of the Chinese SVCPs, extend the investigation to the BA construction, and employ some syntactic tests to distinguish between SVCPs and coordination. Finally, Chapter 6 provides a brief summary of the thesis.

1.1 A brief introduction of GB Theory

Government and Binding Theory (GB Theory) was initially developed by Noam Chomsky and his colleagues in the early 80's. It typically includes the following levels of representation.

(2).



(Sells 1985:19)

In this model, four levels of representation are assumed: d-structure, s-structure, phonetic form (PF) and logical form (LF).

D-structures are conceived of as an abstract syntactic representation whose precise role will be discussed below. They are converted by a transformational component into s-structures, which are the final stage of syntactic representation of sentences.

S-structures serve as input to both phonetic form and logical form. 'Phonetic form is the level representing the actual string that is the output of the grammar at the sound end' (Sells 1985:20) while logical form expresses the grammatically determined aspects of a sentence's interpretation and is 'the corresponding level at the 'meaning' end' (Sells 1985:20). The focus of this thesis is on the two levels of syntactic representation: d-structure and s-structure.

GB theory includes a number of sub-theories that regulate the levels of representation. Following are a brief introduction to several

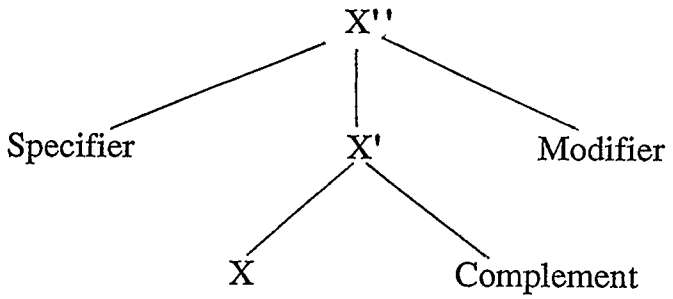
subsystems of GB Theory, including X'-Theory, the Projection Principle, Theta-Theory, Government and Case-Theory.

1.1.1 X' Theory

X'-Theory is concerned with the possible syntactic categories of human language and their phrasal projections. The X'-theory of phrase structure defines a phrase as a projection of a head. A head, according to Sells (1985:27), is that part of a linguistic unit that gives it its essential character. For instance, the head of an NP is the noun, the head of a VP is the verb, and so on.

Following Chomsky (1986a), English phrase structure can be expressed in the following format, called the X' schema.

(3)



In this template, two levels of projection are given: the 'double bar' level (e.g. V'', equivalent to VP), which is the maximal projection of a head; and the 'single bar' level (e.g. V'), which is the first projection of a head and which connects the maximal projection with the head. Complements, together with the head, make up the X' projection, while modifiers and specifiers are sisters of X' (Sisters here refer to the nodes that are immediately dominated by the same node. Hence, *Specifier*, *X'* and *Modifier* in (3) are sisters.) and all three are components of the maximal projection of the head X.

Specifiers include determiners in NPs and degree words like *very* in APs while modifiers include relative clauses, APs and certain PPs. Complements are constituents whose admissibility depends on properties of the head. This is called subcategorization. According to Sells (1985:31), any maximal projection (i.e., AP, NP, PP, S', or VP) can be the complement to a head. Typically, different heads select different elements from the set of maximal projections as their complements. For example, the English verb *beat* selects an NP (as in *I beat him.*) while *put* selects both an NP and a PP as its complements (e.g. *He put the book on the floor. *He put the book. *He put on the floor.*) In some cases, the same head can select different maximal projections, e.g., the verb *get* can select a PP (*get to the airport*) or a AP (*It is getting dark.*)

Subcategorization is used as a filter on randomly generated phrase structures in the following sense (Sells 1985:32):

> if we try, for example, to do lexical insertion of *discuss* in a structure where it is sister to an AP, that structure with that head will be ruled out, for its subcategorization requires NP.

(4). a.*We discussed interesting.[1]

b. We discussed the event.

In other words, the subcategorization decides which maximal projection can, or perhaps must, follow a certain head.

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[1] An asterisk * in front of a sentence means that it is unacceptable or ungrammatical---i.e. syntactically ill-formed in some way.

1.1.2 The Projection Principle

The Projection Principle is a basic principle of GB Theory, serving as an overarching constraint on syntactic representation.

(5). Projection Principle

> Representations at each syntactic level are projected from the lexicon, in that they observe the subcategorization properties of lexical items. (Chomsky 1981:29)

According to the Projection Principle, if some syntactic position exists, it must always have existed and must continue to exist, within the two levels of syntactic representation (d-structure and s-structure). Hence, if there is an NP-position in s-structure in a certain structural configuration, that NP-position must also present at d-structure.

For example, the syntactic representation of the sentence *I wonder whose brother John saw* can be expressed in (6).

(6). S-structure: [$_S$ I wonder [$_{S'}$ whose brother [$_S$ John saw e.]]]

D-structure: [$_S$ I wonder [$_{S'}$ COMP [$_S$ John saw whose brother]]].

The verb *see* , being transitive, is subcategorized for a following NP complement. Thus, an NP must occur in the complement position in both the d-structure and s-structure. However, the position of the NP *whose brother* is different in the two levels of representation. In d-structure *whose brother* appears after the verb *saw* while in s-structure it appears in a pre-sentential position, and an empty category or trace occurs as complement to the verb.

1.1.3 Theta-Theory

Theta-Theory deals with the assignment of thematic roles, such as :

(7). agent------instigator of an action

theme-----the entity undergoing an action or exhibiting a property

goal ------ the end point of movement

source---- the starting point of a movement

location---the locus of an action

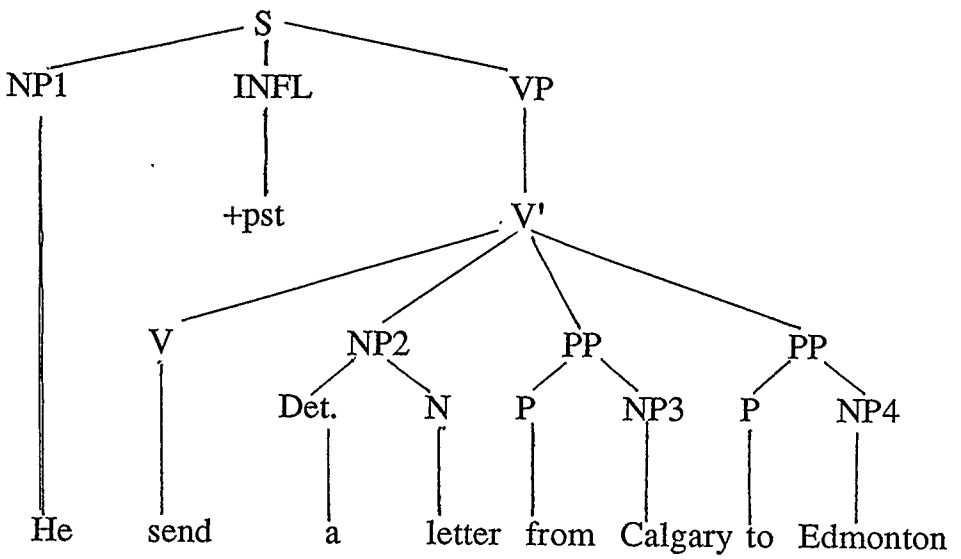
For example, in the sentence *He sent a letter from Calgary to Edmonton,* the NP *He* refers to the agent that causes the action '*sent a letter from Calgary to Edmonton* ' to occur and the NP *a letter* refers to the entity that undergoes the action *send.* The NP *Calgary* names the starting place and *Edmonton* names the ending place of the action *send a letter.* Thus, the NP *he* has the agent role; the NP *a letter,* the theme role; the NP *Calgary,* the source role; and the NP *Edmonton,* the goal role. The assignment of theta-roles is usually called theta-marking.

Maximal projections that are assigned theta-roles fall into two types: external arguments and internal arguments. Arguments are any noun phrases that require theta-roles (Chomsky 1986b:93). Internal arguments are those whose theta-roles are assigned by a head within its projection (e.g., within VP for a verb). Otherwise an argument will be an external argument. The agent-role is assigned to an external argument by the sister category VP while theme, goal

and others are internal arguments, which receive their theta-roles from a sister V or P within a VP.

Theta-roles are assigned in the d-structure of sentences. The assignment of theta-roles in the sentence *He sent a letter from Calgary to Edmonton* can be illustrated by (8).

(8).



In (8), NP1 (*He*) is the external argument which receives its agent role from the sister category VP. NP2 (*a letter*), NP3 (*Calgary*) and NP4 (*Edmonton*) are all internal arguments which receive their theta-roles from the sister categories---the V *sent*, the P *from* and the P *to* , respectively.

Theta-marking is constrained by the Theta-Criterion.

(9).Theta-Criterion

> Each argument bears one and only one theta-role, and each theta-role is assigned to one and only one argument. (Sells 1985:37).

In other words, no argument is left without a theta-role or assigned more than one theta-role.

1.1.4 Government

Government is a fundamental principle in GB Theory. Subcategorization, internal theta-marking and Case marking (discussed below) all take place under government.

(10). Government (Adapted from Sells 1985:40)

x governs ***y*** if and only if:

x and ***y*** mutually c-command each other

The definition of c-command is (Sells 1985:39):

(11). C-Command

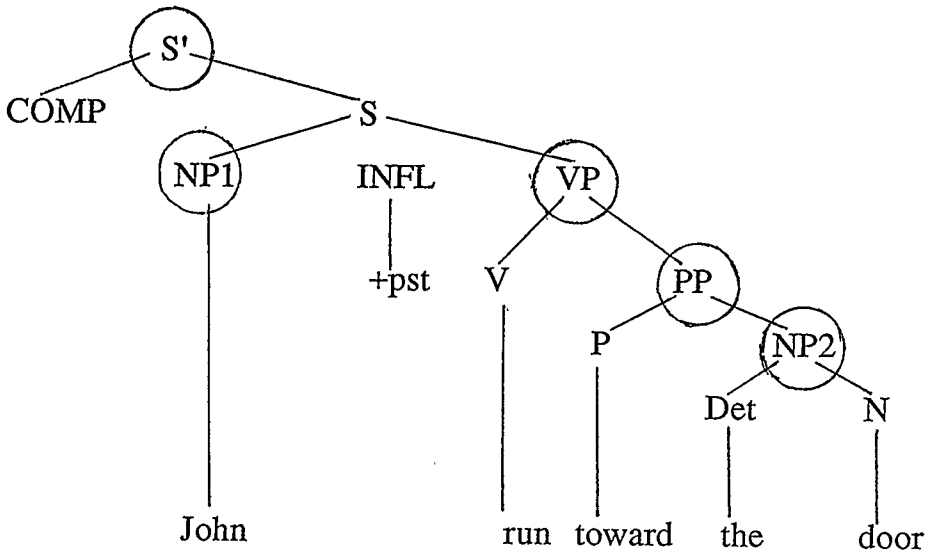
x c-commands ***y*** if and only if:

every maximal projection dominating ***x*** dominates ***y***.

(S', NP, VP, AP or PP count as maximal projections)

The following sentence illustrates how government and c-command work.

(12).



In the structure of this sentence, NP1 (*John*), INFL and VP (*run toward the door*) c-command each other as all three are dominated by the same maximal projection S'. Because government is restricted

to lexical categories and INFL (see 10(a)), INFL governs NP1 but VP does not. In other words, INFL is the only governor of NP1.

Within the VP *run toward the door* , both the verb *run* and the preposition *toward* c-command NP2 *the door* as every maximal projection dominating the verb (i.e., VP and S') and the preposition (i.e., PP, VP and S') also dominates NP2. However, only P governs NP2 since P and NP2 c-command each other; V does not govern NP2 as V c-commands NP2 but NP2 does not c-command V (see condition (10b)). That is to say, the governor of NP2 is the preposition *toward* rather than the verb *run*.

1.1.5 Case-Theory

Case Theory determines the distribution of NPs in s-structure. In GB grammar, each overt NP must be assigned Case.

(13). Case Filter

*NP, if NP has phonetic content and no Case.(Sells 1985:42)

In effect, then, if some NP fails to be assigned Case, the structure is ungrammatical.

The basic instances of structural Case assignment (or case marking) are the following.

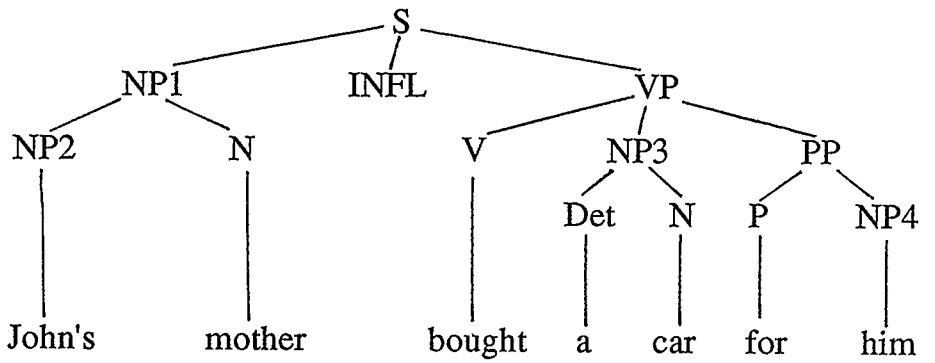
(14). INFL containing tense assigns nominative Case to an adjacent NP that it governs.

Transitive V and P assign objective Case to adjacent NPs that they govern.

N assigns genitive Case to an adjacent NP that it governs.

The example in (15) illustrates how various NPs are assigned Case in an English sentence. (For purposes of simplicity, intermediate bar levels are omitted where they are not relevant to the point at hand.)

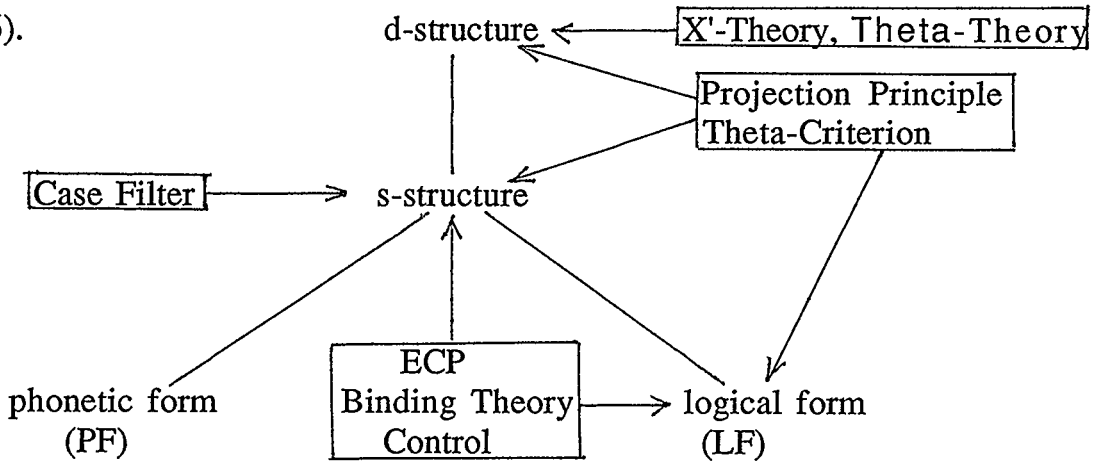
(15)



In (15), NP2 *(John*) is governed by the noun *mother* and is thus assigned genitive Case. NP1 *(John's mother)* is in turn governed by INFL and is assigned nominative Case. The verb *bought* and the preposition *for* govern NP3 *(a car)* and NP4 *(him),* respectively, and assign them objective Case. Thus, every NP in (14) is assigned Case once as demanded by the Case Filter.

In summary, the overall organization of GB grammar is shown in the following diagram.

(16).



(Sells 1985:24)

In this model, theta-role assignment, subcategorization and the X' theory all impose their requirements in the d-structure while the Case Filter, Empty Category Principle (ECP) and the Binding Principle constrain s-structure. As the ECP, Binding Theory and Control Theory are not relevant to the main topic I am investigating, I will not discuss them here.

In the next chapter, we'll give a brief introduction to the Chinese Serial Verb Constructions.

CHAPTER II

The Chinese Serial Verb Constructions

2.1 Serial Verb Constructions (SVCs) in Chinese

One of the most common sentence structures in Chinese is the serial verb construction. Serial verb sentences usually consist of a subject followed by two verbs and other constituents:

(1). NP V1 (NP) V2 (NP)

The most noticeable characteristics of SVCs are: (i). the juxtaposition of two verbal categories which, according to Chao (1968:325), form an intermediate type between coordinate and subordinate constructions. In other words, SVCs are neither coordination nor subordination; (ii). the two verbal parts in an SVC have the same subject.

According to the types of meaning conveyed, serial verb constructions in Chinese fall into four groups.

(i). Consecutive: One event occurs after the other

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

(iii). Circumstance: The first verbal category describes the circumstances under which the event in the second verbal category occurs.

(iv). Serial Verb Construction Proper (SVCP): The two verbs in an SVC share the same theme argument.[1]

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[1] In later parts of the thesis, I sometimes use the term (direct) object instead of theme. However, the two terms are not interchangeable. While object means an NP complement of a transitive verb, theme is one of the thematic roles. A

Examples of each type are given immediately below.

(2). Consecutive:

zhangsan chuan-shang da-yi zou chu qu

Zhangsan put on overcoat walk exit go

' Zhangsan put on his overcoat and went out.'

(3). Purpose:

wo shang jie mai dongxi (Li and Thompson 1981:596)

I ascend street buy thing

' I go out to buy things.'

(4). Circumstance:

tamen yong shou chi fan (Li and Thompson 1981:596)

they use hand eat meal

' They eat with their hand.'

(5). Serial Verb Construction Proper:

tamen tian-tian zhu jiao-zi chi

they day-day make dumpling eat

' Everyday they make dumplings and eat them/to eat.'

As the following examples show, a single SVC sometimes has more than one meaning:

(6). a. wo mai piao jin qu (Li and Thompson 1981:596)

I buy ticket enter go

' I bought a ticket and went in.' (Consecutive)

' I bought a ticket to go in.' (Purpose)

---

theme can be an object of a transitive verb or a subject for an unaccusative verb.

b. wo zhu zai zher gen tamen da jiaodao (Li and Thompson)
I live at here with they hit interaction
' I live here to have contact with them.' (Purpose)
' I live here and have contact with them.' (Consecutive)
' I live here while having contact with them.' (Circumstance)

2.2 Distinction between SVCs and other types of syntactic constructions

Apart from SVCs, some other syntactic constructions, such as co-ordination, subordination and pivotal construction, may exhibit the sequence NP V1 (NP) V2 (NP). But they are different from SVCs.

2.2.1 Coordination and SVCs

Coordination in NP V1 (NP) V2 (NP) patterns is a construction in which both verb categories are equivalent in syntactic status. As noted by Chao (1968:270), words forming centers of phrases in coordination are normally of the same part of speech. For instance, in (7), the coordination consists of two V' in square brackets.

(7). zhangsan tian-tian [chang ge] [tiao wu]
Zhangsan day-day sing song jump dance
' Everyday Zhangsan sings songs and dances.'

The coordinate parts are reversible without any change in the meaning of the sentence of which they form a part (Chao 1968:325). When the two coordinate verbal parts in (7) are reversed, as (7)' shows, there is no change in the meaning.

(7)' Coordination (7) with reversed verbal categories

zhangsan tian-tian [tiao wu] [chang ge]

Zhangsan day-day jump dance sing song

' Everyday Zhangsan dances and sings songs.'

The Chinese coordination is different from English coordination. In English, if the coordinate parts are reversed, there is sometimes a change in the meaning of the sentence.

(8). a. He married and had a child.

b. He had a child and married.

(8a) is a coordination in English. *Married* and *had a child* are two coordinate parts. When the two exchange their position as in (8b), the meanings of the sentences are not the same.

In Chinese, the type of sentence that involves time sequence is usually expressed by a consecutive SVC pattern. For instance, the sentences corresponding to (8) can be expressed in (9).

(9). a. ta jiehuen jou-le xiao-hai

s/he marry have-LE little-child

' S/He married and had a child.'

b. ta jou-le xiao-hai jiehuen

s/he have-LE little-child marry

' S/He had a child and married.'

Coordinations differ from SVCs in Chinese in that the verbal categories in a coordination are considered to be two units as (7) shows while the verbal categories in an SVC are considered to be one unit. Furthermore, though the verb phrases in coordination and SVCs are reversible, only in the coordinate structures can they be reversed

without any change in the meaning. In contrast, when the two verb phrases in an SVC are reversed, the sentence often has a different meaning. Compare (7)' with (6a)' (i.e. reversed(6a)).

(7)' Coordination (7) with reversed verbal categories

zhangsan tian-tian [tiao wu] [chang ge]

Zhangsan day-day jump dance sing song

' Everyday Zhangsan dances and sings songs.'

(6a)' SVC (6a) with reversed verbal categories

wo jin qu mai piao

I enter go buy ticket

' I went inside to buy a ticket.' (Purpose)

Even though the two verbal categories in a coordination change their order, as (7)' shows, the meaning of the sentence remains the same. In contrast, when the order of the two verbal parts in (6a), an SVC, is reversed, the meaning is different. The original sentence, (6a),*Wo mai piao jin qu*, has two meanings: 'I bought a ticket and went in' (Consecutive) which expresses that buying a ticket occurs before going inside; and 'I bought a ticket to go in' (Purpose) which indicates the purpose of my buying a ticket is going inside. On the other hand, the reversed sentence (6a)' has only one meaning which expresses a purpose. Even the purpose is reversed from the original one. Whereas the purpose of (6a) is to go inside by buying a ticket, the purpose of (6a)' is to buy a ticket by going inside.

Another way to distinguish a coordination and an SVC is that a coordination can co-occur with an overt coordinate conjunction while

an SVC cannot. These coordinate conjunctions include: *you...you*; *bu-shi...jiou-shi* 'either...or', etc..

(7)." a. zhangsan tian-tian you chang ge you tiao wu
Zhangsan day-tian sing song jump dance
' Everyday Zhangsan sings songs and dances.

b. zhangsan tian-tian bu-shi chang ge jiou-shi tiao wu
Zhangsan day-day either sing song or jump dance
' Everyday Zhangsan either sings songs or dances.'

In contrast, an SVC cannot co-occur with a conjunction.

(6a)." a. * wo you mai piao you jing qu
I buy ticket enter go

b. * wo bushi mai piao jioushi jin qu
I either buy ticket or enter go

Similar to the processes above, only coordination permits insertion of the particle marker *ia* between the two verbal categories (implying liveliness or impressiveness) (Chao 1986:270).

(10). a. A coordination
zhangsan tian-tian chang ge ia, tiao wu ia,...
Zhangsan day-day sing song jump dance
' Everyday Zhangsan sings songs and dances.'

b. An SVC
* wo mai piao ia, jing qu ia, ...
I buy ticket enter go

Thus, an SVC differs from a coordination in that the verbal categories in the SVC are reversible with a change in the meaning of

the sentence whereas the verbal categories in a coordination are reversible without a change in the meaning.

2.2.2 SVC and sentence with embedded clause

There are two types of embedded clauses that can be expressed using the NP V1 (NP) V2 (NP) pattern. One is the subject clause, the other is the direct object clause. Following are examples of these two types of sentences. (Notice that in the subclause parts of (11b) and (c), there is no overt subject. In this case, the doer of the action in the subclause can be interpreted as 'anybody'. For example, (b) can be understood as 'we prohibit anybody to smoke'. In fact, *renhe ren* , meaning 'anybody' in Chinese, can be inserted between *prohibit* and *extract.*)

(11). a. wo xiang ni gai zou le
(Object clause)

I think you should leave LE

' I think it is time for you to leave.'

b. women jinzhi chou yan (Li and Thompson)
(Object clause)

we prohibit extract smoke

' We prohibit smoking.'

c. xue Menggu hua hen bu rongyi (Li and Thompson)
(Subject clause)

study Mongolia speech very not easy

' It is not easy to learn Mongolian.'

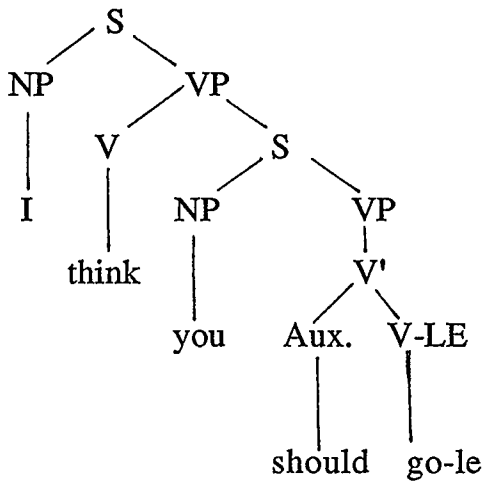
d. ta bu chi xigua tai kexi le (Li and Thompson)
(Subject clause)

S/He not eat watermelon too sad LE

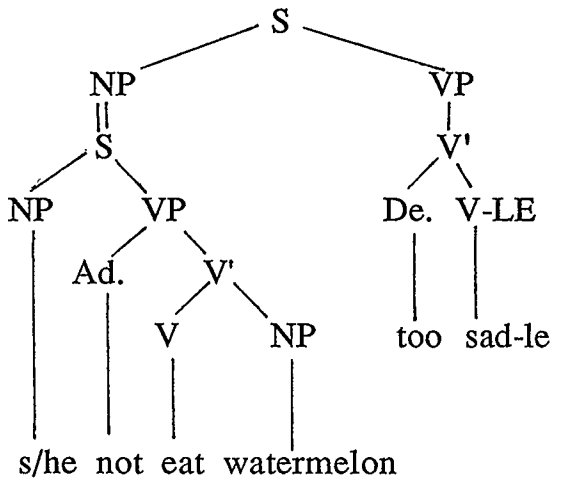
' It is too bad that s/he doesn't eat watermelon.'

The above are all sentences with embedded clauses. In sentence (11a) and (b), the part following V1 is regarded as an object clause. In contrast, in (c) and (d), the part of the sentence that precedes V2 is regarded as a subject clause. Following are the tree structures for (11a) and (d).

(11)' a.



d.



In (11a)', the lower S *you should go* is the sister of V *think*, it is an object clause. Whereas in (11d)', the lower S *s/he not eat watermelon* is the sister of VP *too sad* ; it is a subject clause.

SVCs differ from sentences with embedded clauses in that the verbs in SVCs make up only one predicate and there is therefore only one (shared) subject while the verbs in sentences with embedded clauses make up more than one predicate which can have different subjects as in example (11a).

The distinction between SVCs and sentences with embedded clauses can also be made on the basis of interrogative word *shenme* 'what'. In embedded clauses either the object clauses (i.e., the part after V1) or the subject clauses (i.e., the part of the sentence before V2) can be questioned by *shenme* 'what'. Let's look at the two sentences in (11) again:

(11). A statement

a. wo xiang [S ni gai zou le]
NP V1 NP Au. V2

I think you should leave LE

' I think it is time for you to leave.'

d. [S ta bu chi xigua] tai kexi le
NP V1 NP De. V2

s/he not eat watermelon too sad LE

' It is too bad that s/he does not eat watermelon.'

As the embedded clauses in brackets form a constituent, they can be questioned with *shenme* 'what'.

(12). The part after the first verbal category (i.e. the direct object clause) in (11a) is questioned (i.e. replaced by *shenme*)

wo xiang shenme ?

I think what

' What do I think?'

(13). The part before the second verbal category (i.e. the subject clause) in (11d) is questioned

shenme tai kexi le?

what too sad LE

' What is too bad?'

In contrast, in SVCs, the corresponding portions of the sentence cannot be questioned. Let's take (5) and (6a) to illustrate this point.

(5). tamen tian-tian zhuo jiao-zi chi
NP V1 NP V2

they day-day make dumpling eat

' Everyday they make dumplings and/to eat (them).'

(6). a. wo mai piao jin qu
NP V1 NP V2

I buy ticket enter go

' I bought a ticket and went in.' (Consecutive)

' I bought a ticket to go in.' (Purpose)

(14). The part after the first verbal category is replaced by *shenme.*

a. * tamen tian-tian zhu jiao-zi shenme

they day-day make dumpling what

b. * wo mai piao shenme

I buy ticket what

(15). The part before second verbal category is questioned

a. * shenme chi

what eat

b. * shenme jin qu

what go in

From the above discussion, it is clear that SVCs differ in an important way from sentences with embedded clauses. In an SVC, the two verbs, together with other phrases (such as NP, adverbial phrase) form one predicate. In contrast, the two verbs in a sentence with an embedded clause form two predicates. One verb, together with its

subject and other elements, forms a clausal constituent of the sentence in which the other verb is the predicate.

2.2.3 SVCs and pivotal constructions

So-called pivotal constructions usually have the format NP V1 NP V2 (NP). According to Chao (1968:124), they consist of 'a succession of a verbal expression V1, a nominal expression, and another verbal expression V2, with the nominal expression serving at once as object of V1 and subject of V2'.

(16). a. wo yao zhangsan lai
I want Zhangsan come
' I want Zhangsan to come.'

b. women quan zhangsan xuie yi.
We advise Zhangsan study medicine
' We advised Zhangsan to study medicine.'

In (b), the NP *zhangsan* is the object of the preceding verb *advise*. Also, it is the understood subject of the verb phrase following it, i.e. *study medicine*.

The pivotal construction may be confused with a sentence with embedded object clause as both have the sequence NP1 V1 NP2 V2 (NP3). One way to distinguish the two constructions is by the place that a pause can be put. In a sentence with object clause, a pause must be put between the first verb and the second NP while in a pivotal construction, a pause can be put after NP2. (In this paper, # means a pause)

(17). a. A sentence with an object clause: pause after the first V

tamen dou shuo# wo bu dui

they all say I not correct

' They all said that I was wrong.'

b. A pivotal construction: pause after the second NP

women quan zhangsan# xuie yi

we advise Zhangsan study medicine

' We advise Zhangsan to study medicine.'

Otherwise, the sentences will be unacceptable.

(18). a. A sentence with an object clause: pause after the second NP

* tamen dou shuo wo# bu dui

they all say I not correct

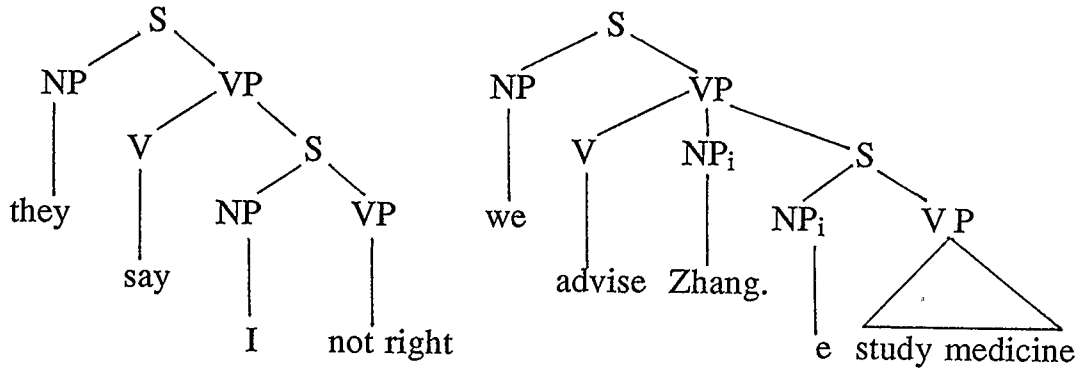
b. A pivotal construction: pause after the first V

* women quan# zhangsan xuie yi

we advise Zhangsan study medicine

The tree structures for (17) are illustrated in (19).

(19). a. S. with em. object clause b. Pivotal construction



Pivotal constructions differ from SVCs in that the two verbs in pivotal constructions have different subjects while the verbs in SVCs have the same subject.

(6a). SVC

wo mai piao jin qu

I buy ticket enter go

' I bought a ticket and went in.' (Consecutive)

' I bought a ticket to go in.' (Purpose)

(16b). Pivotal Construction

women quan zhangsan xuie yi

we advise Zhangsan study medicine

' We advised Zhangsan to study medicine.'

(6a) is an SVC, in which both verbs have the same subject, *I*. (16b), on the other hand, is a pivotal construction, in which the verbs have different subjects. The subject of the verb *advise* is *we*, while the subject of *study* is a null NP understood to be coreferential with *Zhangsan*. When the verbal categories in both constructions are interpreted as having the same subject, the following result will be produced.

(20). Having the same subject

a. wo mai piao wo jin qu (SVC)

I buy ticket I enter go

' I bought a ticket and I went in.' (Consecutive)

' I bought a ticket for me to go in.' (Purpose)

b. * women quan women xuie yi (Pivotal Construction)
We advise we study medicine
' *We advised us to study medicine.'

In an SVC such as (6a), when the sentence is interpreted as two verbs having identical subjects, it is acceptable as (20a) shows. On the contrary, when the verbs in a pivotal construction are interpreted as having the same subject, the sentence is unacceptable as (20b) shows.

The fact that the two verbs in a pivotal construction have different subjects is attributed to the characteristics of V1. Not just any action verb can occur in the V1 position. As noted by Chao (1968:125), only the 'cause to' type, such as *qing* 'request' , *cuei* 'urge', *pai* 'dispatch' etc., can. Since people usually don't cause themselves to do something, the subjects of the two verbs should not be the same.

While pivotal constructions require that the verbs have different subjects, SVCs require the same subject. If the verbs in SVCs take different subjects, either the sentences are unacceptable or the structure of the sentences is changed. Let's take (2) and (6a) as examples.

(2) zhangsan chuan-shang da-yi zou chu qu
Zhangsan put on overcoat walk exit go
' Zhangsan put on his overcoat and went out.'

(6a) wo mai piao jin qu

I buy ticket enter go

' I bought a ticket and went in.' (Consecutive)

' I bought a ticket to go in.' (Purpose)

(21). The verbs in SVCs with different subjects

a. * zhangsan chuan-shang da-yi wo zou chu qu

Zhangsan put on overcoat I walk exit go

b. wo mai piao zhangsan jin qu

I buy ticket Zhangsan enter go

' I bought a ticket and (while) Zhangsan went in.)

When the verbs in (2) have different agents, the sentence is unintelligible as (21a) shows. Sentence (21b) is not difficult to understand, but the construction is changed. It is not an SVC any more, but a coordination with two component clauses---*I buy ticket* and *Zhangsan enter go*. If the positions of the two component clauses are exchanged, the value of the sentence will not be affected as (22a) shows. Furthermore, a conjunction such as *keshi* 'but' and *suieran...keshi* 'but' can occur between the component clauses as (22b) shows.

(22). a. zhangsan jin qu wo mai piao

Zhangsan enter go I buy ticket

' Zhangsan entered inside and (while) I bought a ticket.'

b. (suieran) wo mai piao keshi zhangsan jin qu

(though) I buy ticket but Zhangsan enter go

' I bought a ticket but Zhangsan went in.'

The discussion in this section indicates that SVCs are different from pivotal constructions in that the verbs in an SVC have the same subject while the verbs in a pivotal construction have different subjects.

Coordination structure, sentences with embedded clauses and pivotal constructions as well as most of the Chinese SVCs just outlined (i.e., those describing consecutive actions, purpose and circumstance) are not so different from constructions that have been found in English. However, the type of SVC that we will discuss below does not have a corresponding syntactic structure in English. It differs from non-SVC constructions in the same ways as other SVCs do. Yet, it possesses some characteristics which distinguish it from other SVCs.

2.3 Serial verb construction proper (SVCP)

The Chinese SVCP is a type of SVC that is composed of a sequence of two verbs with a shared theme argument between them. That is, in the construction NP1 V1 NP2 V2, NP1 is the subject and NP2 is understood as the theme of both verbs. As the following examples show, no theme appears after the second verb in this construction, even though it is transitive when appearing by itself.

(23). a. tamen tian-tian zhu jiao-zi chi
they day-day make dumpling eat
' They everyday make dumplings and eat them/to eat.'

b. ta zuengshi mai shu kan
S/He always buy book read
' S/He always buys books and reads them/to read.'

c. zhangsan yang zhu mai
Zhangsan raise pig sell
' Zhangsan raises pigs and sells them/to sell.'

In the above sentences object deletion has apparently occurred after the second verb. Object deletion is common in Chinese as the following conversation illustrates:

(24). a. nar mai yifu?
where sell clothes
' Where is clothes sold?'

b. qianbian na ge shangdian mai
front that MW shop sell
' The shop in front sells clothes.'

In (24b), the object of the verb *mai* 'sell' (i.e. *clothes*) is omitted. Crucially, however, this can only occur in an appropriate context. When there is no context, the omission of the object is not permissible.

(25). ! shangdian mai [1]
shop sell

Moreover, the question in (24a) can also be answered with a complete sentence.

(24a) nar mai yifu?
where sell clothes

[1] The symbol '!' in front of a sentence indicates that it is strange without special context.

(26). qian-bian na ge shangdian mai yifu.
front that MW shop sell clothes
' The shop in front sells clothes.'

The behavior of *mai* 'sell' in an SVCP such as (23c) differs from that found in a non-SVC such as (24) and (26) in two ways. First, only in (23c) can the object of *mai* be missing without context. Second, the 'deleted' object can be overtly encoded in the non-SVC (see (26)) without affecting the grammaticality and the meaning of the sentence while this is not so in the SVCP, as the unacceptability of (27) shows.

(27) a. * zhangsan yang zhu mai zhu
Zhangsan raise pig sell pig
b. * zhangsan yang zhu mai ta(men)
Zhangsan raise pig sell it(PLU.)

In (27), the second verb *mai*, although transitive, simply refuses to permit an object to its right, the normal position of verb complement in Chinese. This is also the case for the SVCPs in (23a) and (23b).

The above pattern seems inconsistent with subcategorization in GB theory in that the second verb subcategorizes a following NP complement, but, for some reason, it does not permit it to actually appear. Somehow, there must be an object for the second verb in this construction. As we will see in the next chapter, Baker(1989) suggests that V1 shares its object with V2. The type of SVC in which two verbs share a common theme is called a *serial verb construction proper* (SVCP).

Object sharing occurs not only in SVCPs, but also in BA constructions, for which I'll give an explanation in Chapter V.

(28). a. wo ba shu diou-le.
I BA book lose-LE
' I have lost my book.'

b. mao ba yu chi le
cat BA fish eat LE
' The cat has eaten the fish.'

2.3.1 The Distinction between the SVCP and other SVCs

In addition to object sharing, the SVCP has other characteristics that distinguish it from other SVCs. First, because of object sharing, the sentence cannot be reorganized as two non-SVC sentences.

(23c). zhangsan yang zhu mai
Zhangsan raise pig sell
' Zhangsan raises pigs and sells them/to sell.'

(29). zhangsan yang zhu. * zhangsan mai
Zhangsan raise pig Zhangsan sell
' Zhangsan raises pigs'

In contrast, other SVCs can be reformulated as two non-SVC sentences.

(6a). wo mai piao jin qu
I buy ticket enter go
' I bought a ticket and went in.
I bought a ticket to go in.'

(30). wo mai piao wo jin qu

I buy ticket I enter go

' I buy a ticket.' ' I go inside.'

The SVCP and other SVCs also differ in that the order of the two verbs in the SVCP cannot be reversed while the two verb expressions of a SVC is reversible (with a corresponding change in meaning) as has been shown in (6a) and (6a)' of Section 2.2.1.

Unreversed SVCs

(6a). wo mai piao jin qu

I buy ticket enter go

' I bought a ticket and went in.

I bought a ticket to go in.'

SVC with reversed verbal categories

(6a)'. wo jin qu mai piao

I enter go buy ticket

' I went inside to buy a ticket.'

The meanings of (6a) and (6a)' are different from each other as explained in Section 2.2.1. Yet both sentences are grammatical, showing that the two verbal parts are reversible in a normal SVC. However, in the SVCP, the order of the verbal categories cannot be exchanged.

Unreversed SVCP

(23a). tamen tian-tian zhuo jiao-zi chi

they day-day make dumpling eat

' Everyday they make dumplings and eat them/to eat.'

SVCP with reversed verb expressions

(23a)'. * tamen tian-tian chi jiao-zi zhuo
they day-day eat dumpling make

(23a)''. * tamen tian-tian chi zhuo jiao-zi
they day-day eat make dumpling

The same is true of the order of the two verbs in other SVCPs such as (23b) *S/He always buy book read* 'S/He always buys books and reads them' and (23c) *Zhangsan raise pig sell* 'Zhangsan raises pigs and sells them'. Thus, we know that SVCP has a strict verb order that reflects the real world sequence. The action of making dumplings occurs before the action of eating them.

The discussion above illustrates that SVCPs, the object sharing constructions, possess some special characteristics that distinguish them from other SVCs. Moreover, this construction could raise some problems for GB theory. As Baker(1989, 515) points out, the object sharing phenomenon is the most challenging aspect of SVCPs for current syntactic theory, in that a transitive verb that apparently has no object threatens the Projection Principle (see Section 1.1.2 of Chapter I), which requires that the lexical properties of a word be satisfied in all levels of syntactic representation.

CHAPTER III

BAKER'S THEORY OF SVCPs

As noted in the last chapter, early GB theory encounters a problem in explaining the special characteristics of the SVCP. In particular, it cannot explain the position of V2's object. Thus, the lexical theta-role assignment properties of the second verb are not satisfied and the Projection Principle is violated.

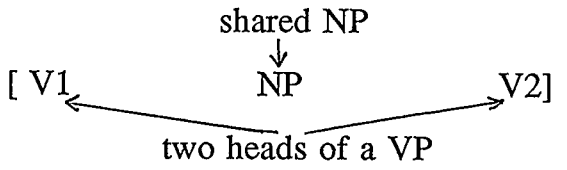
The SVCP occurs not only in Chinese, but in some African languages as well (Baker 1989:513). Consider, for instance, the following Sranan example (Baker 1989:516)

(1). Kofi nake Amba kiri
Kofi hit Amba kill
' Kofi struck Amba dead.'

Both *nake* and *kiri* are transitive verbs in that language. Yet at s-structure, V2 appears not to have a direct object.

To solve this problem, Baker first explores the structure of Serial Verb Constructions Proper. He finds that the syntactic expression of semantic relationships in SVCPs is different from that found in familiar European languages (514). In particular, the second verb in an SVCP does not have its own object at s-structure; it simply shares the object of the preceding verb. Baker proposes that both verbs in an SVCP are heads of the same VP and that both verbs can theta-mark the shared NP, as (2) shows.

(2).



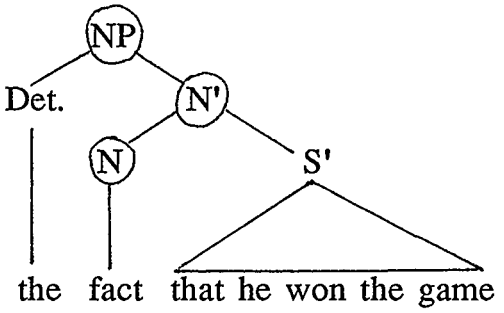
Baker's theory is based on the Head-Licensing Condition (HLC):

(3). The Head-Licensing Condition (Adapted from Baker, 1989:518)

> A head is licensed if: (i) Its maximal projection is properly licensed. (ii) Its intermediate projection immediately dominates a projection of the same or one less bar-level.

The HLC states the conditions under which nonmaximal categories, such as heads and one-bar level phrases, are permitted. It says essentially that each nonmaximal category must project to a maximal category and it requires that every head be traced up to a (single) maximal projection. The maximal category should be *properly licensed*, which is achieved differently for different maximal projections. For non-VPs, 'properly licensed' means properly theta-marked and Case-marked by a head. On the other hand, for a VP, 'properly licensed' means that it must have a subject and that its head must have recipients for its theta-roles in appropriate syntactic positions (Chomsky,1986b:93)) Baker stresses Part (ii) of the HLC, which indicates that at each point in a set of projections the bar-level can either increase by one or remain unchanged. For example, the bar-level in (4a) is increased and in (4b) remains unchanged.

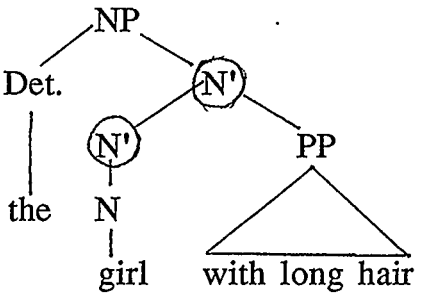
(4). a.



an NP with Noun Complement Clause

(increases)

b.



an NP with a PP

(remains unchanged)

The HLC opens the possibility that a single maximal projection could license more than one head, which, according to Baker (1989:519), is the key difference between serializing languages and nonserializing languages. Thus, he puts forth a parameter for serialization. (Baker 1989:519)

(5). Generalized Serialization Parameter

VPs {can/cannot} count as the projection of more than one distinct head.

CAN: Yoruba, Sranan, Ijo,...

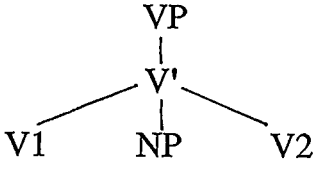
CANNOT: English, French,...

Taken together, (3) and (5) allow a double-headed structure to exist in SVCPs in serializing languages.

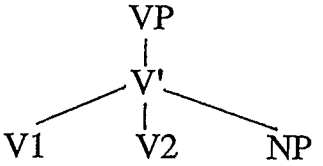
There are several possible structures for SVCPs with double verb heads. One possibility is a V' consisting of two bare verbs and the shared object NP.

(6). a. <u>V' consisting of two bare verbs and the shared NP</u>

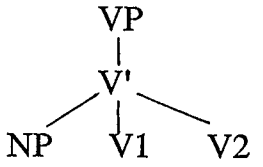
i.



ii.



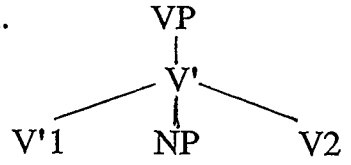
iii.



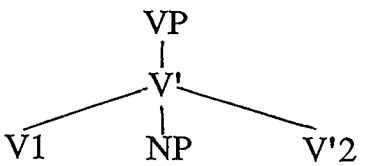
Another possibility is a V' consisting of a verb, a shared NP and a lower V'. [1]

(6) b. V' consisting of a verb, a shared NP and a lower V'

i.



ii.



Baker argues that of all the possibilities, only (6bii), i.e. [$_{V'}$ V NP V'], is the right structure for the SVCP in terms of principles of word order, theta role assignment and the Theta Criterion.

Consider first the word order facts, as described in (7).

(7). Principles of word order (Baker 1989:519)

a. X^0 theta-marks phrases to its right {left}

b. X^0 case-marks phrases to its right {left}

c. X^0 must be adjacent to phrases to which it theta-marks and Case-marks

d. For m>0, X^m theta-marks phrases to its left {right}

(7a) and (7b) state that at the X^0 level, X assigns a theta role and Case to a phrase that lies either to its right or to its left. However, it cannot theta-mark or Case mark in both directions. In the specific case of Yoruba and Sranan, a verb assigns a theta role to its right. (c) stresses the adjacency of the assigner and assignee of theta-role and

---

[1] . Here a bare verb means that a verb does not have other arguments except the shared one. And a lower V' means that the V' may have its own arguments except the shared NP.

Case. For example, in the following sentence in Chinese, neither the verb *zou* 'walk' nor the verb *guo* 'cross' or *qu* 'go' can assign a theta role and Case to the NP *ta* 's/he' as they are not adjacent to it.

(8). wo zou guo qu da ta

I walk cross go beat s/he

' I went up to beat him/her.'

In (8) only *da* 'beat' is able to assign a theme role and Objective Case to the NP *ta* as it .is adjacent to the NP.

(7d) says that at the X' level, X assigns a theta role to a phrase in a direction opposite to the one employed at the X^0 level. In other words, if at the X^0 level X assigns a theta role to the right, then at the X' level, it would theta-mark to the left. For the verbs of Yoruba and Sranan, V^0 assigns a theta role to an NP rightward and V' leftward.

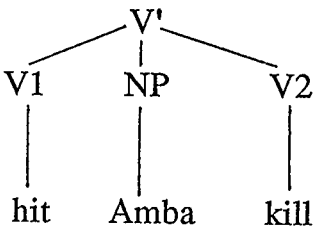
The structures illustrated in (6a), each of which involves two V^0s and an NP, cannot be the right ones for the SVCP in that they disobey the principles of word order. The best possibilities from this group are:

(6a-i)'. [$_V$' V1 NP V2]

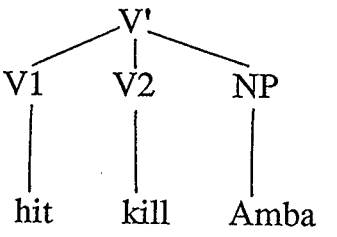
(6a-ii)' [$_V$' V1 V2 NP]

In the specific case of example (1), the structure would thus be either (9a) or (9b).

(9). a. *



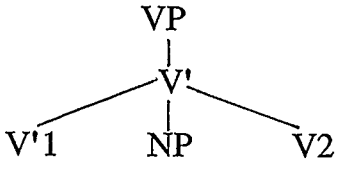
b. *



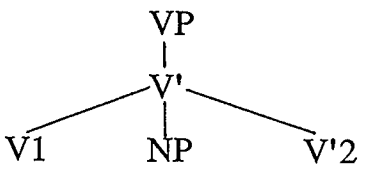
In 9(a), the second verb *kill* assigns its internal theta-role to *Amba* to the left, contradicting 7(a). In 9(b), both verbs assign their theta-roles rightward, but V2 *kill* disrupts the adjacency between V1 *hit* and the NP *Amba*, violating 7(c). With the violation of the principles of word order in (7), the first group of possibilities is deprived of its candidacy for the right structure of the SVCP.

This implies that the right structure for the SVCP cannot simply be two bare verbs with a shared object. One of the verbs must project immediately to the V' level. Thus, the right structure for the SVCP can only be chosen from another group of possibilities---a V' consisting of a bare V, another V' and the shared NP, as illustrated below.

(6b) i.

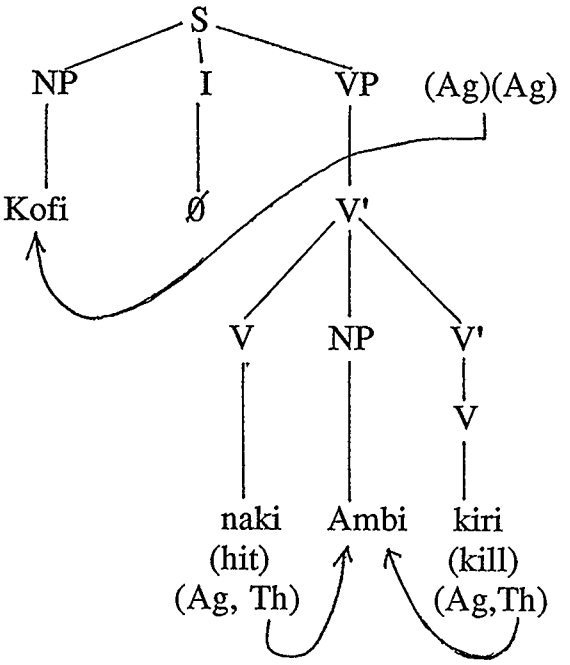


ii.



6(b-i)' is the wrong structure for the same reason that 6(a-i)' is excluded: V2 assigns its internal theta-role leftward, violating 7(a). Thus, the only remaining possibility for the right structure is 6(b-ii)', which is the exact structure Baker proposes for the SVCP. The full tree structure is depicted in (10), corresponding to example (1) (Baker 1989:520). The VP and the higher V' in (10) are projections of both verbs. (Arrows indicate theta-role assigning relationships.)

(10)



An advantage of the structure in (10) is that it solves the object deletion problem in SVCPs. Thus, the bare verb *hit* assigns a theme role to the NP *Amba* rightward in accordance with (7a) and (7c), while the V' assigns the same role to the NP leftward according to (7d). Hence, both verbs have a direct object to which they can assign a theta role.

Furthermore the structure in (10) obeys the principle of theta-role assignment and the revised Theta Criterion.

(11). The principles of theta-role assignment (Baker:520)

x may theta-mark ***y*** only if

a. ***x*** and ***y*** are structural sisters, or

b. a projection of ***x*** is a structural sister of ***y***.

(Here sisters refer to nodes that are immediately dominated by the same node (Radford 1981:84))

(12). Revised Theta-Criterion (adapted from Baker, 521)

An NP receives its theta-role from a sister verb or its projection. The argument is allowed to receive more than one theta-role, iff all its theta-roles are assigned to the same structural position.

In (10), the verb *hit* and the NP *Amba* are structural sisters. In accordance with (11a), *hit* is able to assign a theme role to the NP. The verb *kill*, on the other hand, is not a structural sister of the NP *Amba*, but its projection V' is a structural sister of that NP. According to (11b), it can therefore also assign a theme role to the NP *Amba*. Although *Amba* receives two theme roles, it is not a violation of (12) since the theta-roles are assigned to the same structural position.

The structure in (10) accounts for theta-role assignment not only to the shared object, but also to the shared subject. In (10), the VP is the maximal projection of both V1 *hit* and V2 *kill* and VP is the structural sister of the subject NP *Kofi*. According to (11b) and (7d), both verbs can assign theta-roles, in this case their external (agent) theta-role, to the subject NP. Thus, the structure in (10) satisfies the lexical theta-role assignment properties of both verbs and obeys the Projection Principle.

Finally, the structure in (10) can be extended to allow the second verb to take an additional, unshared argument, as the following examples show.

(13). a. (Yoruba, Baker:517)

Baba mi ra ewu bun mi.

father my buy garment present me

'My father bought me a garment.'

b. (Sranan, Baker:517)

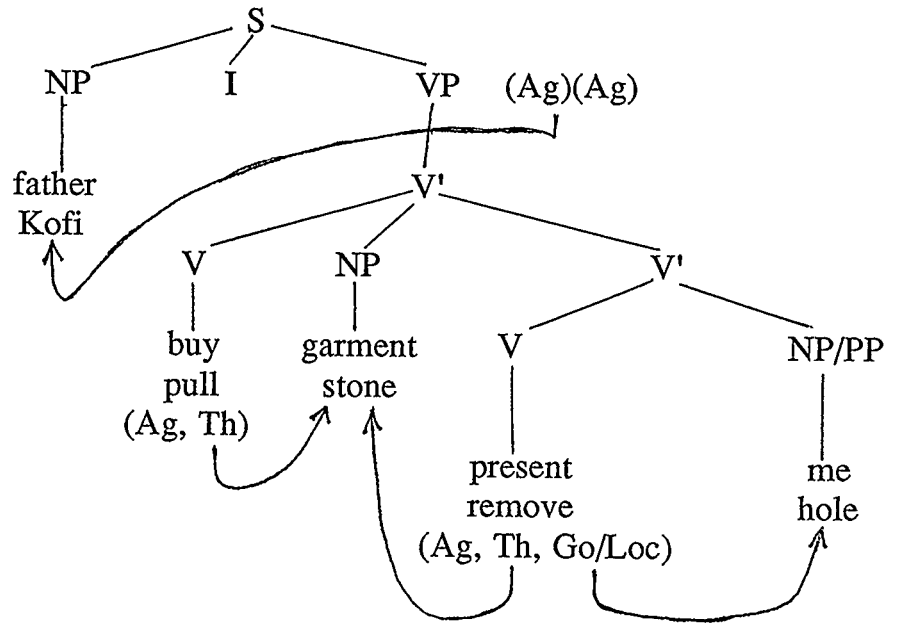
Kofi hari a ston puru na ini a olo.

Kofi pull the stone remove Loc in the hole

'Kofi pulled the stone out of the hole.'

The tree diagram for the examples in (13) is given in (14): (Baker 1989:522)

(14).



In (14), the verb *buy* cannot theta-mark NP *me*, because neither it nor its projections is a structural sister of that NP. However, the verb *present* can assign internal theta roles (theme and goal, respectively,) to both *garment* and *me* for it is a sister of *me* and its V' projection is a sister of *garment*. Therefore, *me* is the argument only of *present*, not of *buy*.

The verb *buy* in Yoruba has two arguments, i.e., agent and theme, while *present* takes three arguments, i.e., agent, theme and goal. These verbs are called dyadic and triadic, respectively. A triadic verb cannot appear before a dyadic verb in the SVCP.

(15) Yoruba (Baker:522)

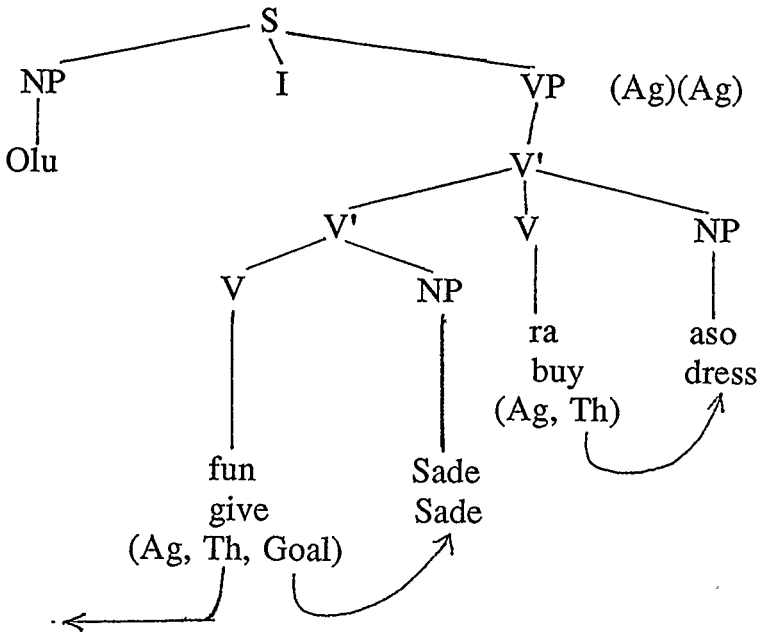
* Olu fun Sade ra aso

Olu give Sade buy dress

' Olu bought a dress for Sade.'

In (15), *fun* 'give' is a triadic verb and *ra* 'buy' is a dyadic verb. The structure of (15) is [$_V$' V' V NP], in which the triadic verb *give* has the unshared argument *Sade* in its lower V' projection.

(16). *



However, *give* cannot assign a theme role to the NP *dress,* since neither it nor its projection is adjacent to that NP. Thus, the lexical properties of the triadic verb *give* are not correctly reflected in (16). The ungrammaticality of (16) indicates that the principle of word order in (7) forces the triadic verb to come after rather than before

the shared NP. Thus, the structure in (14), rather than the one in (16), correctly represents the lexical properties of verbs in SVCPs.

The ungrammaticality of (16) lies in the fact that a verb head, i.e. *give*, fails to theta-mark the shared object, indicating that object sharing in SVCPs is not only possible but also obligatory.

The claim that object sharing is obligatory is based on the Revised Projection Principle, which can be paraphrased as follows:

(17). Revised Projection Principle (Adapted from Baker 1989:517)[1]

a. If an NP is immediately dominated by a V', then V theta-marks the NP

b. If V theta-marks NP at a certain syntactic level, it will theta-mark the NP at all syntactic levels

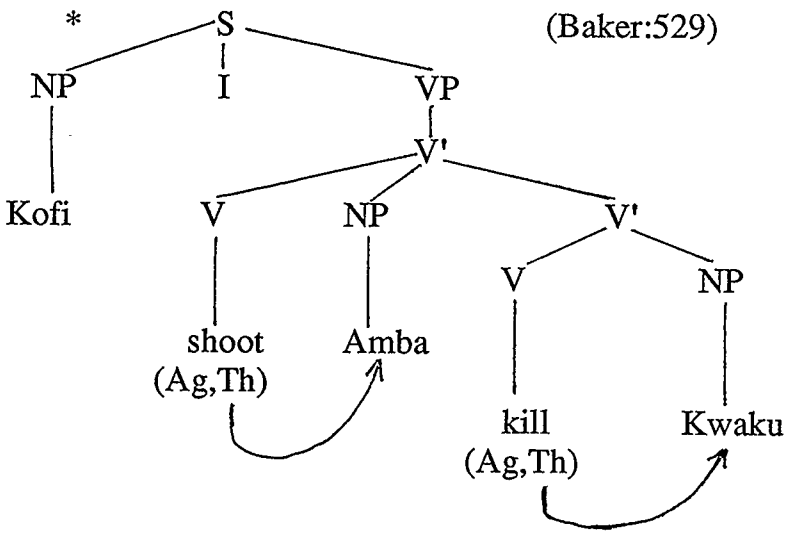
Since the object is dominated by the V' projection of both V1 and V2 in SVCPs (refer to (10)), both verbs must theta-mark it in accordance with (17a). Thus, object sharing is obligatory in SVCPs.

The ungrammaticality of the following sentence provides further support for this point.

(18). * a. Kofi sutu Amba kiri Kwaku. (Baker 1989:528)
Kofi shoot Amba kill Kwaku
' Kofi shot Amba and killed Kwaku.'

---

[1] .The original Projection Principle is as follows (Baker 1989:517):
Suppose ***x*** is a lexical category and ***y*** is an argument.
a. If ***y*** is an immediate constituent of a one-bar level projection of ***x*** at some syntactic level, the ***x*** theta-mark ***y*** in ***x'***.
b. If ***x*** theta-mark***y*** as a lexical property, then ***x*** theta-marks ***y*** at all syntactic levels.

b. 

(Baker:529)

In (18b), *kill* should have two internal roles to discharge: at the zero bar level, it assigns a theme role to the NP *Kwaku* as they are sisters and the NP is to the right of the verb; at the one-bar level, it should assign an internal role to the NP *Amba* as the NP is the sister of the lower V' (the projection of *kill*) and occurs to the left of the V'. However, *kill* is a verb that has only one internal theta-role to assign. It is not able to discharge any internal role to the NP *Amba*. The sentence is thus ungrammatical.

So far the discussion has focused on SVCPs consisting of two transitive verbs. Are there any SVCPs that consist of a transitive and an intransitive verb or two intransitive verbs?

Baker(531) observes that when a SVCP is made up of a transitive verb and an intransitive verb, the intransitive verb must be unaccusative, not unergative. According to Perlmutter and Postal (1984:95), an unaccusative intransitive verb has only a theme role to assign while an unergative intransitive verb has only an agent

role to assign. The lexical properties of the two types of intransitive verbs can be illustrated by the following examples.

(19). a. The water boiled.

b. She shouted.

In the above example, both verbs are intransitive. But their relations with their subjects are different in these two sentences. In (a), the subject *the water* is the undergoer of the action boiling. Therefore, the NP subject receives a theme role from the verb *boiled.* In (b), in contrast, the subject *she* is the instigator of the action of shouting. It therefore gets an agent role from the verb *shouted.*

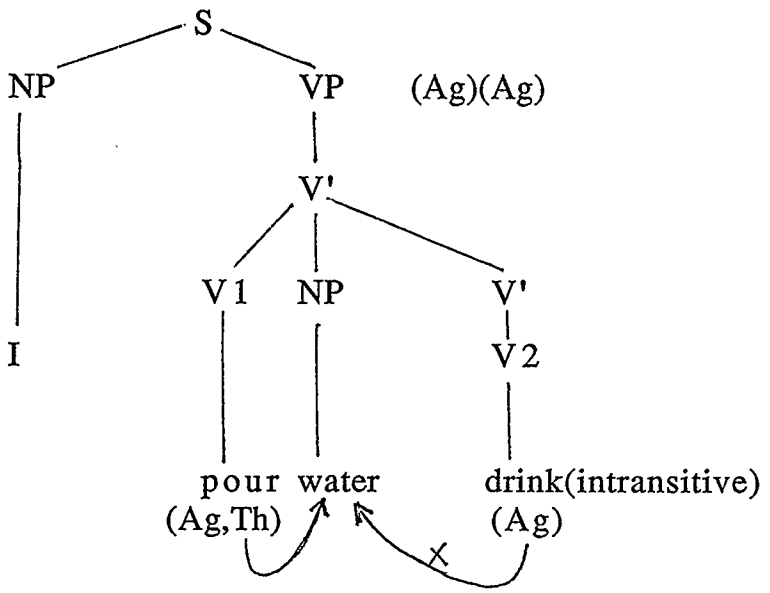
It has been shown earlier in this section that object sharing is obligatory in SVCPs. Since unergative verbs do not have the lexical properties needed to theta-mark the shared object, it is predicted that it is not possible for them to appear in the SVCPs. In fact, the following Yoruba example is ungrammatical, where *mumi* 'drink' is a prototypical unergative verb, appearing in the V2 position of an SVCP.

(20). a. * Mo bu omi mumi. (Baker1989:531)

I pour water drink(intransitive)

' I pour water and drank.'

b. *



In this structure, the intransitive verb *drink* is not able to assign a theme role to the shared object, the sentence is not acceptable.

When a transitive verb and an unaccusative verb combine, forming a SVCP, according to Baker (530-533), the correct pattern should be [$_{V'}$ Vt NP Vi'] rather than [$_{V'}$ Vi NP Vt']. His claim is based on the grammaticality and the ungrammaticality of the following examples.

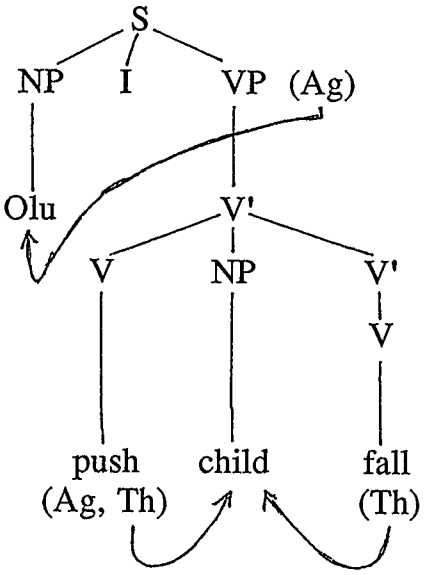
(21). Yoruba (Baker1989:529)

a. Olu ti omo naa subu
Olu push child the fall
' Olu pushed the child down.'

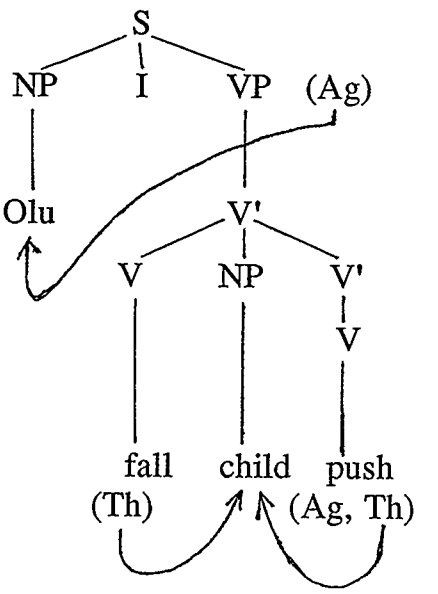
b. * Olu subu omo naa ti
Olu fall child the push

The tree structures for (21) are illustrated in (22).

(22). a.



b. *



In (22a) V2, the unaccusative verb *fall*, takes *child* as its only argument and assigns a theme role to it. It is lexically not capable of assigning an external theta-role. Therefore the NP *Olu* receives its agent role only from V1 *push* rather than from both V1 and V2. The Projection Principle, Theta-Criterion and Case Filter are all satisfied in this structure.

Although (22b) is also consistent with the Projection Principle and Theta-Criterion, it is ruled out by the Case requirement stated in (7b). Since Case is assigned rightward in Yoruba, *push* cannot assign a Case to the NP *child*, which lies to its left. The verb *fall* is in a position to assign objective Case, but, like other intransitive verbs, it has no Case to assign. Hence, (22b) is ruled out from being a correct structure of an SVCP and the only permissible combination of a transitive verb and an unaccusative intransitive verb in an SVCP is [$_{V'}$ Vt NP Vi'].

In addition to containing (i) two transitive verbs and (ii) a transitive and an intransitive verb, SVCPs can also consist of two intransitive verbs. We have proved in (22b) that when V1 is unaccusative, if V2 were transitive, the sentence would be ungrammatical because the Case requirement is not satisfied. However, when V2 is unaccusative, that is to say, both V1 and V2 are unaccusative, there will be no problem as the following examples show.

(23). a. Yoruba (Baker 1989:533)

O pon ra.

it ripen rot

' It has ripened to the point of rotting.'

b. Sranan

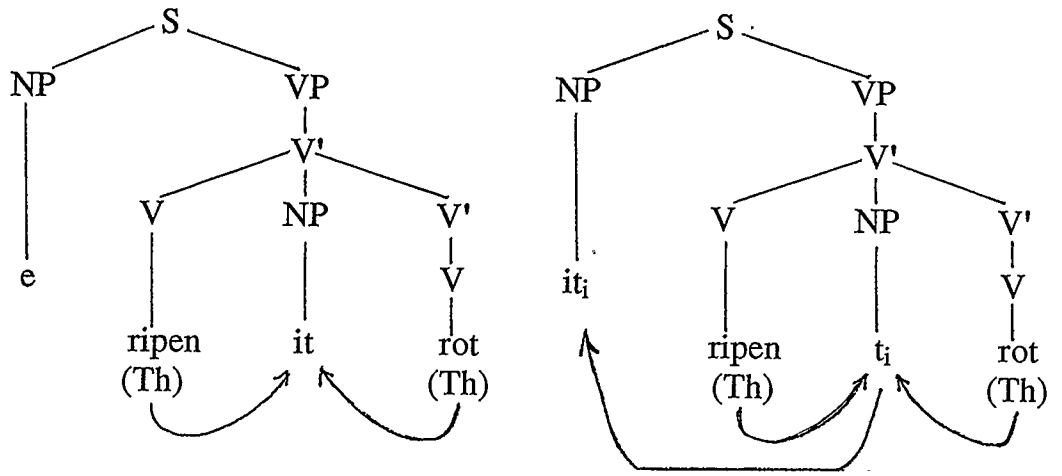
A watra dropu fadon.

the water drop fall

' The water drips down.'

The structure of (23a) is represented in (24).

(24). a d-structure b. s-structure



In the d-structure in (24a), both verbs assign theme role to the NP *it*, and as a result, the theta role assignment of the verbs is satisfied. Although Theta-Criterion and the Projection Principle are obeyed in (a), the Case requirement is not met. The verb *ripen*, which is in the position of Case-assigner, is an unaccusative which does not discharge any Case and the share object *it* thus has no Case. In order to receive Case, the NP moves to the empty subject position where it receives nominative Case from the VP.

In this chapter we have presented a brief discussion of Baker's theory, which is the framework to be employed in this study. In the following two chapters we proceed to an investigation of how Baker's theory applies to the Chinese SVCPs.

CHAPTER IV

APPLICATION OF BAKER'S THEORY TO THE CHINESE SVCP (PART I)

4.1 How Baker's theory works for the Chinese SVCP

4.1.1 Both V1 and V2 are dyadic verbs

In Chapter II, I introduced a type of serial verb construction (SVCP) that is composed of a sequence of two transitive verbs with a shared object between them as example (1) shows.

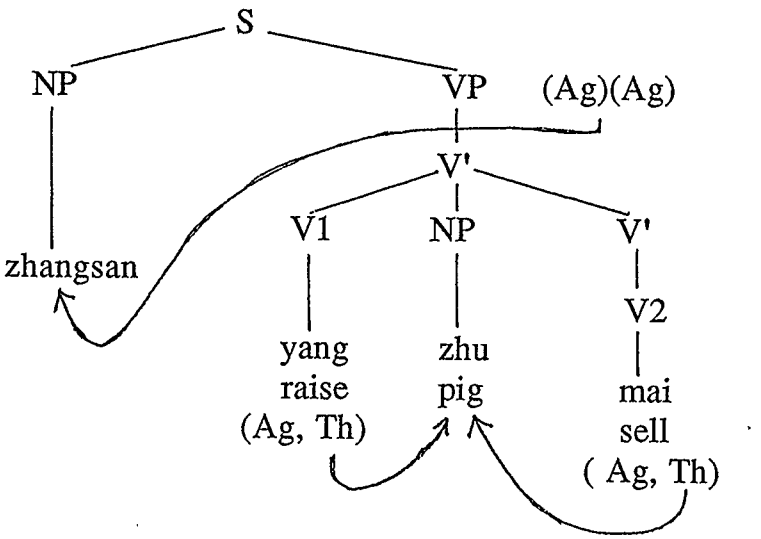
(1). zhangsan yang zhu mai

Zhangsan raise pig sell

' Zhangsan raises pigs and sells pigs/to sell.'

In this sentence, *Zhangsan* is the agent who both raises pigs and sells pigs. And *pig* is the shared object of both *raise* and *sell.* Following Baker, we have the tree structure illustrated in (2).

(2).



The SVCP here is the higher V' consisting of V1 *raise*, the shared theme NP *pig*, and V2 *sell* projected to the V' level.

This structure is consistent with Baker's Head Licensing Condition (HLC). In accordance with HLC, at each point a bar level can either increase by one or remain the same. In (2), from V1 to the higher V', the bar level increases by one; from V2 to the lower V', the bar level also increases by one. But from lower V' to higher V', the bar level remains the same. Moreover, consistent with the HLC, the SVCP in this structure has two heads---V1 *raise* and V2 *sell.*

According to Baker (1989:546), there are three possible structures for a double-headed V': the V' immediately dominates (i) two V^0s; (ii) a V^0 and a V'; or (iii) two V's. For the correct representation of the structure of SVCP, (i) and (iii) are ruled out since (i) violates the principle of word order as explained in Chapter III and (iii) represents the structure for coordination. In Baker's opinion, only [$_V$' V1 NP V'2], i.e. the tree structure in (2), is appropriate for the SVCP.

The tree structure of (2) also conforms with the principles of word order and theta-role assignment in Chinese. The principle of word order says that at the X' level, X theta-marks a phrase in a direction opposite to the one employed at the X^0 level. And the principle of theta-role assignment requires that X may theta-mark a phrase if X or the projection of X is a structural sister of the phrase.

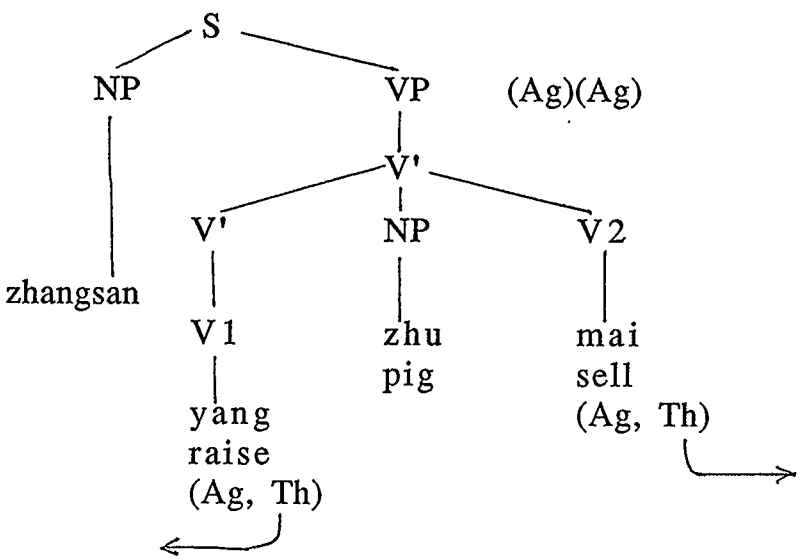
According to Travis (1987:127), at the X^0 level in Chinese, X assigns a theta-role and Case rightward to an NP. Within the SVCP in (2), V1 *raise* and the NP *pig* are sisters; V1 is at the zero bar level and *pig* is to its right. Hence, the verb *raise* can assign a theme role and an object Case to the NP *pig,* as the arrow in (2) shows. The V2

sell is not sister of *pig*, but its V' projection is. In according with the principle of word order and theta-role assignment, V2 theta-marks an NP leftward. Thus, *pig* receives theme roles from both V1 and V2 and the theme role assignment of these two verbs is satisfied.

The fact that the NP *pig* receives two theme roles is not a violation of Baker's theory. It agrees with the Theta-Criterion, which says that an argument is allowed to receive more than one theta-role if and only if all its theta-roles are assigned to the same structural position.

As shown in (2)', the position of the V^0 and lower V' in the SVCP cannot be exchanged. In other words, V1 must be a bare verb and V2 must project to one bar level. Otherwise, the theme role assignment of the verbs cannot be satisfied.

(2)' *



In (2)', the lexical property of agent role assignment is satisfied for both verbs. Yet, the property of theme role assignment is not satisfied for either. According to the principle of word order as it applies to Chinese, a verb assigns an internal theta-role and Case

rightward to an NP at the X^0 level and theta-marks the same NP to the left at the X' level. However, on the right side of the verb *sell* and on the left side of V' *raise* there is no NP for them to Case-mark or theta-mark. The lexical properties of the two verbs are thus not satisfied in this tree diagram and the Projection Principle is violated. Furthermore, the NP *pig* cannot get a theta role and Case since it appears to the left of the verb *sell* and to the right of V' *raise*. This is a violation of the Theta Criterion and the Case Filter. This indicates that the verb before the shared object should be a bare V rather than a V' and the verb after the shared object must project to the V' level. If the positions of V^0 and V' were exchanged, the principle of word order, the Theta Criterion, Case Theory and the Projection Principle would be violated.

There are several advantages in employing Baker's theory to account for the Chinese SVCP. In the first place, it explains why there is no NP after V2 *sell* in SVCPs such as (1), which is repeated here.

(1). zhangsan yang zhu mai
Zhangsan raise pig sell
' Zhangsan raises pigs and sells pigs/to sell.'

Chinese is an SVO language. In non-SVCs, both *raise* and *sell* have their agent arguments to the left and their theme arguments to the right.

(3). a. zhangsan (Agent) yang zhu (Theme)
Zhangsan raise pig
' Zhangsan raises pigs.'

b. zhangsan mai zhu
(Agent) (Theme)

Zhangsan sell pig

' Zhangsan sells pigs.'

However, if we look at (1) carefully, we can see that after the second verb *sell,* there is no NP. In other words, the theme is missing.

We cannot assume that the NP that follows *sell* is not required since (4) shows that it is obligatory.

(4). * zhangsan mai

zhangsan sell

Yet if we put an NP after the second verb in an SVCP like (1), the sentence (5) is ungrammatical.

(5) * zhangsan yang zhu mai zhu

Zhangsan raise pig sell pig

How can we account for the fact that the transitive verb *sell* does not allow its object to follow it, in apparent violation of the Projection Principle?

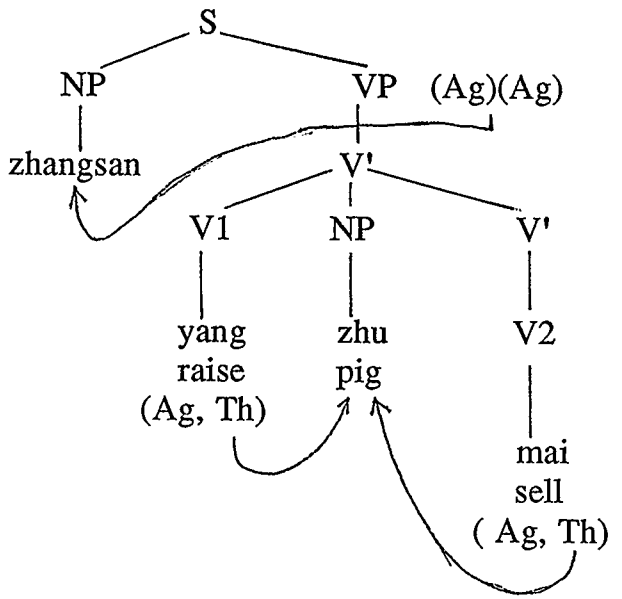
This phenomenon obtains a good explanation in Baker's theory. The fact that there is no NP following V2 does not necessarily mean that *sell* does not have a theme argument. Rather than having its own object, *sell* simply shares the object with V1 *raise.*

Furthermore, the fact that (5) is ruled out can also obtain an explanation from Baker's theory. V2 *sell* has only one internal role to discharge. It has two choices: assign the theme role either to the shared NP, or to the NP following it. As we discussed in Chapter III, object sharing in an SVCP is obligatory, so that *sell* must discharge

its theme role to the shared NP *pig*. As a result, the NP after *sell* cannot get any theta role. This is a violation of the Theta-Criterion. (5) is thus ruled out.

Baker's theory also accounts for the theta-role assignment properties of both verbs. As we showed in discussing the tree structure in (2), the theme role assignment of the two verbs, i.e., *raise* and *sell*, is satisfied.

(2).



Apart from a theme role, each verb also has an agent role to assign. The VP in (2) is the maximal projection of both *raise* and *sell* and it is the structural sister of the subject NP *zhangsan*. In accordance with the principle of word order and the theta-role assignment, the two verbs can therefore assign agent roles to the NP *zhangsan* through the VP. In this way, the lexical properties of theta-role assignment are satisfied for both verbs and the Projection Principle is obeyed. Moreover, this gives the right interpretation for the sentence, since *zhangsan* is the person who both raised and sold the pigs.

A good theory not only tells us which sentences are good, but also tells us which sentences are bad. Another advantage of using Baker's theory to explain the Chinese SVCP is that it accounts for the fact that V2 can be a triadic verb, but V1 cannot.

4.1.2 V2 as triadic verbs

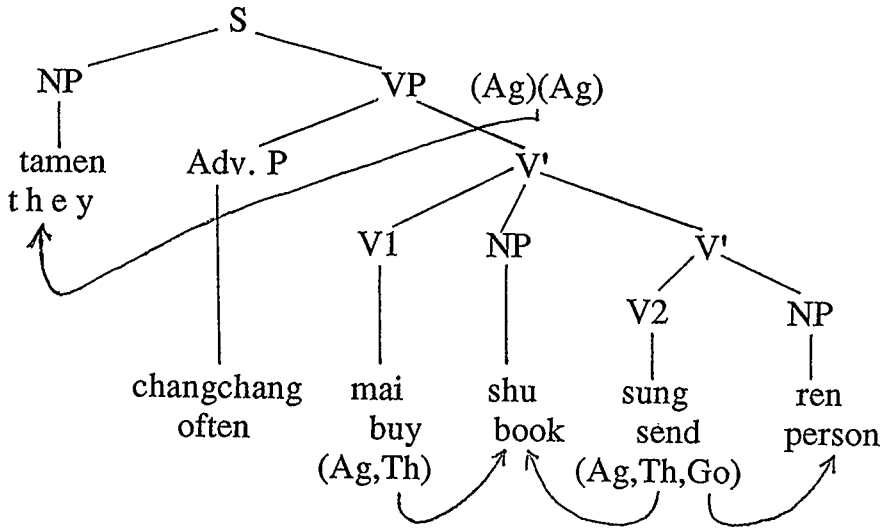
In the following sentences V1 is a dyadic verb and V2 a triadic verb.

(6). a. tamen changchang mai shu sung ren
they often buy book send person
' They often buy books and/to give them to somebody.'

b. wo xie-le ge zhitiao di-gei ta
I write-Le MW note pass-give s/he
' I wrote a note and gave/to give it to her/him.'

In (6a), apart from the external argument *they*, the V2 *send* has two internal arguments, i.e., *book* and *person*. The structure of (6a) can be expressed in (7).

(7).



In (7), the NP *person,* is generated inside the lower V'. In other words, *person* is only the argument of V2. In order to take this argument, V2 must project to the V' level. Since V2 and the NP *person* are sisters and since *person* is to the right of V2, V2 can assign a goal role to the NP. V2 cannot assign a theme role to *person,* because the order of thematic role assignment is fixed. According to Baker (1989:540), all triadic verbs compose with their arguments one at a time in a set order, and this order of composition corresponds to hierarchical relationships at d-structure. In particular, dative verbs combine first with the goal, then with the theme, and finally with the agent. Hence, at the lowest level, V2 *send* first assigns a goal rather than a theme role to its sister category, the NP *person.* V2 is not the sister of the NP *book,* but V2's projection (i.e., the lower V') is. At the V' level, the verb assigns a theme role leftward to the shared NP *book,* which can also receive a theme role from V1 *buy,* as V1 is the sister of *book* , occurs to its left, and is at the zero bar level. Thus, the theme and goal role assignments of the two verbs are satisfied and the sentence is grammatical.

4.1.3 V1 as a triadic verb

In the Chinese SVCP, just as in the SVCP of Yoruba and Sranan (Baker1989:522), triadic verbs cannot appear before dyadic verbs.

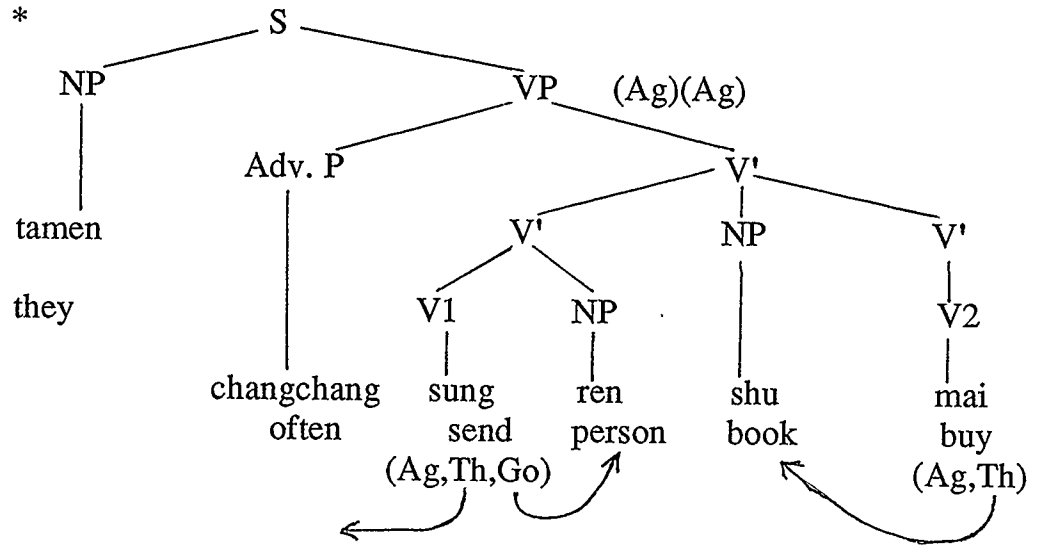
(8) A triadic verb occurs before a dyadic verb in SVCP.

a * tamen sung ren shu mai
they send person book buy

b * wo di-gei ta ge zhitiao xie-le
I pass-give s/he MW note write-LE

As pointed out in Chapter III, a triadic verb, (for example, the verb *send* in (6a)), must project to the V' level in order to theta-mark the indirect object *person*. If it exchanges positions with the dyadic verb *buy*, then neither the verb *send* nor *buy* can theta-mark the shared NP *book*, as illustrated by the following tree structure.

(9). *



The SVCP in (9) is the higher V' consisting of two lower V's and a shared object between them. Within the lower V' on the left side (i.e., the V' *send person*), the verb *send* can assign a goal role to the NP *person* as the NP is the sister of *send* which is at zero bar level. However, *send* cannot theta-mark the NP *book*. This is because, firstly, according to the principle of word order, *send* theta-marks an adjacent NP rightward at the zero bar level. The NP *book* is to the right of *send*, yet the verb is not adjacent to the NP. As a result, the verb cannot discharge any thematic role to *book* at the zero bar level. Secondly, the projection of *send* (i.e. the left lower V') cannot assign a theme role to the NP *book* either, since at the one bar level theta-marking is leftward and to the left of *send* within its

projection, there is no NP. The theme role of the verb *send* in this sentence thus has no recipient, and the sentence is thus ungrammatical.

Thus, a conclusion can be reached that V1 in an SVCP cannot be a triadic verb.

4.2 Some apparent counterexample

In Chinese, it appears that in some examples, V1 can be followed by two nominals, as the examples in (10) show.

(10). a. zhangsan tou wo dongxi chi
Zhangsan steal I thing eat
' Zhangsan stole food from me and ate the food/to eat.'

b. zhangsan qiang lisi qian hua
Zhangsan rob Lisi money spend
' Zhangsan robbed money from Lisi and spent the money/to spent.'

The two examples in (10), although SVCPs, are different from the examples in (1) and (5) in that in the examples of (1) and (5) there is a single nominal between V1 and V2, while in the sentences of (10) there are two. For example, in (10a), *I* and *thing* occur between *steal* and *eat*.

In non-SVCP sentences, verbs like *steal* and *rob* usually take two nominals after them.

(11). a. zhangsan tou-le wo yi-jian yifu
Zhangsan steal I one-MW clothes
' Zhangsan stole a dress from me.'

b. zhangsan qiang lisi yi-kuai shoubiao

Zhangsan rob Lisi one-MW watch

' Zhangsan robbed a watch from Lisi.'

The nominals immediately following these verbs are typically personal pronouns or proper names while the second nominals are ordinary nouns. This sequence looks like a triadic verb with its goal and theme arguments.

An uncontroversial triadic verb in Chinese also has two nominals following it. Like the two nominals in (11a) and (b), the first is usually a personal pronoun or proper name and the second an ordinary noun.

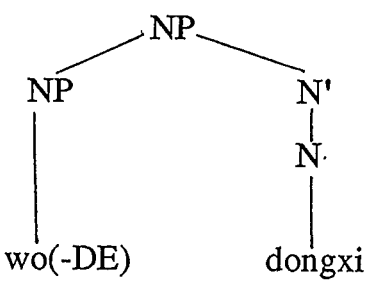
(12) zhangsan gaosu wo yi-ge mimi
(Go.) (Theme)

Zhangsan tell I one-MW secret

' Zhangsan told me a secret.'

The two nominals following the triadic verb *tell* in (12) function as the goal and theme of the verb, respectively. The two nominals after *steal* and *rob*, however, behave differently. The first nominal is possessor and the second nominal is possessee. Together, they function as one NP, being the theme of the verb. The relation of the two nominals can be illustrated by the following tree structure.

(13).



(Here the DE between the two nominals plays a role as the possessive suffix *'s* in English. The nominal before DE is possessor and that after DE is possessee. The difference between the DE in Chinese and possessive suffix *'s* in English is that sometimes DE can be omitted without affecting the meaning of sentences.)

When DE appears between the two nominals in (10a) and (b). there is no change in the meaning of the sentences.

(14). a. zhangsan tou wo de dongxi chi
Zhangsan steal wo DE thing eat
' Zhangsan stole food from me and ate the food/to eat.'

b. zhangsan qiang_ lisi de qian hua
Zhangsan rob Lisi DE money spend
' Zhangsan robbed money from Lisi and spent the money/to spend.'

This indicates that verbs such as *steal* and *rob* in Chinese are dyadic. The examples in (10) are not real counterexamples.

That *steal* is a dyadic verb with a single NP complement can also be seen from the following tests.

4.2.1 Passivization Test

It is known that in English and other languages, a sentence with a finite dyadic verb can be passivized by converting the direct object into the subject of the sentence and making certain other modifications, as the following examples illustrate.

(15). a. They built a house in 1989. (Active)

b. A house was built in 1989 (by them). (Passive)

In an English sentence with a finite triadic verb, both the theme and goal of the triadic verb can become subjects of sentences through passivization.

(16). a. He gave me a book.

b. Goal as the subject

I was given a book (by him).

c. He gave a book to me.

d. Theme as the subject

A book was given to me (by him).

Sentence (17) exemplifies the active voice of two Chinese sentences with dyadic verbs. In these two sentences, the NPs before the verbs are the agents and those after the verbs are the themes. In (17a), *cat* is the agent (here functioning as a subject) and *fish* is the theme (functioning as direct object).

(17). Active voice

a. mao chi-le yu

cat eat-LE fish

' The cat ate the fish.'

b. ta piping-le wo

s/he criticize-LE I

' S/He criticized me.'

The sentences of (17) can be passivized by preposing the themes and putting BEI before the agents as (18) shows.

(18). Passive voice

a. yu bei mao chi-le
fish BEI cat eat-LE
' The fish was eaten by the cat.'

b. wo bei ta piping-le
I BEI S/He criticize-LE
' I was criticized by him/her.'

As the result of passivization, the direct object of *eat* in (17a) (i.e., *fish*) is put into the subject position in (18a). Also, the preposition BEI is added in front of the agent *cat*.. The passive voice of a sentence with a dyadic verb thus has the form of Theme+BEI+Agent+Verb +Other.

Sentences with triadic verbs in Chinese, however, seem to follow different patterns from their English counterparts in passive sentences. In Chinese, *gei* 'give' and *gaosu* 'tell' are typical triadic verbs. In the active form of sentences, both verbs have two NP complements.

(19). a. ta gaosu-le wo yi-ge mimi
s/he tell-LE I one-MW secret
' S/HE told me a secret.'

b. ta gei-le wo yi-jian yifu
s/he give-LE I one-MW clothes
' S/He gave me a dress.'

In (19a), *wo* 'I' is the goal and *yi-ge mimi* 'a secret' is the theme of the verb *gaosu* 'tell'. However, neither of them can be put into the

subject position. It seems that sentences with triadic verbs cannot be passivized.

(20). Theme as subject

a. * yi-ge mimi bei ta gaosu-le wo
one-MW secret BEI s/he tell-LE I
' One secret was told by him.'

b. * yi-jian yifu bei ta gei-le wo
one-MW clothes BEI s/he give-LE I
' A dress was given to me by him.'

Goal as subject

c. * wo bei ta gaosu-le yi-ge mimi
I BEI s/he tell-LE one-MW secret
' I was told a secret by him.'

d. * wo bei ta gei-le yi-jian yifu
I BEI s/he give-LE one-MW clothes
' I was given a dress by him.'

Both goal and theme (two nominals) as subject

e. * wo yi-ge mimi bei ta gaosu-le
I one-MW secret BEI s/he tell-LE

f. * wo yi-jian yifu bei ta gei-le
I one-MW dress BEI s/he give-LE

In (20), BEI marks the agents, indicating the persons who performed the acts. In (a) and (b), the theme of the verb is realized as subject. But, the sentences are not acceptable in Chinese. Nor are those sentences with the goals of the verbs functioning as subjects, as

in (c) and (d), or sentences in which both the theme and the goal are preposed, as in (e) and (f).

Thus, a conclusion can be reached that a triadic verb in Chinese cannot be passivized. In other words, neither the theme nor the goal nor the combination of both theme and goal of a triadic verb can be put into the subject position.

Using this conclusion, let's check the behavior of verbs like *steal* and *rob* , which also have two nominals following them in active sentences. We still take the sentences in (11) as our examples.

(11). a. zhangsan tou-le wo yi-jian yifu
Zhangsan steal-LE I one-MW clothes
' Zhangsan stole a dress from me.'

b. zhangsan qiang lisi yi-kuai shoubiao
Zhangsan rob Lisi one-MW watch
' Zhangsan robbed a watch from Lisi.'

(21). The passive voice of the sentences

a. wo yi-jian yifu bei zhangsan tou-le
I one-MW clothes BEI Zhangsan steal-LE
' One of my dresses was stolen by Zhangsan.'

b. lisi yi-kuai shoubiao bei zhangsan qiang-le
Lisi one-MW watch BEI zhangsan rob-LE
' One of Lisi's watches was robbed by Zhangsan.'

It turns out that the two nominals after *steal* and *rob* in (11) can be put together at the beginning of sentences (in subject position). In other words, the two nominals are one NP, functioning as the theme

of *steal* and *rob*. This suggests that *Steal* and *rob* are not triadic verbs, but dyadic verbs.

4.2.2 BA construction test

Another piece of evidence that verbs such as *steal* and *rob* are not triadic verbs in Chinese comes from the BA construction test.

According to Chu (1983:206), the BA construction in Chinese is a unique form in the sense that no other languages have been found to have a structure with the same functions as the BA sentence. The basic form of the BA-sentence is usually represented as: Subject+BA+NP+V+ (Complement). The NP between BA and V can be understood as the theme of V. That BA can occur with the theme complement of verbs can be proved in the following sentences with dyadic verbs. Our former examples in (17) are still used to illustrate this point.

(17). Non BA construction of sentences with dyadic verbs

a. mao chi-le yu
cat eat-LE fish
' The cat ate the fish.'

b. ta piping-le wo
s/he criticize-LE I
' S/He criticized me.'

(22). With BA

a. mao ba yu chi-le
cat BA fish eat-LE
' The cat ate the fish.'

b. ta ba wo piping-le
s/he BA I criticize
' S/He criticized me.'

(17b) is a sentence without the BA construction. *S/he* is agent and *I* is the theme of *piping* 'criticize'. If this sentence is changed into the BA construction, the theme is put between BA and the verb *criticize,* as (22b) indicates. The examples in (22) show that BA can occur with the theme complement of dyadic verbs.

As noted in the last section, the theme and goal of a true triadic verbs cannot occur in the subject position. However, this doesn't mean that phrases with triadic verbs only appear in the format of V NP_{goal} NP_{theme}. With the help of the particle BA, a theme can be put before a goal. Compare in this regard (19) from above and (23):

(19). a. ta gaosu-le wo yi-ge mimi
s/he tell-LE I one-MW secret
' S/HE told me a secret.'

b. ta gei-le wo yi-jian yifu
s/he give-LE I one-MW clothes
' S/He gave me a dress.'

(23). a. ta ba yi-ge mimi gaosu-le wo
s/he BA one-MW secret tell-LE I
' S/He told me a secret.'

b. ta ba yi-jian yifu gei-le wo
s/he BA one-MW clothes give-LE I
' S/He gave me a dress.'

In (23a), *one secret*, the theme of the triadic verb *tell*, appears between BA and the verb. As we will see from the following example, BA does not permit goals of triadic verbs to follow it.

(24). a. * ta ba wo gaosu-le yi-ge mimi
s/he BA I tell-LE one-MW secret

b. * ta ba wo gei-le yi-jian yifu
s/he BA I give-LE one-MW clothes

In (24), where the goals of the triadic verbs *tell* and *give* instead of the themes occur between BA and the verbs, the sentences are not acceptable. The examples in (22), (23) and (24) reflect one characteristic of BA, namely that it can only allow the themes of verbs, either dyadic or triadic, to follow it.

If verbs such as *steal* and *rob* were triadic, the nominals following them would function as themes and goals and the themes would be able to occur between BA and the verbs. However, an investigation reveals that BA cannot be followed by *either* of the two postverbal nominals in these examples. Compare in this regard (11) from above and (25):

(11). a. zhangsan tou-le wo yi-jian yifu
Zhangsan steal-LE I one-MW clothes
' Zhangsan stole a dress from me.'

b. zhangsan qian-le lisi yi-kuai shoubiao
Zhangsan rob-LE Lisi one-MW watch
' Zhangsan robbed a watch from Lisi.'

(25). The second nominal occurs between BA and verbs

a. * zhangsan ba yi-jian yifu tou-le wo
Zhangsan BA one-MW clothes steal-LE I

b. * zhangsan ba yi-kuai shoubiao qiang-le lisi
Zhangsan BA one-MW watch rob-LE Lisi

The first nominal occurs between BA and verbs

c. * zhangsan ba wo tou-le yi-jian yifu
Zhangsan BA I steal-LE one-MW clothes

d. * zhangsan ba lisi qiang-le yi-kuai shoubiao
Zhangsan BA Lisi rob-LE one-kuai watch

In (25 a) and (b), BA is immediately followed by the second nominals of the verbs in the sentences, just as it was in (22) and (23). Yet, the sentences are ungrammatical. So are the sentences with BA followed by the first nominals in (25c) and (d). However, as (26) shows, if the two nominals together follow BA, the sentences will be grammatical. This once again suggests that the two nominals make up a single NP that receives the theme role from a verb.

(26). Two nominals together in BA construction

a. zhangsan ba wo yi-jian yifu tou-le
Zhangsan BA I one-MW clothes steal-LE
' Zhangsan stole one of my dress.'

b. zhangsan ba lisi yi-kuai shoubiao qiang-le
Zhangsan BA Lisi one-MW watch rob-LE
' Zhangsan robbed one of Lisi's watches.'

In (26), when the two nominals function as one NP, i.e. the theme of *steal* and *rob*, the sentences are acceptable. This provides us with

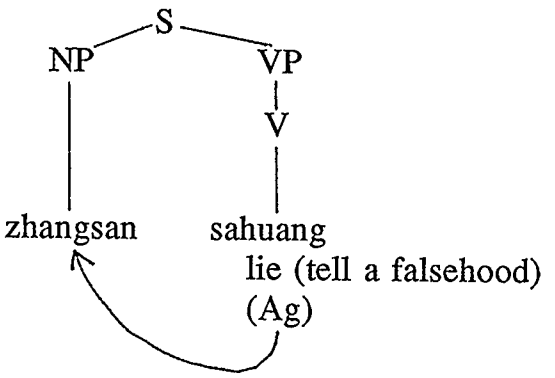
further evidence that *steal* and *rob* in Chinese are not triadic verbs, but dyadic verbs.

As the examples in (10) are not real counterexamples to Baker's theory, we are therefore able to maintain the claim that V1 cannot be a triadic verb, as first suggested in our discussion in (9).

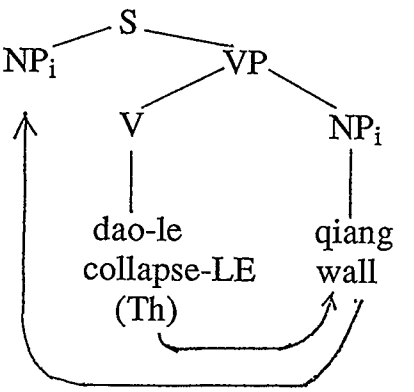
4.3 V2 as intransitive verb

Intransitive verbs in Chinese fall into two groups: unaccusative and unergative. Both have only one theta-role to assign. An unaccusative intransitive verb assigns a theme role to a sister category NP while an unergative assigns an agent role. The theta-role assigning properties of these two kinds of verbs can be illustrated by the following structures.

(27). a. Unergative



b. Unaccusative



(27a) is the d-structure as well as the s-structure of the Chinese sentence *zhangsan sahuang* 'Zhangsan tells lies'. The VP headed by *lie* assigns an agent role and nominative Case to the NP *zhangsan*. The Projection Principle, Theta-Criterion and Case-Filter are all satisfied in this structure. (27b) is the d-structure of *qiang dao le* 'The wall has collapsed'. As noted in Theta-Theory part in Section

1.1.3 of Chapter I, an internal role is assigned by a head within a VP. In (27b), the verb *collapse* assigns a theme role to its sister NP*wall* inside the VP. Yet it cannot assign Case to the NP since it is an intransitive verb. In order not to violate Case-Filter, *wall* must move to the subject position to receive nominative Case from the VP.

4.3.1 V2 as unaccusative intransitive

In Section 4.1.1 of this Chapter, I discussed the application of Baker's theory to SVCPs consisting of two transitive verbs. However, as noted in the last chapter, a transitive verb and an unaccusative verb can also compose a SVCP. Let's see whether Baker's theory is applicable to this structure as well.

In Chinese, adjectives can be used as predicates in sentences such as the following.

(28). a. zhei ge nuhar zhen piaolang
this MW girl real pretty
' This girl is real pretty.'

b. ta shuo de bu duei
s/he say DE not correct
' What s/he said is not correct.'

Such adjectives are treated as intransitive verbs by Li and Thompson (1981:141), whose analysis I will accept. However, there are some differences between Chinese adjectives and intransitive action verbs. For example, adjectives cannot be followed by the aspect particles ZAI, LE, ZHE or GUO when they stand by themselves in the VP while other intransitive verbs can. Let's take the progressive aspect particle ZAI as our example.

(29). a. Adjective intransitive verb co-occur with a particle

* zhei ge nuhai zai piaoliang

this MW girl ZAI pretty

b. Intransitive action verb co-occur with a particle

zhangsan zai sahuang

Zhangsan ZAI lie

' Zhangsan told a lie.'

Piaoliang in (29a) is an adjective functioning as a predicate. When an aspect particle is added, the sentence becomes unacceptable. (29b) is an example of an intransitive action verb co-occurring with the particle ZAI, which is grammatical.

Chinese adjectives can be classified as unaccusative rather than unergative since they describe properties (i.e. sizes, shapes, etc.). As noted by Perlmutter and Postal (1984:98), such predicates are typically unaccusative in human languages.

Chinese adjectival unaccusative verbs can occur in the V2 position of the SVCP.

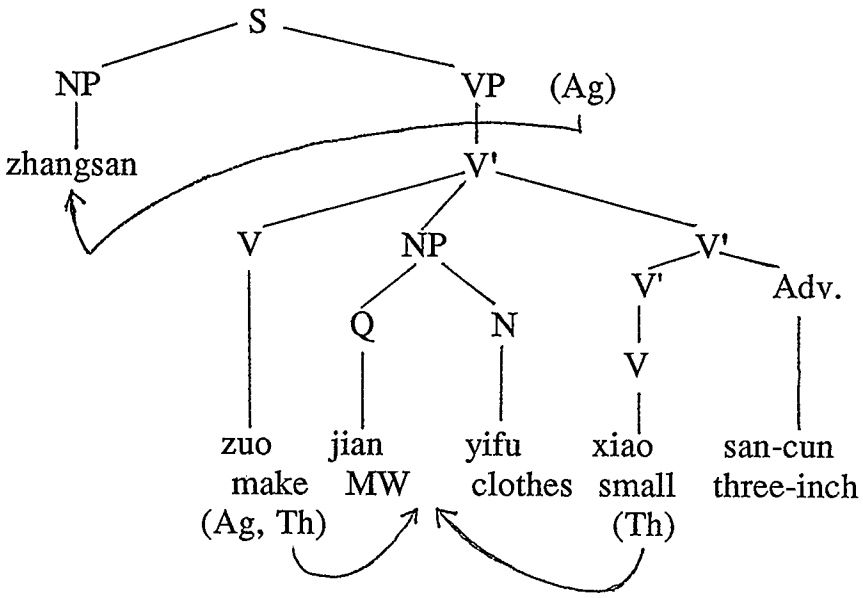
(30). zhangsan zuo le jian yifu hsiao san-cun

Zhangsan make LE MW coat small three-inch

' Zhangsan made a coat and it is three inches short.'

Small in (30) is an unaccusative adjectival predicate. The tree diagram for (30) is illustrated in (31).

(31).



In the above structure, *make* is a verb with two theta-roles while *small* has one theta-role. *Make* assigns a theme role to the NP *clothes* as the verb is at the zero bar level, is the sister of *clothes* and occurs to the left of the NP. In addition, through the percolation to the upper V' and VP, it assigns an agent role to the NP *zhangsan.* As for the unaccusative verb *small,* its projection, i.e., the lower V', assigns the theme role to its sister category, the NP *clothes*, rather than to the NP *zhangsan* in accordance with the principle of word order. Thus, both verbs assign theme roles to the shared NP *clothes*, but only V1 *make* assigns an agent role to the NP *zhangsan.*

Unaccusative intransitive verbs other than those corresponding to adjectives in English can also occur in the V2 position of the Chinese SVCP.

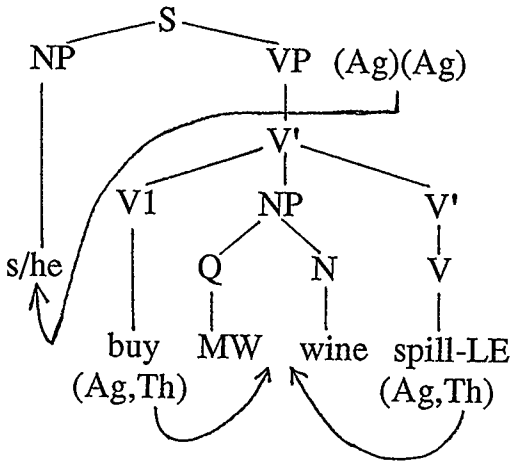
(32). a. tamen leiqi yi-du qiang <u>dao</u> le
they build one-MW wall collapse LE
' They built a wall and it has collapsed.'

b. ta mai ping jiou sa le
s/he buy MW wine spill LE
' S/He bought a bottle of wine and it spilled.'

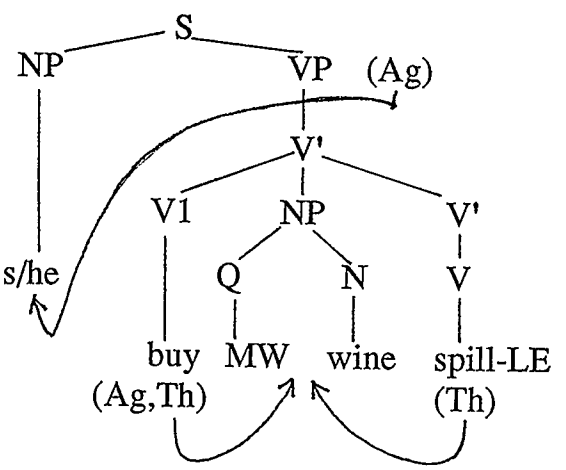
The underlined words in (32) are unaccusative intransitive verbs, which function as V2s in SVCPs in these sentences. The V2s have only theme roles to assign, which they discharge to the objects of V1s. For example, in (32a), it is not *they* that *collapse*, but the *wall* they built. The V1 in this sentence, i.e. *build* has two theta-roles to assign: an agent role to the subject *they* and a theme role to its object *a wall.* In contrast, the V2, i.e. *collapse*, has only one theta role to assign: a theme role to *a wall.*

Like the corresponding English verb *spill, sa* 'spill' in (32b) in Chinese can be used as a transitive verb as well as an intransitive verb. When the action of spilling is caused by *s/he, sa* is a transitive verb, but when spilling is caused by things other than *s/he, sa* is unaccusative. As a result, (32b) can be interpreted as having either of the following two structures.

33). a. Spill as transitive



b. Spill as unaccusative



In (33a), both verbs discharge their agent role to the NP *s/he* as the NP is the doer or the causer of the two actions. Crucially, in (33b), the verb *spill* does not discharge any agent role, as *s/he* is not the causer of the event that the wine spilled.

The Chinese SVCPs in this section differ from those in Section 4.1.1 of this chapter, in that the V2s in this section are intransitive verbs and have only one theta-role to assign. When V1 and V2 are both transitive verbs as the examples illustrated in the earlier section, they assign theme roles to their shared objects and agent roles to their shared subjects. In contrast, as (30) and (32) show, when V1 is a transitive verb and V2 is an intransitive verb they each assign a theme role to the NP between them, but V2 cannot assign an agent role to the subject of V1. V2's inability to assign an agent role to the subject of V1 and its ability to assign a theme role to the object of the first verb is determined by the lexical properties of V2 and is a requirement of Baker's theory which says that V1 and V2 must have a shared theme. As noted in this section before, the unaccusative intransitive verbs in Chinese SVCPs meet this requirement.

4.3.2 V2 unergative

Unlike unaccusatives, unergative intransitive verbs do not have the ability to assign a theta-role to the objects of V1. This is reflected in the ungrammaticality of the following sentences.

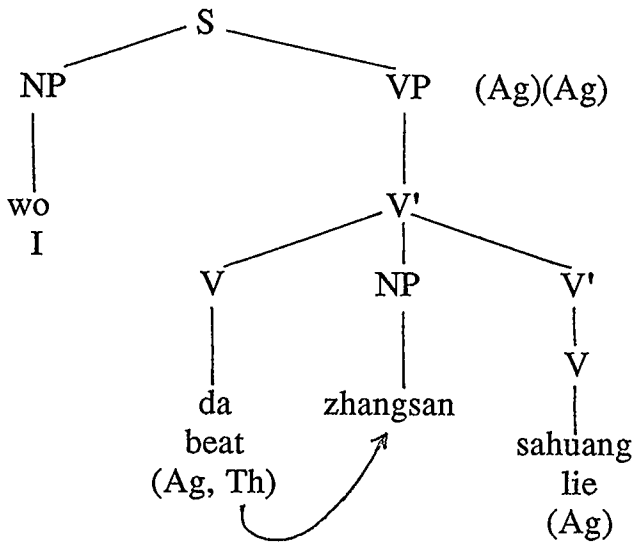
(34). * wo da zhangsan sahuang

I beat Zhangsan lie

' I beat Zhangsan for his telling falsehood.'

Lie in (34) is an unergative. The tree structure of (34) can be illustrated as the following.

(35). *



In this structure, V2 *lie*, being an unergative verb and having only an agent role to discharge, fails to assign a theme role to the the shared NP *zhangsan*. As noted in Chapter III (p. 44), the Projection Principle requires that both heads in an SVCP assign theme roles to the shared NP. As the requirement is not satisfied in (35), the sentence is ungrammatical. The unacceptability of the sentence suggests that when V1 is a transitive verb, an unergative intransitive verb is not suitable to occur in the V2 position of the Chinese SVCP.

However, it seems that some unergative verbs in Chinese can be found in the V2 position of certain V1 NP V2 patterns, just as unaccusative intransitive verbs can.

(36). a. yisheng quan wo tangxia

doctor advise I lie down

' The doctor advised me to lie down.'

b. ta cuei wo kuaidian likai

s/he urge I soon leave

' S/He urged me to leave at once.'

(37). a. laoshi quan wo buyao dajia

teacher advise I do not fight

' The teacher advised me not to fight.'

b. mama cuei wo zaodian sheijiao

mother urge I earlier sleep

' My mother asked me to go to bed early.'

The underlined Vs in (36) are unaccusative intransitive verbs and those in (37) unergative intransitive verbs. These examples appear to show that unaccusative intransitive verbs and unergative intransitive verbs can occur in the same structural position.

Yet, by looking carefully, we can see that the structure of (36) and (37) is different from that of an SVCP. The difference lies mainly in the function of V1. In an SVCP sentence, V1 has only an NP complement. If V2 is omitted, the sentence is still complete.

(1). zhangsan yang zhu mai

Zhangsan raise pig sell

' Zhangsan raises pigs and sells them/to sell.'

(30). zhangsan zuo le jian yifu hsiao san-cun

Zhangsan make LE MW coat small three-inch

' Zhangsan made a coat which is three inches short.'

V2 omitted

(1)'. zhangsan yang zhu

Zhangsan raise pig

' Zhangsan raises pigs.'

(30)'. zhangsan zuo le jian yifu

Zhangsan make LE MW coat

' Zhangsan made a coat.'

(1) is an SVCP. In (1)', where the V2 (*sell*) of (1) is omitted, the sentence is still acceptable. This suggests that the verb *yang* 'raise' only requires one complement (i.e. *zhu* 'pig'). The verb *sell* is not a complement of V1; it is the second head of an SVCP.

In contrast, if the V2s in (36) and (37) are deleted without any context, the sentences are not acceptable.

(36). a. yisheng quan wo tangxia

doctor advise I lie down

' The doctor advises me to lie down.'

(37). b. mama cuei wo zaodian shueijiao

mother urge I earlier sleep

' My mother urged me to go to bed earlier.'

V2 omitted

(36a)' ? yisheng quan wo ... [1]

doctor advise I

' The doctor advised me...'

---

[1] ? in front of a sentence means that it is 'marginal' - i.e. of doubtful well-formedness, hence unidiomatic and unnatural.

(37b)' ? mama cuei wo...

mother urge I

' My mother urged me...'

The two sentences in (36a)' and (37b)' are not complete. Questions that immediately arise will be:

(36a)'' yisheng quan ni zuo shenme?

doctor advise you do what

' What did the doctor advise you to do?'

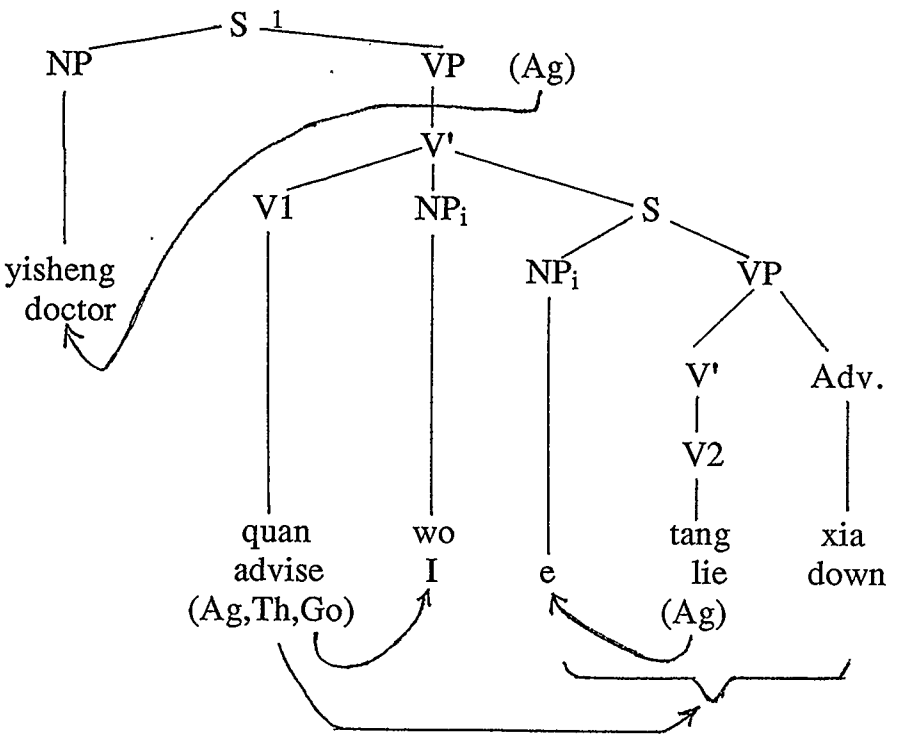
(37b)'' mama cuei ni gan shenme?

mother urge you do what?

' What did Mum urge you to do?'

This suggests that the V1s in these sentences are different from the V1s in the Chinese SVCPs. Though (36) and (37) contain the sequence V1 NP V2, they are not true SVCPs. The two verbs in SVCPs are joint heads of a V' construction while in the structure of (36) and (37), V2 is a constituent of the lower S which is a complement of V1 (refer to (38) below for(36)). In other words, V1 in (36) or (37) is subcategorized as having two complements: a NP and a S, while in an SVCP, V1 is not allowed to have more than one complement, as shown before. In fact, (36) and (37) are pivotal sentences, as discussed in Chapter II. The tree structure of (36) is illustrated in (38).

(38).



Given this structure, it is clear that *advise* is a verb which requires two internal arguments: one is the theme, the other is the goal. If the theme is missing without context, the sentence would sound incomplete.

Thus, one conclusion can be reached in this section: only unaccusative intransitive verbs can occur in the V2 position of the Chinese SVCPs when V1 is a transitive verb. This is exactly what Baker's theory predicts.

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1. In the pivotal sentence, the theme of the verb *advise* is not adjacent to it. We can assume that the adjacency requirement is relaxed when the theta-role recipient is S. Still there exists a problem. In the follow sentence, the theme is not an S and not adjacent to the verb *give*, but the sentence is grammatical in Chinese.

zhangsan gei wo yi-zhi bi
Zhangsan give me ont-MW pen
' Zhangsan gave me a pen.'

4.4 V1 as intransitive verb

4.4.1 V1 as unaccusative

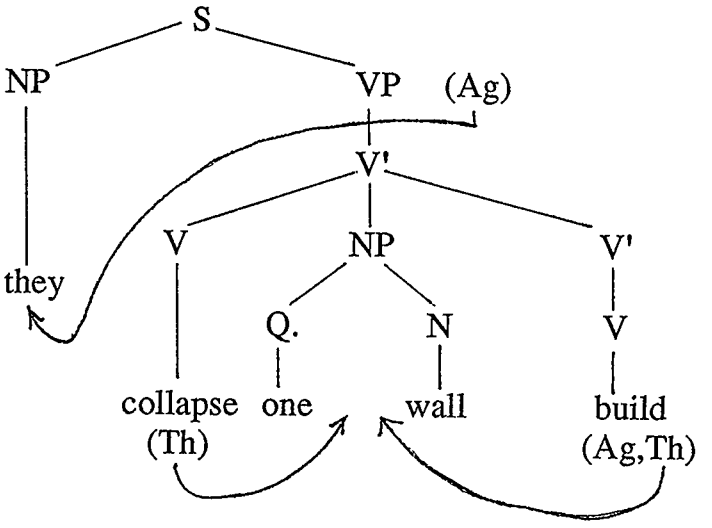
As shown in Section 4.3.1 of this chapter, an unaccusative verb assigns a theme role to its subject, which appears in the object position at d-structure. When the V1 position of an SVCP is occupied by an unaccusative verb, the V2 should also be able to assign a theme role to that verb's internal argument. As already explained, verbs that are able to assign theme roles are either transitive or unaccusative.

However, when V1 is an unaccusative and V2 a transitive verb, the resulting structure is not acceptable.

(39). * tamen dao yi-du quang leiqi le
they fall one-MW wall build LE

In this sentence, *collapse* is an unaccusative verb and *build* is a transitive verb. The sentence's structure would be like the following:

(40). *



As illustrated in (40), both *collapse* and *build* assign theme roles to the shared NP *one wall* and the external argument features

percolate only from the verb *build*. The structure is consistent with the Projection Principle, the Theta Criterion and the principle of word order. But it does not meet the Case requirement. In Chinese a verb assigns Case as well as a theta-role rightward. However, the V2 *build* can not assign Case to the NP *one wall,* as it appears to the right of the NP. The verb *collapse* is in a position to assign Case to the NP, but as an unaccusative intransitive verb, it has no Case to assign. The NP in this structure thus can not get Case, in violation of the Case Filter. The sentence is hence ungrammatical.

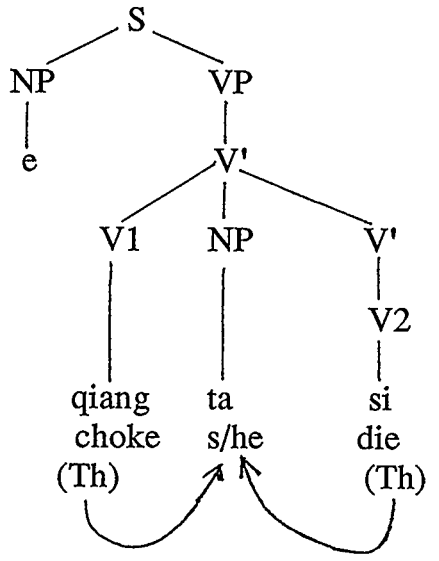
When both V1 and V2 are unaccusative in an SVCP, Case is not a problem.

(41). a. ta qiang si le
s/he choke die LE
' S/He choke and died.'

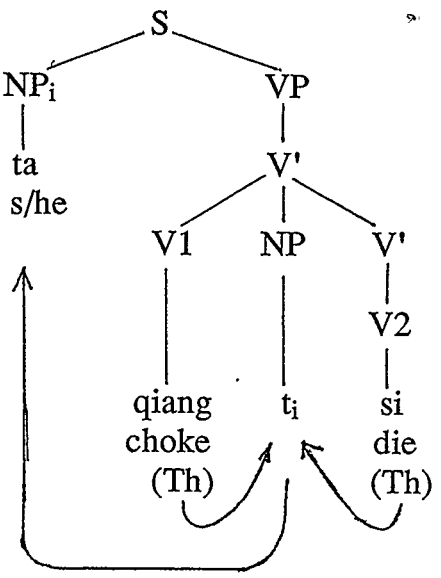
b. lian dung hung le
face freeze red LE
' The face becomes red because of cold.'

In the above examples, each SVCP is composed of two unaccusatives (the underlined words). The structure of (41a) is illustrated in (42).

(42). a. D-structure



b. S-structure

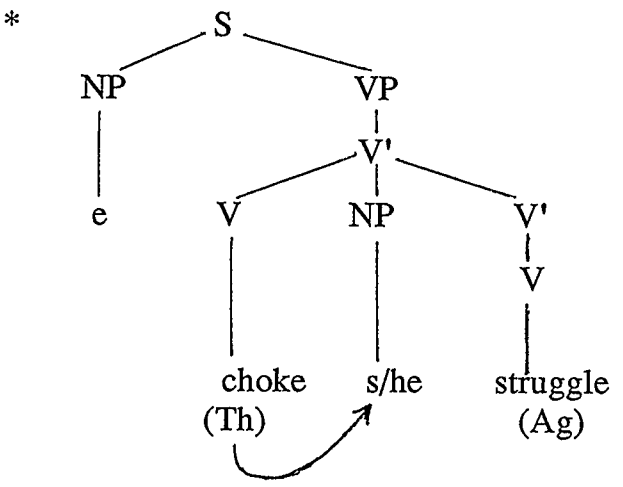


(42a) is the d-structure of *ta qiang si le* 'S/He choked then s/he died.'. In accordance with the principle of word order, both *choke* and *die* can assign their theme role to the NP *s/he*. But if it remains in its d-structure position, the NP *s/he* cannot get Case, in violation of the Case Filter. In order to receive Case, the NP must move to a position which receives Case, is empty and does not receive an additional thematic role. The subject position is exactly the place that is needed. The shared object moves to the subject position and receives nominative Case from the VP. This is what we see in (42b).

Finally, suppose the V2 were unergative. As shown in the following example, when V1 is unaccusative, the sentence is not grammatical.

(43). a. * ta qiang zhengzha le
s/he choke struggle LE

b. D-structure



As discussed in Chapter III, object sharing is obligatory in SVCPs in that both Vs must theta-mark the intervening NP. In (43b), V1 *choke* assigns a theme role to the shared NP *s/he* but V2 *struggle,* cannot theta-mark *s/he* since the agent role must be assigned to an NP outside VP. The sentence is therefore ruled out.

In this chapter, we have investigated from various angles how Baker's theory accounts for the Chinese SVCP. In the next chapter, we will look into the BA construction and the coordination pattern of [$_{V'}$ V' V']. I will claim that Baker's theory can be extended to account for BA construction and I will show how coordination differs from the SVCPs which we have discussed in this chapter.

CHAPTER V

THE APPLICATION OF BAKER'S THEORY (PART II)

5.1 BA construction in Chinese

Baker's theory cannot only account for the Chinese SVCP but also, in my opinion, be extended to the BA construction in Chinese. (In this thesis, 'BA construction' refers to the most generally used and discussed BA pattern of Subject+BA+direct object+verb+others. There are also other types of less widely used BA patterns which will not discussed in this thesis.)

To remind the reader of the BA construction, example (17a) from Chapter IV is repeated here.

(1). Non-BA construction

a. mao chi-le yu
cat eat-LE fish
' The cat has eaten the fish.'

b. BA construction
mao ba yu chi-le
cat BA fish eat-LE
' The cat has eaten the fish.'

The BA construction is a very unique form in Chinese. Helen T. Lin (1981:240) offers the following account for 'BA'.

> This construction is also called the 'disposal' construction because of the use of the morpheme ' BA'. 'BA' may be used as a verb meaning 'to handle' or as a measure word for

> chairs. It can also be used as a functive verb meaning 'to hold' or 'to guard': the sentence object, then, stands in front of the main verb so that the object of the sentence is the same as the object of the coverb....This construction is often used when the speaker wishes to emphasize a certain object.

As mentioned by Lin, BA is traditionally regarded as a 'coverb' in Chinese. Chu (1983:71) defines 'coverb' as a term used to designate a class of words with a function intermediate between verbs and prepositions.

5.1.1 The common properties of coverbs that BA has

In terms of syntactic behavior, BA (as well as other coverbs) is considered to be verbal, because it may occur in the V-not-V question pattern, which is an important property of verbs

The V-not-V question is a structure in which the predicate (excluding any preverbal adverb) is repeated with a negative word between the identical parts. As noted by Chu (1983:184), the first verbal element must be repeated twice in such a question while the other parts of the predicate may be optionally deleted. In the following examples, the words in parentheses indicates the optional deletion of the element(s) enclosed. (Only examples of verbs and BA are presented)

(2). a. ni chi (fan) mie chi fan ?
you eat (meal) not eat meal
' Have you had you meal?'

b. zhangsan kan (dianying) bu kan dianying ?
Zhangsan see (movie) not see movie
' Is Zhangsan going to see the movie or not? '

c. mao ba (yu chi le) mie ba yu chi le ?
cat BA (fish eat LE) not BA fish eat LE
' Has the cat eaten the fish?'

d. ni ba (shu huan wo) bu ba shu huan wo ?
you BA (book return I) not BA book return I
' Will you return my book or not? '

(2a) and (b) contain two verbs in the V-not-V question form while (c-d) contain BA in the V-not-V form. In this V-not-V question test, BA behaves like a verb.

On the other hand, BA and other coverbs cannot be regarded as pure verbs. A pure verb in Chinese can function as a predicate in a sentence independently.

(3). a. shuie hua le
snow melt LE
' The snow has melted.'

b. wo chi fan le
I eat meal LE
' I have eaten my meal.'

BA and other coverbs, however, cannot appear in a sentence as a main verb.

(4). * mao ba yu
cat BA fish

Because BA as well as other coverbs cannot appear with an object independently, some Chinese linguists (Chu:1983, Li and Thompson:1981, etc.) think that those elements have some

properties of a preposition, though they admit that in Chinese there is no category corresponding precisely to the English preposition.

5.1.2 The difference between BA and other coverbs

BA phrases are different from other coverbs in that the NP after BA is the theme of the verb while the NP after other coverbs is an oblique which is considered by Chinese grammarians (Li and Thompson:1981) to be 'adverbial'. To make things clear, let's compare the BA phrase (BA and its theme) and two other coverb phrases in the following sentences. (Notice that *go* in (5a) and *come* in (5b) function as particles of purpose. As such, they occur at the end of the sentence with neutral tone.)

(1). mao ba yu chi le
cat BA fish eat LE
' The cat eat the fish.'

(5). a. wo ti mama sung xin qu
I for Mother send letter go
' I am going to send a letter for my mother.'

b. wo cong beijing mai huei yi-liang qiche lai
I from Beijing buy back one-MW car come
' I bought a car back from Beijing.'

In the above underlined phrases, all the NPs are objects of the coverbs, but their thematic roles are different. The NP *fish* in (1) is the theme of the verb *eat*; while the NP *Mother* in (5a) is the beneficiary of the verb *send* and the NP *Beijing* in (5b) is the source of the compound verb *buy back*. Furthermore, the oblique coverb

phrases in (5a) and (b) can be omitted from the sentences while BA with its object in (1) cannot be deleted without a context.

(6). a. * mao chi le
cat eat LE

b. wo sung xin qu
I send letter go
' I am going to send a letter.'

c. wo mai huei yi-liang qiche
I buy back one-MW car
' I bought back a car.'

The sentence with the omitted BA and its object in (6a) is ungrammatical without a context while sentences with the omission of other coverbs and their objects in (b-c) are grammatical. This suggests that BA behaves differently from other coverbs. It seems that BA and the NP following it do not function as a modifier, which, as the following English example shows, does not affect the grammaticality of sentences if it is omitted.

(7). a. He reads the Bible for his aunt at night.

b. <u>The adverbials in (a) are omitted</u>
He reads the Bible.

Another interesting difference between BA and other coverbs can be found in the 'after-thought supplement', which refers to sentence fragments that are incidentally added to a sentence after its completion and thus appear in post-sentential position. Following are coverb phrases functioning as 'after-thought supplement.'

(8). a. wo sung xin qu----- ti mama
I send letter go for mother
' I am going to send a letter---for my mother.'

b. wo mai huei yi-liang qiche---- cong beijing
I buy back one-MW car from Beijing
' I bought a car back--- from Beijing.'

The part before the dots is what a speaker originally says. Then, perhaps to make the information more concrete, he adds some details. In the above examples, the after-thought supplements are both coverb phrases and the sentences are acceptable. If, however, BA appears in the same situation, the sentence will be unacceptable.

(9). BA and its object in (1) function as after-thought supplement
* mao chi le----- ba yu
cat eat LE BA fish

Still another difference between BA and other coverbs is that BA does not allow the theme of the main verb to follow the verb.

(10). a. mao chi-le yu
cat eat-LE fish
' The cat has eaten the fish.'

b. Complement can not follow the verb in a BA construction
* mao ba yu chi-le yu
cat BA fish eat-LE fish

c. Complement can follow the verb in a sentence with coverb other than BA

mao zai di shong chi yu
cat at floor up eat fish
' The cat is eating fish on the floor.'

Chinese is an SVO language. Thus, the order of *Cat eat fish* (i.e. with the theme *fish* following the verb *eat*) in non-BA construction is the normal sequence. However, with the presence of the BA in (10b), the sentence is not acceptable. In other words, the BA construction prohibits the theme from following the verb. On the contrary, when a coverb phrase other than BA is inserted between the subject and the verb phrase, the sentence is grammatical, as (10c) shows. Moreover, the ungrammaticality of (11) gives us further evidence that main verbs in sentences with other coverb phrases, if transitive, not only allow but demand that their objects follow them.

(11). a. ! mao zai di shong chi
cat at floor up eat
' The cat is eating on the floor.'

b. * wo ti mama sung
I for mother send

c. * wo cong beijing mai huei
I from Beijing buy back

The strangeness of (11) follows from subcategorization. The verb *eat*, *send* and the compound verb *buy back* are subcategorized for a theme complement. When there is none, the sentences are unacceptable.

Based on the findings above, it is clear that BA manifests different behavior from common coverbs. But what is it? How do we explain the fact that no theme follows the main verb in BA construction and that the theme precedes the verb and follows BA instead?

5.1.3 BA, a defective verb

Although the BA construction is a much-discussed topic among Chinese linguists, a satisfactory explanation to the question has not yet come out. However, Travis (1987:127) made an advance in claiming that BA is in fact a theta-role assigner. This explains why BA can take a theme as its object. But she ignores the fact that the theta-role assignment properties of the main verb are not satisfied. For example, in the sentence *cat BA fish eat*, BA can assign a theme role to the NP *fish* rightward as it is a theme role assigner and the direction of theta-role assignment in Chinese is to the right. But *eat* can not discharge its theme role since it occurs to the right of *fish*. Thus, although *eat* is a dyadic verb and has two theta roles to assign (including an agent role to the NP *cat*.), we don't know to what it assigns its theme role.

I would like to assume that BA is a verb. Yet it is not a pure verb, but a defective verb. This assumption is based on the properties of BA.

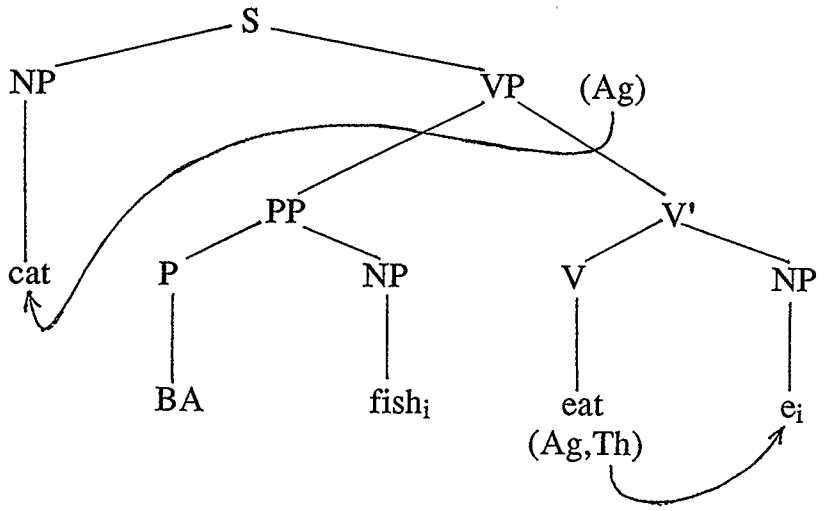
BA is claimed to be a verb on the basis of the following facts. First, BA reveals part of its verbal nature in the syntactic process outlined earlier in Section 5.1.1 (i.e. V-not-V pattern). Second, BA always has an NP as its object; that is to say, BA is an objective Case

assigner. Third and most important, what distinguishes BA from other coverbs is that, as pointed out by Travis, BA is a theme role assigner. A theme in Chinese is always connected with a verb, the object of a transitive verb or the subject of an unaccusative verb.

However, from the point of view of X' theory, BA cannot be regarded as a pure verb. As discussed earlier, a BA phrase (i.e. BA+its theme) fails to stand by itself as an independent predicate in a sentence. As a matter of fact, BA can only project to the first V' level. It can never project to the VP level as other verbs do. It is in this sense that I claim BA is a defective verb.

In my opinion, BA should not be connected with the category of preposition. If so, the BA construction will be a violation of 'chain Case assignment' and 'local binding requirement'. Let's take (1) *cat BA fish eat LE* as our example.

(12). *



In this example, the BA phrase is treated as a modifier, as are other coverbs appearing between subjects and main verbs. The NP *fish* moves out of its original position (i.e. the sister of *eat*) into the object position of BA, leaving behind in the position out of which it moves a

'trace' which is coindexed with the moved constituent (Radford 1981:194). The verb *eat* assigns a theme role to the trace of *fish* and BA assigns objective Case to *fish*. The verb *eat* assigns an agent role to the NP *cat* through VP and VP assigns nominative Case to the NP *cat*. Accordingly, the two referring NPs, *cat* and *fish*, can get theta-roles. The structure conforms to the Theta-Criterion, but, it is a violation of the 'chain Case assignment' and the 'local binding requirement'.

(13). Chain Case Assignment

Case can only appear on the head of a chain.

(Chomsky1986b:139)

According to Chomsky, a chain is the s-structure reflection of the 'history of movement' (1986b:95). For example, in (12), the chain consisting of the NP *fish* and the empty NP *e*, indicating the surface and deep structure positions of *fish*. The head of a chain for an NP is the surface structure position of the NP. As stated in (13), this is the only position in a chain to which Case can be assigned. A chain with two Cases is as bad as having none at all.

In the tree structure of (12) above, the chain of the NP *fish* has two Case-marked positions: *fish* receives an objective Case from BA and the trace of *fish* from the verb *eat*. This is a violation of the chain Case assignment.

Another problem with (12) is that it violates the 'local binding requirement', outlined in (14).

(14). Local Binding Requirement (Adapted from Chomsky 1986b:181)

x locally binds ***y,*** if

x and ***y*** form a link of a chain, and ***x*** c-commands and is co-indexed with ***y.***

A link of a chain refers to a pair of successive elements in a chain. In (12), the chain (*fish* and *e*) is also a link of a chain. In accord with the 'local binding requirement', *fish* should be co-indexed with and c-command *e*. However, although the NP *fish* and the NP *e* in (12) are co-indexed, *fish* does not c-command *e*, as one of its maximal projections (i.e. PP) does not dominate *e*. Thus, the 'local binding requirement' is violated, providing further evidence against the movement analysis.

In summary, BA is a verb (A theme role assigner and an objective Case assigner). It is a defective verb (Being not able to project to VP).

5.1.4 The extension of Baker's theory to BA constructions

In my opinion, Baker's theory of SVCP provides a way of accounting for the BA construction which has some characteristics that connect it with SVCPs in Chinese. First, the BA construction (that is to say, the defective verb BA, the theme and the verb) must be regarded as one unit. None of them can be separated from others. For instance, the predicate of the sentence *mao BA yu chi le* 'The cat ate the fish.' should be regarded as a whole unit. Neither head can be omitted.

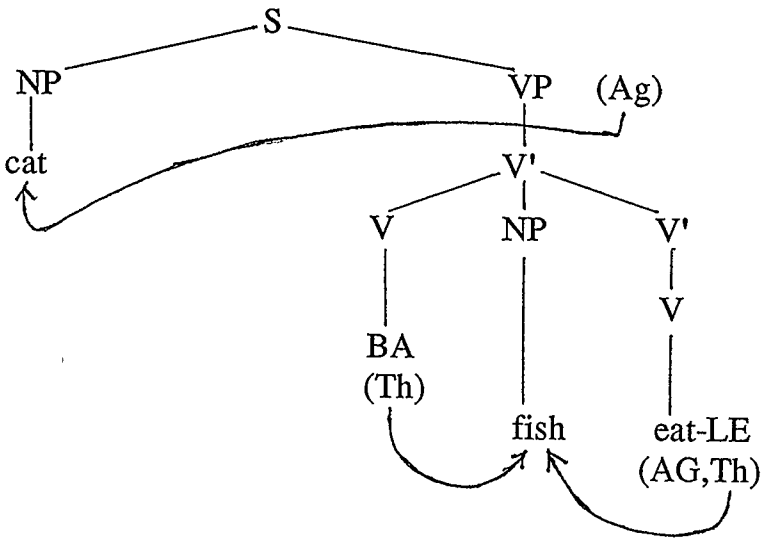
(15). a. * mao ba yu
cat BA fish

b. ! mao chi le
cat eat LE

Second, as discussed in Section 5.1.2, BA prohibits a theme from following the verb. As a result, BA and the verb share the theme between them. The above characteristics of BA raise the possibility of employing Baker's theory in explaining BA construction. Thus, BA may occur in the V1 position of the Chinese SVCP as transitive verbs do since both BA and transitive verbs are theme role assigners.

Following Baker's theory, the sentence *the cat ate the fish* can be expressed by the following tree structure.

(16).



In this structure, the coverb BA assigns a theme-role and an objective case to the NP *fish* rightward. The main verb *eat*, projected to the V' level, assigns a theme role to the NP *fish* leftward. Since BA is a defective verb in the sense outlined above, it can only project to the first V'. As a result, it is not able to assign an

agent role to a subject. Thus, only the verb *eat* assigns an agent role to the NP *cat* through the VP. The agent role assignment is consistent with the meaning of the sentence, as *eat* is the only action that *cat* does. Accordingly, the theta-role assignment properties of both BA and the pure verb are satisfied in this structure.

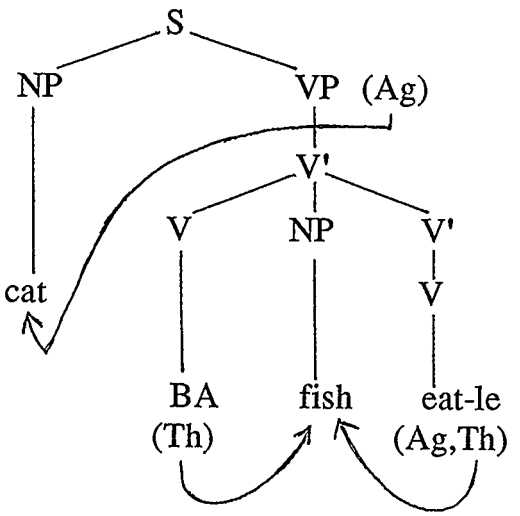
BA can only precede the main verb. Thus, sentences like (17) are impossible as true BA constructions.

(17). a. * mao chi yu ba le
cat eat fish BA LE

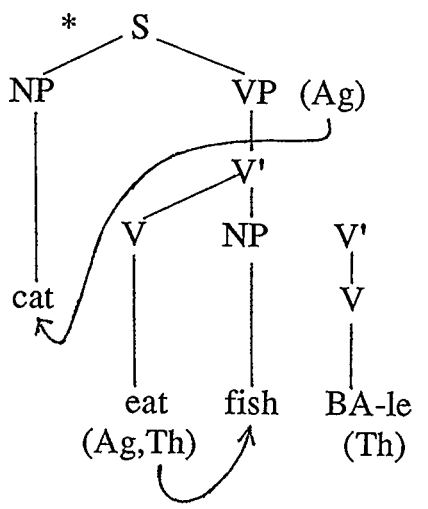
b. * wo dapo huaping ba le
I broke vase BA LE

To explain why BA must always precede the main verb, let's compare the structure of (17a) and (16) which will be repeated below.

(16). BA precedes verb



(17a)' Verb precedes BA



When BA precedes the verb *eat* as (16) shows, the sentence is acceptable while when BA and the verb exchange positions, the

sentence becomes unacceptable, as (17a)' shows. This indicates that the elements in the BA construction have a fixed order, which results from the characteristics of BA that we discussed earlier.

(18). Characteristics of BA

a. can assign objective Case to the NP following it

b. can assign a theme role to the NP following it

c. can only project to the first V' level together with its theme

(18) reveals that BA functions as a defective verb. It is defective, because together with its theme, it can only project to the first V' level, which turns out to be both its maximal projection and its only projection. It is like a (transitive) verb, because within its projection, it discharges objective Case and a theme role to an NP rightward. Comparing (16) with (17a)', it is not difficult to see why (16) is acceptable while (17a)' is not acceptable. In (16), the projection of BA is the first V' (i.e. the higher V'), inside which BA assigns objective Case and a theme role to the NP *fish*. On the other hand, in (17a)' where the projection of BA is also the first V' above it (i.e. the lower V'), it cannot project to the higher V' which is beyond the first V' level. (17a)' is thus unacceptable.

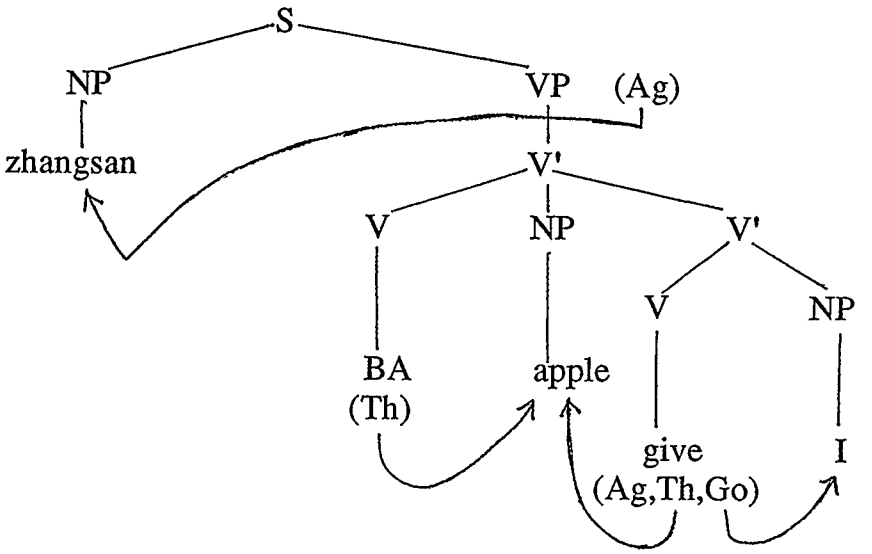
Baker's theory offers a good account for why BA should precede the main verb. Since BA (together with its theme) only projects to the first V', it can only occur in the form of a bare verb (i.e. V^0) in a sentence. In accordance with the principle of word order, a bare verb must appear to the left of its theme in an SVCP since the direction of theta-role assignment for a bare verb in

Chinese is rightward. BA has no other choice; it must stay in the position of V1. Thus, BA must always precede the main verb.

The fact that BA must always precede the main verb allows the analysis to be extended to the following example, in which the main verb is triadic.

(19). a. zhangsan ba yi-ge pingguo gei le wo
Zhangsan BA one-MW apple give LE I
' Zhangsan gave me an apple.)

b.



I in this structure is not the shared argument; rather it is only the argument of the verb *give*. *Give* can also assign a theme role to *apple*, as the lower V' is the sister of *apple* and *apple* occurs to the left of *give*. For its part, BA theta-marks and Case marks the NP *apple* rightward. The agent role of the NP *zhangsan* is received from the verb *give* through the VP. The lexical properties of *give* and BA are satisfied and the three NPs in the sentence receive the appropriate Cases and theta roles.

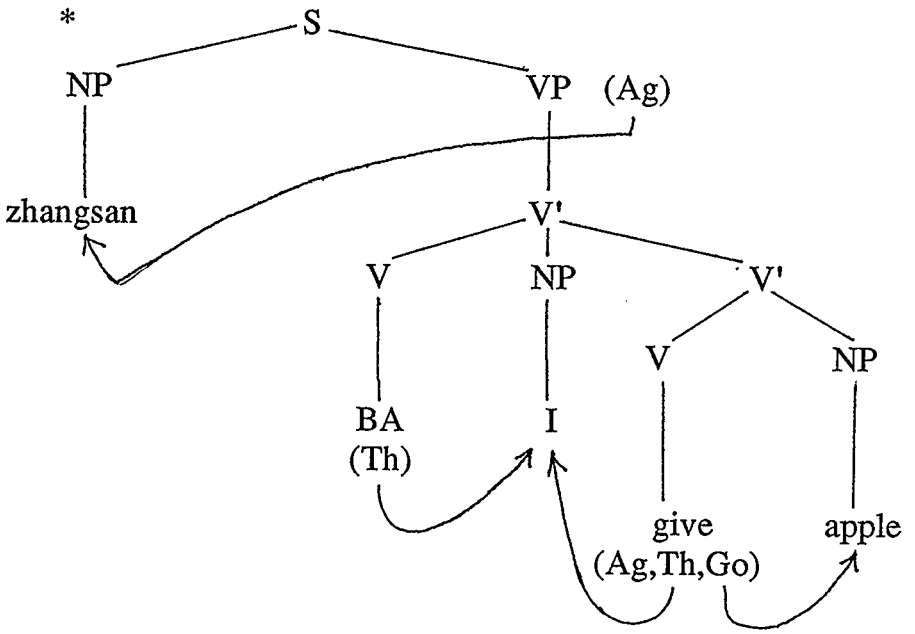
As indicated in Section 4.2.2, BA only permits the theme of a verb to follow it. It does not allow the goal of a verb to appear after it. If the goal instead of the theme appears immediately after BA in (19), the sentence would not be acceptable.

(20). a. * zhangsan ba wo gei-le yi-ge pingguo

Zhangsan BA I give-LE one-MW apple

' * Zhangsan gave me to an apple.'

b. *



In this structure, the NP *I* receives theme roles from both BA and the verb *give* while the NP *apple* receives a goal role from the verb *give*. There is no violation of a syntactic principle, but the meaning of the sentence is not acceptable as it means ' Zhangsan gave me to an apple.'

In summary, the following characteristics of the BA construction shared with SVCPs create the possibility of using Baker's theory to account for BA construction in Chinese: (i) BA and the main

verb always share the same theme, thus BA, the theme and the verb compose of one whole unit; (ii) BA does not allow the main verb to have the theme following it; (iii) the main verb in BA construction can be either dyadic or triadic; (iv) the order of BA and the main verb is not reversible.

5.2 Coordination and SVCP

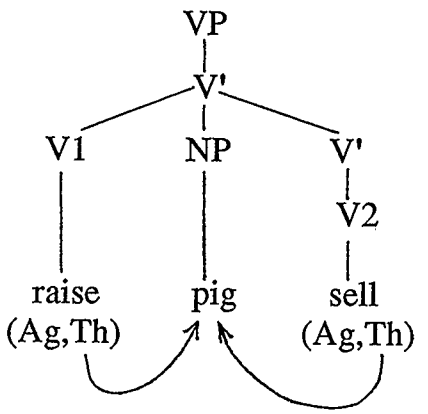
As noted in the last chapter, the salient characteristic of the SVCP is that a single VP can license more than one verb, creating the possibility of serial verb constructions. Following is an SVCP in which the VP has two heads: V1 *raise* and V2 *sell*.

(21). a. zhangsan yang zhu mai

Zhangsan raise pig sell

' Zhangsan raises pigs and sells them/to sell.'

b.



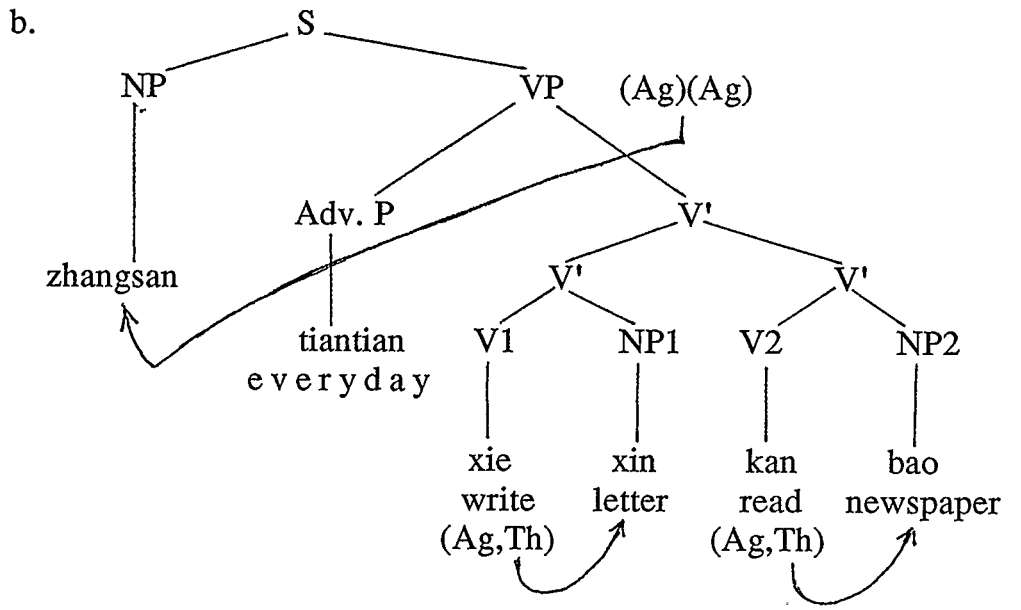
However, as mentioned in Chapter III, coordinations can also have a double-headed V' structure. (22a), which involves V' coordination, is represented in the tree structure in (22b).

(22). a. zhangsan tiantian xie xin kan bao

Zhangsan everyday write letter read newspaper

' Zhangsan writes letters and reads newspapers everyday.'

b.



As shown in (22b), the two lower V's, i.e., *write letter* and *read newspaper*, have the same syntactic status. Each verb has its own theme, and both V1 and V2 can assign an agent role to the subject *zhangsan*. Thus, the theta role assignment properties of the two verbs are satisfied and the Projection Principle, Theta-Criterion and Case Filter are obeyed. Notice that V2 in (22b) is not able to theta-mark the NP1 *letter* (i.e. the object of V1) because NP1 is not the sister of V2 or any of its projections.

Although the VPs in both coordinations and SVCPs license more than one head, they are structurally different. In an SVCP, a higher V' immediately dominates both a V^0 and a lower V' as illustrated in (21b) while in a coordination, a higher V' immediately dominates two lower V's as shown in (22b). Second, in an SVCP, the two verbs have a shared theme whereas in a coordination, the two verbs have a shared agent but not a shared theme. In other words, the asymmetry between the theme NP and the agent NP shows different patterns in

these two constructions. In an SVCP, the theme of V1 must be theta-marked by V2, but the agent need not be theta-marked by both verbs, as example (21a) in this chapter and (32a) in Chapter IV show. These examples are repeated in (23).

(23). a. zhangsan yang zhu mai
Zhangsan raise pig sell
' Zhangsan raises pigs and sells them/to sell.'

b. tamen leiqi yi-du qiang dao le
they build one-MW wall collapse LE
' They built a wall and it has collapsed.'

(23a) is an SVCP with two dyadic verbs while (b) is an SVCP with a dyadic V1 plus an unaccusative V2. In (a) both the theme *zhu* and the agent *zhangsan* are theta-marked by the two verbs (*raise* and *sell*) while in (b) the theme *wall* is theta-marked by the two verbs (*build* and *collapse*), but the agent *they* is only theta-marked by the verb *build*. As stated in Chapter III, object sharing rather than subject sharing is obligatory for SVCPs.

In contrast, in a coordination, the theme of V1 must not be theta-marked by V2, but the agent must be theta-marked by both verbs. As mentioned in the last paragraph, *letter* in (22b) cannot be theta-marked by V2 *read* while *zhangsan* must receive an agent role from both V1 *write* and V2 *read*.

The difference in structure induces detectable differences between coordination and SVCPs. First of all, the two constructions feel different to native speakers. The coordination pattern tends to be perceived as a sequence of distinct events, whereas the SVCP is

perceived as a single event. Furthermore, comma intonation may precede the V2 of a coordination, but not the V2 of an SVCP. (# marks an intonation break.)

(24). a. A coordination

zhangsan tiantian xie xin # kan bao

Zhangsan everyday write letter read newspaper

' Zhangsan writes letters and reads newspapers everyday.'

b. An SVCP

* zhangsan yang zhu # mai

Zhangsan raise pig sell

Moreover, as noted in Chapter II, an overt conjunction can occur in a coordination not an SVCP.

(25). a. zhangsan tiantian bushi xie xin jioushi kan bao

Zhangsan everyday either write letter or read newspaper

' Zhangsan either writes letters or reads newspapers everyday.'

b. * zhangsan bushi yang zhu jioushi mai

Zhangsan either raise pig or sell

Most important, coordinations are different from SVCPs with respect to various syntactic processes. Being a shared theme, the NP between the two verbs in an SVCP can be questioned while a theme in a coordination cannot.

(26). a. The theme of an SVCP is questioned

zhangsan yang shenme mai?

Zhangsan raise what sell

' What does Zhangsan raise and/to sell?'

b. The 1st theme of a coordination is questioned

* zhangsan tiantian xie shenme kan bao?

Zhangsan everyday write what read newspaper

c. The second theme of a coordination is questioned

* zhangsan tiantian xie xin kan shenme ?

Zhangsan everyday write letter read what

Sentence (26a) shows that the theme can be questioned in an SVCP where the two verbs and their shared theme are considered as one constituent of a higher V'. On the other hand, a theme cannot be questioned in a coordination. Questioning one of them is in violation of the Coordination Structure Constraint.

(27). Coordination Structure Constraint

(Adapted from van Riemsdijk & Williams 1986:20)

A conjunct of a coordinate structure cannot be questioned.

In the specific case of the NPs in coordinate verb categories, I would like to revise (27) as (28).

(28). Coordination Structure Constraint

If one conjunct of a coordinate structure is questioned, all other conjuncts must also be questioned.

In fact, in parallel coordinate verb categories where both verbs have NP objects, the sentence is grammatical if all these NPs are questioned.

(29). zhangsan tiantian xie shenme kan shenme?

Zhangsan everyday write what read what

' What does Zhangsan read and write everyday?'

Another syntactic process which can be used to test the difference between an SVCP and a coordination is reversal. As stated in Chapter II, the two verbs in a coordination can be reversed to give a grammatical result.

(30). a. The reversal of the two verbs and their following element in (22a)

zhangsan tiantian kan bao xie xin

Zhangsan everyday read newspaper write letter

' Zhangsan reads newspapers and writes letter.'

On the contrary, when the two verbs in an SVCP are reversed, the resulting sentence in (30b) is ungrammatical.

(30). b. The reversal of the two verbs in (21a)

* zhangsan mai zhu yang

Zhangsan sell pig raise

The third type of syntactic process that distinguishes a coordination from an SVCP is relativization. The object NP in an SVCP can be relativized.

(31). a. An SVCP with V2 as a dyadic verb

zhangsan yang zhu mai

Zhangsan raise pig sell

' Zhangsan raises pigs and sells them/to sell.'

b. The relativization of the theme in (a)

? zhangsan yang ta mai de nar zhong chu[1]

Zhangsan raise it sell DE that MW pig

' the kind of pigs that Zhangsan raises and sells/to sell'

---

1 . Notice that a resumptive word *it* is inserted to replace the relativised NP.

(32). a. An SVCP with V2 as a triadic verb

tamen chang mai shu sung ren

they often buy book send person

' They often buy books and/to send them to others.'

b. The relativization of the theme in (a)

tamen chang mai ta sung ren de nar ben shu

they often buy it send person DE that MW book

' the book that they often buy and/to send it to others'

In contrast, an NP between the two verbs of a coordination definitely cannot be relativized.

(33). The relativization of the NP between the two verbs in (22a)

* Zhangsan tiantian xie ta kan bao de nar feng xin

Zhangsan everyday write it read news. DE that MW letter

'*The letter that Zhangsan writes and reads news everyday.'

In this section, we have examined the structural differences between the SVCP and coordination. We have provided syntactic tests such as relativization, reversal and question-formation to show the difference between the two constructions. Based on these findings, it can be concluded, as Baker predicted, that coordination and SVCP coexist in serializing languages, yet are different constructions.

CHAPTER VI
CONCLUSION

The study has investigated the *serial verb constructions proper* (SVCPs) in Chinese. The SVCP, with two verbs sharing one theme, has a syntactic structure significantly different from that of all comparable constructions, including coordination, embedded clauses, pivotal construction, etc..

This unusual syntactic structure receives a good explanation in Mark C. Baker's (1989) theory of SVCPs. Baker extends X' theory and produces a double-headed construction, creating both the possibility and the obligation of two verbs theta-marking the same internal argument, in accordance with the Projection Principle.

Within the framework of Baker's SVCP theory, various types of Chinese SVCPs have been investigated in this thesis, including the combination of two transitive verbs, a transitive verb and an intransitive, and two intransitives. The investigation demonstrates that when V1 is dyadic, V2 can be dyadic, triadic or unaccusative. A triadic verb is not allowed to appear in the V1 position and an unaccusative can appear in the V1 position only when V2 is also an unaccusative. Otherwise, the Theta-Criterion or the Case Filter will be violated.

The BA construction, a perennial topic in Chinese grammar, also receives an explanation in Baker's theory. BA, which I would like to consider as a defective verb, assigns an objective Case and a theme role to the NP following it, yet fails to project beyond the first V'

level. Thus, BA always occurs in the pattern BA+Theme+Verb, which behaves as one whole unit. It does not allow the theme to follow the verb, but requires the verb to share the theme with it. All these properties of BA follow from Baker's theory together with the assumption that BA is a defective verb in the sense outlined above.

Finally, in Chapter V of this thesis, a variety of syntactic tests (reversal, relativization, etc.) were used to provide convincing evidence that the SVCP in Chinese has a different structure from coordination.

An interesting fact that appears in Chapter II and IV of this thesis is that the two verb heads in the Chinese SVCP are not reversible. In the following sentences, *a* is an SVCP while *b* is a sentence with reversed verb heads. Even though both heads are dyadic verbs and there is no pragmatic reason to rule out the reversed order, the (b) sentences are still unacceptable.

(1). a. wo jie shu kan
I borrow book read
' I borrow books and read them/to read.'

b. The reversal of V1 and V2 in (a)
* wo kan shu jie
I read book borrow

(2). a. wo mai shu zhong
I buy tree plant
' I buy trees and plant them/to plant.'

b. The reversal of V1 and V2 in (a)

* wo zhong shu mai

I plant tree buy

(3). a. wo mai yang wei

I buy goat feed

' I buy a goat and feed it/to feed.'

b. The reversal of V1 and V2 in (a)

* wo wei yang mai

I feed goat buy

This fact is only superficially covered in this thesis and the underlying reason needs deeper investigation.

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