

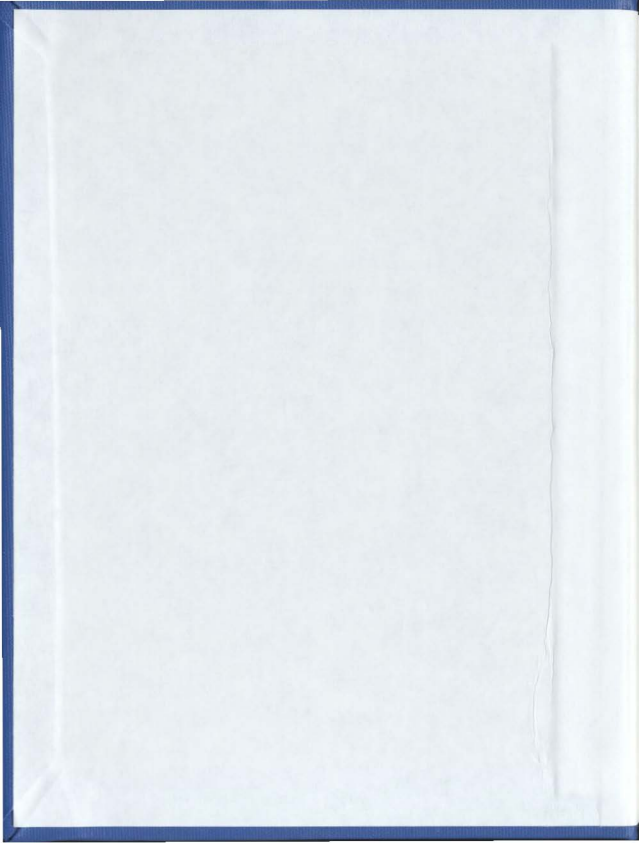
DURATION AND FREQUENCY NPs AND
CHINESE VERB PHRASE

CENTRE FOR NEWFOUNDLAND STUDIES

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DURATION AND FREQUENCY NPs AND CHINESE VERB PHRASE

BY

LI-LI MA

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requirements for the degree of
Master of Arts

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ABSTRACT

Duration and Frequency NPs (D/F NPs) pose problems for Case theory and theta theory in Chinese. They complicate the analysis of Chinese VP structure and word order as well.

This thesis proposes a disjunctive theory of Case assignment for object NPs and oblique Case for adjunct NPs (mainly duration and frequency NPs) in Chinese. The hypothesis is based on the phenomenon of definiteness existed in Chinese VP structure. There is a correlation between Case and definiteness underlying the language. Problems of postverbal two constituents caused by D/F NPs are explained with the proposed Case system.

Chapter Three investigates Case assigned to adjunct NPs in Chinese. It is shown that Chinese adjunct NPs are assigned oblique Case uniformly, regardless of their positions (i.e. preverbal or postverbal) in the sentence. This oblique Case is assigned by the [+F] feature of the head noun.

Chapter Four deals with Case assignment to object NPs. A theory of Case assignment according to the definiteness of the affected NP is proposed. The Chinese VP structure is constrained by a Double Oblique Case Constraint.

Chapter Five examines the relationship between this Case proposal and the Chinese X' structure. It is shown that this Case system can be adapted to a VP-shell structure and that it can be adapted to Chomsky's (1993) Minimalist program.

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Abbreviations:

Acc	----->	Accusative Case
ASP	----->	Aspectual marker
CL	----->	Classifier
Dat	----->	Dative Case
Det	----->	Determiner
Gen	----->	Genitive Case
Nom	----->	Nominative Case
Obl	----->	Oblique Case
Part	----->	Partitive Case
PL	----->	Plural form

Chapter One

Overview

1.1 Introduction

Duration and frequency phrases (henceforth D/F phrases in brief) are quantificational adverbials, such as three days, this year, four times and so on, which specify the length of time some event took place or the number of times some action was done.

Because of the distribution and the double status of D/F phrases: NP in form, but basically adverbial in function, they complicate Chinese syntax in terms of X' theory, Case theory, theta theory and word order.

It is known that in Mandarin Chinese, direct objects, duration and frequency expressions, certain prepositional phrases, resultative and descriptive adverbials, may all occur after the verb, but unlike English, they usually do not cooccur with one another postverbally as shown in (1).

(1) a. *Lisi qi-le ma santian.

Lisi ride-ASP horse three day

'Lisi rode a horse for three days.'

b. *Lisi qi-le ma de hen kuai.

Lisi ride-ASP horse DE very fast

'Lisi rode a horse very fast.'

In (1a), the object ma is followed directly by a time expression san tian and the sentence is unacceptable. A similar problem is found in (1b); with the object followed by a descriptive adverbial, the sentence is again unacceptable. In order to express the idea of (1) grammatically, verb reduplication as in (2a), topicalization as in (2b)' or some other mechanism is employed in order to prevent the cooccurrence of two postverbal constituents.

(2)a. Lisi qi ma qi-le santian.

Lisi ride horse ride-ASP three day

b. Ma, Lisi qi-le santian.

horse Lisi ride-ASP three day

This strategy brings about idiosyncratic verb phrase structures (e.g. verb reduplication) and verb phrase constraints in Mandarin. However, as has been pointed out by many scholars (Li & Thompson 1981, Ernst 1988 among others) the problem is not as simple as it looks because under certain conditions, one postverbal element, such as a duration and frequency expression, can occur after another postverbal constituent, for example an object NP. This is illustrated in (3) with the duration expression henduo nian 'many years' occurs after the double NPs wo 'me' and Yingyu 'English'.

(3) Ta jiao wo Yingyu yijing henduo nian le.

he teach me English already many years

'He has taught me English for many years.'

The literature to date has few accounts of the contrast between (1) and (3) but none of

them are satisfactory (Li & Thompson 1981, Ernst 1988, Tong 1990 among others).

Within the framework of Government-Binding, D/F NPs have posed problems not only for the structure of verb phrases in Chinese but also for Case theory and theta theory as well.

In this thesis I will focus on duration and frequency NPs as one class of postverbal noun phrases, through which I will explore the interaction between Case and verb phrase structure in Chinese.

On the basis of diagnostic tests (see Chapter 2), I will show that D/F phrases are NPs, rather than adverbial phrases. With respect to Case Theory, the D/F NPs must be subject to the Case Filter (Chomsky, 1981). However, structural Cases are assigned by the heads of certain categories and Case assignment relies heavily on government and adjacency. This is problematic in the case of D/F NPs, since sometimes (though not always) they can occur even after as many as two NP complements in the double object construction as shown in (3). The problem is where and how the D/F NPs get Case. With respect to Theta Theory, it is traditionally acknowledged that a verb does not assign a θ -role to a D/F NP (see Li 1990), but it is clearly necessary for some semantic role to license them. I will follow Larson (1985) and claim that Chinese adjunct NPs receive oblique Case and θ -roles from the lexical features of their own head.

As for the structure of VP, the literature contains several proposals, but all of them have difficulty accommodating D/F NPs. For example, Huang's (1982) proposal of a constraint on the X-bar structure of Chinese is incompatible with all postverbal

double XP constructions (see Chapter 5). This analysis has been criticised by quite a number of linguists such as Ernst (1988), Tai (1989) and others including Huang (1993). It turns out that there is not such a constraint in Chinese.

Li (1990) attempts to account for (1) by proposing that D/F NPs have structural Case; however, her analysis can only accommodate the D/F NPs immediately after an intransitive verb or a reduplicated verb (see Chapter 3 for detail). Li does not account for the fact in (3) that post-verbal D/F NPs are not always exclusive with object NPs or other post-verbal constituents after a verb.

Travis (1984) makes a similar proposal for Chinese verb phrases: only selected or case-marked phrases will follow the verb.

Ernst (1988) offers a plausible analysis of VP structures. He points out the problems in Huang's and Li's analysis and proposes a two-part alternative analysis composed of Structural Principles and Pragmatic Principles. Ernst's structural principles basically following Li's Basic Chinese Word Order Parameters only differ from Li's in one aspect, that is, they allow a Case assigner to assign Cases rightward to literally infinite Case assignees. In order to account for the contrast between (1) and (3) Ernst proposes a New Information Hierarchy (NIH)², which is a set of values from 1 to 6 assigned to different post-verbal constituents. This NIH underlies another principle called Condition on New Information (CNI) which says the total new information carried by phrasal postverbal constituents in the Chinese VP may not exceed level 10 on the NIH. The purpose of this CNI is to show under what conditions postverbal constituents

can co-occur with one another.

Ernst's analysis works well in the case of simple sentences; however, there is still room for refinement and improvement. We can find counterexamples to Ernst's analysis in clauses like those in (4).

(4) a. ?? Ta qing ke sancǐ.

he invite guest three time

'He invited guests to dinner three times.'

b. [.,Ta qing ke sancǐ] [.,hua-le [yiqian yuan]].

he invite guests three time use-ASP 1000 Yuan

'Inviting guests (to dinner) three times cost him 1000 yuan.'

According to NIH, (4b) should be unacceptable since the constituents in S' have already surpassed the highest value of the scale i.e. 10 ($ke=6$, $sancǐ=6$, $6+6 > 10$). However, the sentence is acceptable to most native speakers.

Another disadvantage of this analysis is that we can infer from NIH that a child cannot handle postverbal two constituents unless he or she can unconsciously do a certain amount of arithmetic. This may not be true empirically.

In this thesis, I will approach the issue posed by D/F NPs from a different angle. I try to explore the interactions between Case and definiteness in Chinese. The theoretical assumptions are based on the framework of Government and Binding theory, as well as Larson's (1985), Belletti's (1988) and Lasnik's (1993) proposals. I will demonstrate under what conditions D/F NPs can cooccur with another postverbal

constituent in terms of Case theory. I will propose a mechanism of Case assignment to adjunct NPs and multiple-Case assignment to object NPs. I assume that there is a Double Oblique Case Constraint underlying the language. I will suggest a unified D-Structure for all the VPs that contain D/F NPs. In addition, I try to show that this proposed Case assignment strategy can be compatible with Minimalism.

This thesis is organized as follows: Chapter 2 is a general introduction of Chinese and Chinese duration and frequency expressions. Chapter 3 deals with Case assignment and theta-role assignment to Chinese adjunct NPs. Chapter 4 investigates multiple Case assignment to object NPs and discusses the effects of this Case system together with the adjunct Case on Chinese verb phrase. Finally in Chapter 5, I will modify Huang's (1993) structural model to accommodate more types of sentences with postverbal D/F NP and associate Minimalism with the proposed Case assignment.

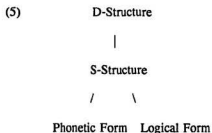
1.2. Theoretical Assumptions

This section consists of an overview of the main assumptions and principles which characterize the theoretical framework which I adopt. The framework is Government-Binding Theory (Chomsky 1981), along with the modifications concerning movement and government introduced in *Barriers* (Chomsky 1986a) and *Knowledge of Language* (1986b). These assumptions and principles will serve as the theoretical background in this thesis.

1.2.1. Grammatical Model

In the organization of the generative grammar, it is assumed that the model has

the following levels of representation:



D-structure constitutes the basic lexical properties of the sentence. It is mapped onto S-Structure via the transformational rule 'Move α '. S-Structure is then related to the interpretive components Phonetic Form (PF) and Logical Form (LF). PF is the phonetic output of this modal and LF yields the semantic interpretation.

1.2.2. X-bar Theory

D-Structure is the level of representation that must meet the specifications set by X-bar theory. According to X-bar Theory all phrases have a lexical head. The essence of X-bar Theory can be schematized by the following PS rules:

- (6) a. $X'' \rightarrow \text{Spec } X'$
 b. $X' \rightarrow X' \text{ YP}$
 c. $X' \rightarrow X \text{ YP}$

The lexical head of the projection is a zero-level category (X^0). Complements combine with X to form X' projections (6c); adjuncts combine with X' to form additional X' projections (6b). The specifier combines with the topmost X' to form the maximal projection X'' (6a).

1.2.3. θ -Criterion

The core principle of θ -theory is the θ -Criterion, stated as in (7) from Chomsky (1981:36).

(7) θ -Criterion

Each argument bears one and only one θ -role, and each θ -role is assigned to one and only one argument.

(7) says that any well-formed sentences must have a logical representation in which there is a match-up between predicates, which assign thematic roles, and arguments, which bear them. An argument position in D-Structure can only have one θ -role: an NP cannot have two θ -roles simultaneously.

1.2.4. Case Filter

The basic principle of Case Theory is the Case Filter which requires that all overt NPs be assigned abstract Case.

(8) Case Filter

Every overt NP must be assigned abstract Case.

This is called a filter because it 'filters out' any construction containing an overt NP which is not assigned Case.

Case may be either inherent or structural. Following Chomsky (1986b), an inherent Case is a Case assigned by a lexical head to the NP it governs and to which it assigns a θ -role. An inherent Case is assigned at the level of D-Structure, in conjunction with θ -role assignment. A structural Case is assigned to an NP at S-Structure if the NP

is in the right structural configuration. Structural Case is independent of theta-marking.

1.2.5. Licensing Theory

Since every lexical entry that appears in a well-formed structure must be licensed in some way, licensing theory is a synthetical application of other principles in generative grammar. Chomsky (1986b:93) proposes that every element that appear in a well-formed structure must be licensed in one of a small number of ways. Chomsky's general licensing condition can be stated explicitly as the following:

(9) The Licensing Condition:

Every element in a structure must be licensed.

For example the Empty Category Principle can be understood as a licensing condition for traces. The θ -Criterion is a principle about the licensing of arguments by a verb or a proposition.

In the same vein, Chomsky (1986b:98) further proposes a requirement called the Principle of Full Interpretation (PFI) which stipulates that Licensing Conditions should be observed at both PF and LF. The PFI is presented as (10):

(10) Principle of Full Interpretation (Chomsky, 1986b)

Every element of PF and LF, taken to be the interface of syntax (in the broad sense) with system of language use, must receive an appropriate interpretation.

1.2.6. Empty Category Principle and Proper Government

Any movement may leave a trace [e], which is a null element in the sentence. In Government and Binding Theory, government has been identified as the licensing

condition for traces.

(11) Empty Category Principle (ECP)

A trace must be properly governed.

Proper Government can be achieved either by theta-government or antecedent-government.

(12) Proper Government

A theta-governs B iff A governs B and A theta-marks B.

A antecedent-governs B iff A governs B and A is co-indexed with B.

1.2.7. Checking Theory

Checking theory is a component part of Minimalism (Chomsky 1993).

- (13) A lexical element A has inflectional features in the lexicon as an intrinsic property. These features are checked against the inflectional element I in the complex [A I]. If the features of A and I match, I disappears and A enters the PF component under SPELL-OUT; if they conflict, I remains and the derivation will crash at PF.

For example, the morphological features of Tense and AGR have two features: they check properties of the verb that raises to them, and they check properties of the Noun Phrase (DP) that raises to their specifier position, including Case and other features; thus they assure that DP and V are properly paired. This checking can take place at any stage of a derivation to LF.

Notes:

1. Semantically, (2b) is not identical with (1a) in that 'horse' in (2b) is definite, but that in (1b) is indefinite.

2. New Information Hierarchy (NIH):

- a. S' (or VP) 6
- b. Indefinite NPs6
- c. dao/zai-PPs 3
- d. gei - PPs 2
- e. Definite (full) NPs 2
- f. Pronouns 1

Chapter Two

Chinese Structure and D/F Phrases

This Chapter consists of two sections: a brief introduction to Chinese sentence grammar and Chinese duration and frequency expressions.

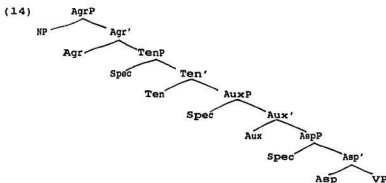
2.1. Introduction to Chinese

Since the positions of D/F phrases are closely related to the phrase structure of Chinese, it is necessary to begin with a brief review of the major properties of Mandarin clause structure.

2.1.1. Functional Categories in Chinese

Chomsky (1989) and Pollock (1989) propose a kind of split structure for an English or a French sentence, in which Tense, Agreement and Negation, once components of INFL, become separate syntactic heads, each projecting its own maximal projection. Under this view, the functional categories of a sentence are analyzed as the heads of branching nodes such as TenseP, NegP and AgrP.

Following this view, I assume that Chinese clauses have a configurational structure including AgrP, TenseP, AuxP and AspP.



The idea is that VPs are formed mainly by the thematic verbs and their arguments. Therefore, non-thematic verbs, i.e. modals in Chinese, occupy the position higher than thematic verbs. I follow Travis (1988) and Bowers (1993) in supposing that adverbs of different types are licensed by different features associated with a single head and generated in different positions. I assume pre-auxiliary adverbials and the preverbal adverbials should have their own positions above VP in different layers of the functional category projections. Based on these considerations, I suggest that there is an ArgP in Chinese even though there is no overt morphological agreement in Chinese. The reason is that the notion of agreement is language universal (see Chomsky 1981: 170). Like the English or French infinitives, the Chinese Agr is morphologically covert. The Agr projection is kept here in order to have similar principles active in English and Chinese. Though the AgrP category plays no crucial role in Chinese, it must be present anyway in order to keep a systematic account for the functional category structure and the VP structure and derive a reasonable word order. It is Agr that assigns nominative Case to

subjects, or if we adopt Minimalist theory (Chomsky 1992), this is the place to check the nominative Case. TenseP is the sister of Agr.

Though it is difficult to distinguish Aspect from Tense in Mandarin, Tense serves to distinguish the grammaticality of some sentences (see Li, 1985:48-49). The following examples are taken from Tang (1988:502).

- (15) a. Ta mingtian hui zai lai.
 he tomorrow will again come
 'He will come again tomorrow.'
- b. *Ta zuotian hui zai lai.
 he yesterday will again come
 'He will come yesterday.'

Hui as a future-tense marker can go with adverbials representing future time. In (15a), mingtian and zai carry a future temporal meaning that matches the tense represented by the tense marker hui. Example (15b) is unacceptable since the temporal adverbial contradicts the future tense. More examples from Tang (1988) appear in (16):

- (16) a. Ta zuotian you lai guo le.
 he yesterday again come ASP TEN/ASP
 'He came again yesterday.'
- b. *Ta zuotian hui zai lai.
 he yesterday will again come
 'He will come again yesterday.'

The notion of tense is easily captured by the combination of a temporal adverbial and a tense marker. Therefore, based on recent proposals that heads raise at LF by Kitagawa (1986), Frampton (1991), Speas (1991) and Chomsky (1992), I suggest there is a TenseP (TP) in Chinese that checks Tense markers such as hui, le, guo and so on realized on verbs. Time adverbials or other VP external adverbials may be contained at the Spec of TP as well. This approach seems intuitively defensible since time adverbials specify time and Tense is something related with time. It is plausible to group them under the projection of TP. Moreover, as a preverbal time adverbial is always higher than a negator, the hypothetical position may be a proper place for a preverbal time adverbial when a negator and a time adverbial cooccur at the same time as is illustrated in (17).

(17) a.* Lisi bu jintian youyong.

Lisi not today swim

'Lisi will not swim today.'

b. Lisi jintian bu youyong.

The Spec of TP licenses epistemic adverbials as well since these adverbials must be licensed higher than negation as shown in (18).

(18) a.* Tamen bu haoxiang/xianran gaoxing.

they not apparently/obviously happy

'They are not apparently/obviously happy. (Ernst, 1994)

b. Tamen haoxiang/xianran bu gaoxing.

c. Tamen jintian haoxiang bu neng lai.

they today apparently not can come

'Apparently they cannot come today.'

d. Tamen haoxiang mingtian bu hui lai.

they apparently tomorrow not will come

'Apparently they will not come tomorrow.'

Epistemic adverbs and time adverbials have a free word order among themselves, but are both positioned higher than negation as in (18).

As for the node NegP, I agree with Ernst (1993) that Chinese may not have NegP. Instead, the negator is treated as an adverbial generated in the Spec of AuxP or the Spec of VP in Mandarin. I further specify the higher negator is generated in the Spec of AuxP, the lower in the Spec of AspP. This solution allows an account for the sentences with two negators:

(19) Ta bu neng bu lai.

he not can not come

'It is impossible that he will not come.'

Thus an AuxP is necessary for this purpose. I follow Cheng and Li (1991) and assume there is an AuxP in Chinese in order to host auxiliaries. The AuxP generates the auxiliary heads known as yinggai 'ought to', hui 'may', neng 'can', keyi 'has permission to', gan 'dare', ken 'be willing to', bixu 'must' etc. In addition, the modal you 'have' is also generated here as a bound morpheme, which helps to make negation or to bind an indefinite subject (e.g. meiyou 'not have'). The negators bu, mei, beng, bie, etc. are

generated in the Spec of AuxP.

Another reason for postulating this AuxP lies in the fact that the movement possibilities of Chinese main and auxiliary verbs are different because the former but not the latter are 'thematic verbs' in the sense that they have a θ -role to assign and therefore their movement is associated with both the VP-shell (I adopt the structure of VP-shell in this thesis) and the functional categories. Auxiliary verbs, on the other hand, not having a θ -role to assign, remain in the domain of INFL.

As has been suggested by Cheng (1989), Aspect heads an independent projection in Chinese. The aspect markers in Chinese are -le, -guo, -zhe and so on. Roughly, -le marks the perfective aspect (Wang 1965, Chao 1968, Li and Thompson 1981) indicating that an action has been completed, -guo also the perfective aspect or, to be exact, an experiential aspect indicating an action has taken place at least once, -zhe marks the progressive aspect.

It should be mentioned here, there is also a sentence-final particle le, on whose status scholars have different opinions. It is conventionally believed that when le occurs after the complement of the verb at the end of the sentence it is a marker of Inchoativity, that is, the inception of a new situation (Wang 1965, Teng 1975, among others).

Actually, both these two les can be treated as aspect markers. The suffix -le is the completive aspect. The sentential final le is an inchoative aspect marker (Wang 1965, Cheng 1989).

Cheng (1989) and Tang (1990) propose that the Aspectual markers that are

morphological affixes, such as *-le*, *-zhe*, among others, lower to the verb at S-Structure in order to avoid the circumstance that manner adverbs and benefactive PP's appear post-verbally.

(20) Cheng (1989)

- a. guojing t_i manmande xie-le, yi-feng xin
 Guojing slowly write-ASP one-Cl letter
 'Guojing slowly wrote a letter.'
- b. *guojing xie, -le manmande t_i yi-feng xin
 Guojing write-ASP slowly one-Cl letter

(21) Tang C.C. (1990)

- a. ta t_i ti wo mai-guo, yi-ben shu
 he for me buy-ASP one-Cl book
 'He bought a book for me.'
- b. *ta mai_j-guo ti wo yi-ben t_i shu
 he buy-ASP for me one-Cl book

Aspectual markers that are not affixes do not lower.

(22) Cheng (1990)

- a. guojing zai manmande xie nei-feng xin
 Guojing Asp slowly write that-Cl letter
 'Guojing is writing that letter slowly.'
- b. guojing zai ti wo mai yi-ben shu

Guojing Asp for me buy one-Cl book

'Guojing is buying a book for me.'

I assume a different implementation of this idea. In fact, the problem with this aspect lowering analysis is that it potentially violates the ECP, for the traces left by the aspectual morphemes cannot be properly governed. Chomsky's (1993) checking theory offers a way to avoid this problem. Ernst (1993) suggests Mandarin aspectual suffixes are base-generated on the verb, but raised into the Asp(ect) at LF to be 'checked off'. The semantic content of aspect is in the Asp node, and its morphological realization on the verb must be correctly matched at LF. If the features of the verb and that of the Asp match, the Asp features disappear, and the verb enters the PF. If they conflict, the features in Asp remain and the derivation will crash at PF. I will adopt this solution here.

On the whole, the advantage of this functional structure is that first the preverbal adverbials or sentential adjuncts can be seen as base-generated in different layers of the functional categories according to their selectional restriction, i.e. whether they select a proposition, an event, or an action. The hierarchy reflects the syntactic order of Chinese preverbal elements in general. Second, by adopting checking theory, we can avoid several problems in the derivation.

2.1.2. Basic Word Order and Verb Phrase in Chinese

Chinese basically has SVO order at S-Structure (see Huang 1978, Chu 1980, Mei 1978, among others). However, Chinese is not a typical SVO language in a strict

typological sense. Li and Thompson (1974, 1975, 1981) claim that between archaic Chinese and modern Chinese, there is a shift from SVO to SOV. Their arguments are based on the following observations:

- 1) preverbal objects become more common (e.g. ba phrase);
- 2) postverbal PPs are disappearing.

Tai (1973) even considers Chinese a SOV language.

Based on Greenburg (1966)'s implicational word-order universals, Li and Thompson (1974) argue that Chinese has the word order features of both the SVO language and the SOV language. This can be illustrated by the positions of adjuncts. Most adjuncts generally occur between the subject and the verb, which is a feature of a typical SOV language. A small number of adjuncts, D/F NPs and resultative or manner expressions, namely, a DFRM element, may occur postverbally, which is a SVO feature. The same is true with Chinese prepositional phrases. Most prepositional phrases appear preverbally as adjuncts, with a small number of prepositional phrases appearing postverbally as complements (see Zhang 1990 for more discussion). Since VP structure is closely related with word order, from the above analysis we can conclude, in line with Koopman (1984), that Chinese VPs are head-medial, with adjuncts appearing at both sides of a verb and the internal argument(s) to the right.

I will adopt Huang's (1993) analysis in this thesis of a VP-shell structure (see Chapter 5). According to this analysis, it is unnecessary to stipulate the directionality of Case assignment and theta-role assignment. Word orders are associated with the

thematic hierarchy and a certain process of derivation.

Adopting the VP-internal subject hypothesis (Fukui and Speas 1985, Kitagawa 1986, Koopman and Sportiche 1988, among others), Huang (1990) proposes that subjects in Mandarin Chinese are base-generated in Spec of VP and raise from Spec of VP to AspP in order to get Case from the ASP. This treatment is in accord with the VP-shell structure (see Chapter 5). Thus subjects originate under VP and rise from the theta position to the Case position. Similarly, in this thesis, I assume the subject NP is raised from Spec-VP to Spec-AgrP for reasons of Case, i.e. to be assigned Case or to be checked off the nominative Case.

2.2. Duration and Frequency Phrases (D/F Phrases) in Chinese

Duration and Frequency Phrases are NP-like quantity adverbials.

Duration phrases in Chinese are NPs in form headed by common nouns that refer to a period of time (or in Larson's term calendrical units) such as tian 'days', xiaoshi 'hours', yue 'month', or nian 'nian' and so on, e.g. zuotian 'yesterday', santian 'three days' etc. They have the same Det N structure as simple NPs, where the range of determiners is identical to that found in 'normal' cases of argument NPs: yixie 'some', xuduo 'many', zhe 'this', na 'that', mei 'every', etc.

However, it is controversial to treat Chinese frequency phrases as NPs. Tang (1988) argues against Li (1985) that Chinese frequency phrases should not be treated as nouns. He insists that unlike English, the Chinese frequency phrases are headed by the classifier ci 'time' or its synonyms, tang, bian hui, etc. rather than by a common noun,

e.g. liang ci 'twice', liang tang 'twice', liang hui 'twice' etc.; therefore, frequency phrases should not be treated as noun phrases.

I agree that frequency phrases are different from duration NPs. They are more like quantifiers since the ci 'time' can be dropped, which is especially common in classical Chinese, but not droppable in Modern Chinese as shown in (23-25). This fact shows that a duration noun is a full noun in the sense that the information it carries cannot be omitted; whereas the information carried by a frequency word is redundant. This phenomenon reflects the historical evolution of classifiers, because classifiers appear much later than nouns (see Erbaugh:1984).

(23) Chi Wen Tzu san si er hou xing. (Analects 5)

Chi Wen Tzu three think then later act

'Chi Wen Tzu thought several times before acting.'

(24) Sun Wo Kong san da Bai Gu Jing.

Sun Wo Kong three fight Bai Gu Jing

'Sun Wo Kong (the Monky King) fights against Bai Gu Jing three times.'

(25) Hong Jun si du Chi Shui.

Red Army four cross Chi Shui

'The Red Army crossed the Chi Shui River for four times.'

In all the three examples, there is no frequency marker ci after the numeral. This is impossible with duration NPs.

(26) ... yu xue san ri er bu ji. (Qi Jing Gong)

rain snow three day but not stop

'It rained and snowed for three days without interruption.'

(27)*... *yu xue san er bu ji.*

(28) *Ta zhe dun fan chi-le san xiaoshi.*

he this CL meal eat-le three hour

'He had his meal for three hours.'

(29)**Ta zhe dun fan chi-le san.*

However, in all other respects, duration phrases and frequency phrases behave just the same. Moreover, Sun (1989) claims that classifiers derive most commonly from nouns. There is a close relationship between the noun and the classifier. According to Hewson (Personal Communication) a classifier like a pronominal element represents the referent of a noun. That is why you need it when you pluralize the referent. Therefore, I will treat both of them as noun phrases. I elaborate on this point in the following section.

2.2.1. D/F Phrases are NPs

There is evidence indicating that D/F phrases are NPs. Li (1990) uses three kinds of diagnostic tests to demonstrate their syntactic category. First, they can occur in the structure [_{NP} ____ *de* N] :

(30) a. *Ta xie-le sange zhongtou de xin.*

he write-ASP three-CL hour DE letter

'He wrote the letter for three hours.'

b. *Wo kan-Le liangbian de shu.*

I read-CL twice DE book

'I read the book twice.'

The elements that can occur in the pattern [_v ___ de N] are clauses, adjectives, or NPs. D/F phrases are neither clauses nor adjectives, based on the lexical structure of a D/F phrase; therefore, the only possibility is NP.

Secondly, D/F NPs can occur in subject position of a sentence, which is a typical position occupied by NPs.

(31) a. Sange zhongtou guoqu le.

three hour pass ASP

'Three hours have passed.'

b. Liangbian jiu keyi le.

twice already all right ASP

'Twice is O.K. (all right).'

c. *Zai qiang-shang gua-zhe yiding maozi.

at wall-top hang-ASP one-CL hat

'On the wall there hangs a hat.'

d. *hen haokan shi ta.

very good-looking is he

'He is very good-looking.'

In (31a) and (31b) the D/F NPs are in the subject position and the sentences are well-formed. In (31c), the subject position is occupied by the prepositional phrase 'zai qiang-

shang' and the sentence is rendered ungrammatical. (31d) has the same problem but this time the subject is an adjective phrase.

Third, D/F phrases can take demonstratives or other modifiers, just as nouns do:

(32) a. Na/zhe sange zhongtou guo de tai man le.

that/this three-CL hour pass DE too slow ASP

'Those/these three hours passed too slowly.'

b. Na/zhei bian zuo dui le.

that/this time do right ASP

'You did correctly that/this time.'

c. nan au de sange zhongtou

hard endure DE three-CL hour

'three hard-to-endure hours'

d. Wo chao wan-le zuihou de liangbian shu.

I copy finish-ASP last DE twice book

'I have finished copying the last two times of the text.'

In addition to Li's arguments, there remain two additional arguments which show that D/F NPs are Nouns. First, a Duration NP can appear in an object position.

(33) a. Ta yong-le sange xiaoshi xi yifu.

he spend-ASP three-CL hour wash clothes

'He spent three hours washing clothes.'

In sentence (33) sange xiaoshi is the object of the tensed verb.

Secondly, a D/F NP can be quantified by the adverb dou 'all'. It has been pointed out in the literature that dou has four distinct properties : a) it occurs preverbally; b) it quantifies an NP to its left; c) it can quantify an NP even when the NP is not adjacent to it and d) it is associated with plural interpretation only (see Chao 1968, Li and Thompson 1981, Cheng 1991 among others). A D/F phrase can also be quantified by dou as shown in (34) and (35):

(34) Ta santian dou lai le.

he three day all come ASP

'He came all these three days.'

(35) Ta sanci dou dao le.

he three time all come ASP

'He came all these three times.'

In either (34) or (35), dou quantifies the D/F phrase rather than the subject since the subject is not a plural noun. This fact indicates that those D/F phrases that are quantified by dou are NPs'. On the whole, all the preceding examples illustrate that D/F phrases can occur in all the typical NP positions; therefore, they are NPs.

2.2.2. Word Order with Definite and Indefinite D/F Phrases

In line with the general claim that preverbal nouns tend to be definite², while postverbal nouns tend to be indefinite (Li and Thompson 1975, De Francis 1963, Fenn and Tewksbury 1976, Chao 1968), Ernst (1988) posits that definite D/F phrases such as zuotian 'yesterday' in (36) must occur preverbally, while indefinite D/F NPs such as wu

fenzhong 'five minutes' or liangci 'twice' usually occur postverbally as in (37).

- (36) a. Ta zuotian (na tian) da-le yifeng xin.
 he yesterday (that day) type-ASP one-CL letter
 'Yesterday (That day) he typed a letter.'
- b. *Ta da-le yifeng xin zuotian (na tian).
- c. *Ta da-le zuotian (na tian) yifeng xin.
- (37) a. Ta ku-le wu fenzhong (liang ci).
 he cry-ASP five minute (twice)
 'He cried for five minutes (twice).'
- b. *Ta wu fenzhong (liang ci) ku-le.
- c. *Wu fenzhong (liang ci) ta ku-le.

In negative constructions, or accompanied by certain licensors, some D/F NPs can hold a position which departs from this pattern, as seen in (38):

- (38) a. Ta san tian meilai le.
 he three day neg-come ASP
 'He hasn't come for three days.'
- b. Ta santian dou lai le.
 he three days all come ASP
 'He came for all these three days.'
- c. *Ta san tian lai le.
 he three day come ASP

'He has come for three days.'

d. Ta lai-le santian.

he come-ASP three day

'He came for three days.'

e. Ta cengjing san ci da-po-le shijie jilu.

he once three time beat-break-ASP world record

'He once has broken the world record three times.'

The existence of such sentences is consistent with the basic pattern if we take into account of the influence of those special licensers such as quantifier dou, negators and so on. Example (38a) can be seen as being licensed by the negator. Dou in (38b) is a preverbal scope adverb and also an indicator of the definiteness of its affected NP (see Tang 1989). The adverb cengjing 'once' in (38d) does the same thing. More examples taken from Tang appear in (39)-(40):

(39)??Liang ben shu zai zhuozi shang.

two CL book on desk on

'There are two books on the table.'

(40) Liang ben shu dou zai zhuozi shang.

two CL book all on desk on

'The two books are all on the desk.'

(39) is ungrammatical since Liang ben shu in the subject position is indefinite. As is well known throughout the literature, an indefinite NP cannot appear in the subject

position in Chinese (Li and Thompson 1981, and among others). If we add dou to the sentence, (39) can be saved. (40) is grammatical since dou has changed the definiteness of liang ben shu.

Chinese lacks articles, but there is little ambiguity as a result. On one hand, definite elements may be overtly marked by modifiers that themselves are inherently definite, such as the demonstratives and possessive pronouns, e.g. zhe santian 'these three days', na ji tian 'those few days' wo de liang xiaoshi 'my two hours' etc.; on the other hand, nouns, which lack such definite modifiers, can still be shown to be definite by putting them at the beginning of the sentence, or at least before the verb.

For example, if a certain NP can be topicalized, it has a definite reading. As is generally agreed (Tso 1977, among others) a topic is always definite or generic in reference, so we can infer that the topicalized D/F NPs are also definite. Here again we see that although they are bare NPs in form, they may be definite or indefinite in meaning.

The definiteness of NPs is associated with the NPs' positions in the sentence as well as the licensors. So we can topicalize san ci in (41) but not in (42). Example (42b) is unacceptable, since the frequency NP san ci in an affirmative sentence (without accompanied by any licensors, such as dou 'all') is interpreted as indefinite, so it cannot be topicalized.

(41) a. Ta san ci dou tiao guoqu le.

he three time all jump over-go ASP

'He jumped over (something) for all these three times.

b. San ci ta dou tiao guoqu le.

three time he all jump over-go ASP

'He jumped over (something) all these three times.'

(42) a. Ta tiao guoqu san ci.

he jump over-go three time

'He jumped over three times.'

b. *San ci ta tiao guoqu le.

three time he jump over go ASP

'He jumped over (something) three times.'

In sum, topicalized NPs must be definite. We can further illustrate this by paraphrasing a negative sentence with D/F NPs as in (43) from sentence (44) and show that this preverbal D/F NP is indeed old information and definite.

(43) Ta san ci dou meitiao guoqu.

he three time all NEG-jump over-go

'He failed to jump over some thing for all these three times.'

(44) Ta tiaole san ci, keshi san ci dou meitiao guoqu.

he jump-ASP three time but three time all neg-jump over-go

'He jumped three times but failed to jump over all these three times.'

Besides, when a D/F phrase is used as a subject, such as in (31a,b), it represents a specific entity or an old information referring to something that has been mentioned

already in the context (see Hu 1987).

However, there are two cases that seem to be against our generalization. One is that indefinite duration NPs can occur preverbally with the accomplishment verbs. In this case, the 'duration NP' refers to a temporal point within a certain period of time.

(45) Tamen san nian jian-cheng-le neizuo gongchang.

they three year build-finish-ASP that-CL factory

'They have finished building that factory in three years.'

(45) means that the building and the completion of the factory occurred within three-year period. From the English gloss we can see the meaning of san nian is 'in three years' rather than 'for three years'. Meanwhile the completion of the 'factory' is definitely a point in time, which is different from the original sense of a duration NP. More examples:

(46) Ta san tian (zhi) chi-le liangduan fan.

he three day (only) eat-ASP two-CL meal

'In three days he only had two meals.'

The other exception involves frequency NPs which can appear alone before certain achievement or accomplishment verbs. For example, the adverb in (38d) can be omitted and the sentence seems acceptable, too.

(47) Ta (cengjing) san ci da-po-le shijie jilu.

he once three time beat-break-ASP world record

'He once has broken the world record three times.'

I will put these aside as marked cases, while the basic generalization still holds.

Tang (1988) claims that preverbal nouns must be definite. Ross (1984) has similar considerations in terms of Generic Interpretation, which says the preverbal modifications have generic interpretation but the postverbal modifications do not. Therefore, the generalization that indefinite D/F NPs occur postverbally and the definite ones preverbally is both plausible and supported by the facts.

2.2.3. The Distribution of D/F NPs

A comparison of distribution between Chinese D/F NPs and the English counterparts demonstrates that the former has idiosyncratic constraints that are absent in English. Generally speaking, in Chinese definite D/F NPs occur preverbally and indefinite D/F NPs are found postverbally.

2.2.3.1. Preverbal D/F NPs

As has been pointed out above, that preverbal D/F NPs are definite. This is illustrated by the following sentences in which the definite D/F NPs occur in three preverbal positions: topic position in (48), subject position in (49) and a position between the subject and the VP in (50).

(48) a. Zhe sannian ta dou dai zai jia li.

these three year he all stay at home-in

'He stayed at home for these three years.'

b. Sanci ta dou tiao guo-qu le.

three time he all jump over-go ASP

'He has jumped over (something) all these three times.'

(49) a. San ge zhongtou guo qu le.

three CL hour pass go ASP

'Three hours have passed.'

b. Liangbian jiu gou le.

twice already enough ASP

'Twice is already enough.'

(50) a. Ta dou san tian meichi dongxi le.

he even three day neg-eat thing ASP

'He even has not eaten any thing for three days.'

b. Ta ceng sanci da-po shijie jilu.

he once three time break world record.

'Once he has broken the world record for three times.'

2.2.3.2. Postverbal D/F NPs

Indefinite D/F NPs appear postverbally, with the exception of the cases discussed above. The usual positions of postverbal D/F NPs are immediately after the verb:

[V ___], [V ___ NP] and [V NP V_{optional} ___].

(51) a. Ta lai-ie san tian.

he come-ASP three day

'He has come to stay for three days.'

- b. Ta lai-le sanci.
 he come-ASP three time
 'He has come three times.'

- (52) a. Ta ku-le sange xiaoshi.
 he cry-ASP three-CL hour
 'He cried for three hours.'

- b. Ta ku-guo haoji ci.
 he cry-ASP several time
 'He has cried several times.'

- (53) a. Ta kan-le sange xiaoshi (de) dianying.
 he see-ASP three-CL hour film
 'He saw a film for three hours.'

- b. Ta xia-le sanci qi.
 he play-ASP three time chess
 'He played chess three times.'

- (54) a. Ta qi ma qi-le sange xiaoshi.
 he ride horse ride-ASP three-CL hour
 'He rode a horse for three hours.'

- b. Ta qi ma qi-le san ci.
 he ride horse ride-ASP three time
 'He rode a horse three times.'

The verb in (51) is an unaccusative verb, the verb in (52) is intransitive, and the verbs in (53) and (54) are transitives. What is common in sentences (51)-(54) is that all the D/F NPs immediately follow a verb. There are no other postverbal constituents in between. Usually when an adverbial element of a certain type occurs postverbally, as san tian 'three days' does in (55), Chinese does not allow it to be placed immediately after the direct object, as shown by the ungrammaticality of (55).

(55) a. *Ta kan-le dianying sange xiaoshi.

he see-ASP film three-CL hour

'He saw a film for three hours.'

b. *Ta qi ma san ci.

he ride horse three time

'He rode a horse three times.'

The kind of structure illustrated in (51)-(54) forms the majority of the verb phrases with an indefinite D/F NP involved.

However, sometimes postverbal D/F NPs in Mandarin can occupy the following positions: [V NP ___], [V NP NP ___], [V PP ___] and [V NP PP ___], as illustrated by (56)-(59).

(56) [V NP ___]:

a. Ta da-le Zhangsan liang ci.

he hit-ASP Zhangsan two time

'He hit Zhangsan twice.' (Huang 1993)

b. Wo chengzan-le ta liang nian.

I praise-ASP he two year

'I praised him for two years.' (Huang 1993)

(57) [V NP NP ___] :

Baba gaosu wo neige gushi zhishao yibai ci.

Dad tell me that story at-least 100 time

'Dad's told me the story at least 100 times.' (Ernst 1988)

(58) [V PP ___] :

Ta zhu zai Beijing hen duo nian.

he live at Peking very many year

'He's lived in Peking for many years.' (Ernst 1988)

(59) [V NP PP ___] :

a. Wo jie neibi qian gei ta yijing san nian le.

I lend that money to him already three year ASP

'I lent that money to him already for 3 years.'

b. Wo jie qian gei ta yijing haoji ci le.

I lend money to him already many time ASP

'I have lent him money for many times.'

Such sentences put into question the validity of the general pattern seen in (51)-

(54). I will address the problem in Chapter Three and Chapter Four.

Notes:

1) dou usually does not modify the NP of a PP. However, there are two marginal cases that dou can modify the NP of two dummy Case-assigners, ba 'Ba' and dui 'to'. Since they are dummy Case-assigners without any semantic content, they are not treated as real propositions (see Tsai 1990, Cheng 1991). Besides, D/F phrases are not PPs, which can be easily distinguished by the lexical structures.

2) See Huang (1987)'s definition: 'definites' include proper names, pronouns, NPs with a definite article or a demonstrative, bare NPs interpreted as generic or definite, universally quantified NPs and NPs with quantifiers like 'most'. 'Indefinites' on the other hand, include NPs with existential quantifiers and bare NPs interpreted as nongeneric.' (Huang 1987, P.238).

Chapter Three

Adjunct Case and θ -Roles in Chinese

As has been pointed out in previous chapters, duration and frequency expressions in Chinese are NPs usually used as adjuncts. As NPs, they must be subject to the Case Filter. This chapter attempts to deal with the problem of Case assignment and θ -role assignment for adjunct NPs (D/F NPs included) along the lines of Larson's analysis of the English bare-NP adverbs.

3.1. Recent Studies on Chinese Adjunct Case

Chinese adjunct Case is discussed by both Li (1990) and Ernst (1988, 1993) in an attempt to assign structural Case to D/F NPs. In the following section, I will examine these two assumptions and show the defects of the structural Case approach suggested by Li and Ernst.

3.1.1. Li's (1990)

Li (1990) claims that Chinese verbs may assign structural Case to adjuncts. The mechanism of adjunct Case assignment conforms to the head directionality parameter and the Chinese Word Order Constraints (CWOC) (Li 1990:11).

(60) The Chinese Word Order Constraint (CWOC)

- (a) Chinese is head-final except under the requirement of Case assignment.
- (b) Case is assigned from left to right in Chinese.
- (c) A Case assigner assigns at most one Case.

This constraint treats Chinese phrasal categories cross-categorially as head-final in D-Structure. With the head-final parameter, the normal positions for both arguments and

adjuncts are preverbal, but Case is assigned to the right. In order to be Case marked, not only the object of a verb moves to the postverbal position but also some NP-like adjuncts. In other words, all the postverbal NPs must have Case. Thus, the S-Structure is derived by this kind of movement.

In addition, Li also stipulates that in Chinese all verbs assign Case and a verb has only one Case to assign. This claim directly poses problems for double object Case assignment. Li's remedy for this problem relies on the strategy of verb incorporation, that is, the indirect object incorporates with the transitive verb and Case is assigned to the following direct object by this newly formed complex V. For example the double object structure [V NP2 NP1] is actually [_v[V NP2] NP1].

On the whole, under Li's analysis, any postverbal construction must be structurally Case marked no matter what it is. Even a S' or a PP must be Case marked in order to comply with the central claim that all verbs assign Case in Chinese. This is unusual since a central function of Case theory is to distinguish NP from PP or CP (Stowell 1981). In addition, in order to keep the claim, intransitives, ergative and passive verbs must assign Case, too. This is so because the surface word order is derived by the movement of Case marking and all the postverbal constituents must have Case.

As pointed out by Gooddall (1990) and Ernst (1993), the movement posited in Li's system is a rather unusual type: from a theta-marked, non-Cased position to an adjoined, Cased position. It is standardly assumed (Chomsky 1986a) that movements of

phrasal categories are divided into two types: A-movement, from a theta-marked, non-Cased position to a non-theta-marked, Cased position; and A'-movement, from a theta- and Cased-marked position to a landing site with neither Case or a theta role. Moreover, it is usually assumed that A-movement landing sites must be Spec positions. Li's movement has the Case properties of A-movement. But the landing site is not the specifier of any category since specifiers are clearly to the left in Chinese.

In addition, Li's proposal has at least two serious problems concerning the Case of D/F NPs. First, not all NP-like adjuncts appear postverbally, so the question arises: how can these preverbal adjunct NPs get Case? If they do get Case, the result should violate the Chinese Word Order Constraint (b) as shown in (61) and (62). Li does not address this issue.

(61) Ta santian dou mei wancheng zuoye.

he three day all not finish homework

'He didn't finish his homework for all these three days.'

(62) Wo sanci dou tiao guo qu le.

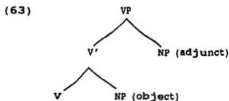
I three time all jump over go ASP

'I jumped over all these three times.'

Both (61) and (62) contradict with Li's Chinese Word Order Constraint (b), and (61) contradicts with (c) as well, since the latter amounts to saying that a verb can only assign one Case in Chinese. As we can see in (61), the verb wancheng can only assign Case rightward to zuoye; there is no Case available for santian. The consequence is that

santian cannot pass the Case Filter and the sentence should be ruled out. However, the sentence is correct.

Second, there are in fact many acceptable sentences in which an object is immediately followed by a D/F NP which are ruled out by Li's CWOC (see example (3) in Chapter 1). Sentences like (3) cannot be accounted for in Li's system, since there is no Case available for the D/F NP from the verb, assuming a structure like that in (63).



This is so because, on one hand, in Li's treatment a verb can only assign one Case rightward, which must go to the object in this structure. According to CWOC (c), there is no second Case for the postverbal D/F NP in the position after the object NP. Moreover, the Case adjacency condition assumed by Li would also be violated because the D/F NPs is not next to the verb. However, Li simply keeps silent on this issue.

On the whole, Li's analysis successfully deals with some sentences with two postverbal constituents, but is too strong for others. It is too general, as it predicts ungrammaticality for many acceptable sentences. In fact, Li's analysis only accounts for sentences with D/F NPs immediately following a verb. In this case, the D/F NP is assigned accusative Case by the verb regardless of whether it is an unaccusative as in (64), or an unergative as in (65), or a transitive as in (66) to (68).

(64) Ren lai-le santian (sanci) le.
 person come-ASP three day (three times)-Acc ASP
 'Someone has come for three days (three times).'

(65) Ta Ku-le santian.
 he cry-ASP three day-Acc
 'He cried for three days.'

(66) Ta chi fan chi-le sange zhongtou.
 he eat meal eat-ASP three-CL hour-Acc
 'He ate his meal for three hours.'

(67) Ta bei fuqin da-le bange xiaoshi.
 he by father beat-ASP half-CL hour-Acc
 'He was beaten by his father for half an hour.'

(68) Ta ba wo da-le bange xiaoshi.
 he BA I beat-ASP half-CL hour-Acc
 'He beaten me for half an hour.'

All the D/F NPs in these sentences are assigned accusative Case from the adjacent verb. Thus, disregarding Burzio's claim (1986) that unaccusatives do not assign Case, Li claims that these verbs in Chinese assign accusative Case as in (64). Though Li gives no explanation as to how to assign accusative Case by intransitive verbs, it can be understood that she assumes this is possible because of her claim that all verbs assign Case in Chinese. Since most intransitives can be followed by a D/F NP, the D/F NPs

in the postverbal position must be Case marked. Therefore intransitive verbs must be able to assign accusative Case to the following D/F NP as well. This can be seen in (65) with the intransitive verb immediately followed by a D/F NP. Sange zhongtuo in (66) is Case marked by the reduplicated verb in the same way.

As for the θ -roles, Li (1990), based on Travis' observation (1984), suggests that Chinese D/F NPs are not assigned θ -roles. Travis (1984) argues that in English the pro-verb do does not assign θ -roles, which accounts for the unacceptability of (69), and that D/F NPs cannot be assigned θ -roles, as indicated by the acceptability of (70):

(69) *John read the book for three hours, and Bill did the magazine for two hours.

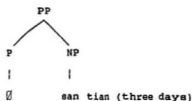
(70) John read the book for two hours, and Bill did for two hours.

However, the examples only demonstrate that adjunct NPs do not get θ -roles from verbs, as argument NPs do. They do not entail that adjunct NPs cannot get theta-roles from somewhere else.

3.1.2. Ernst (1993)

Ernst (1993) posits that Chinese adjunct NPs have Case but no θ -roles. Following Li (1990), Ernst proposes that Chinese adjuncts normally occur preverbally but the indefinite adjuncts, i.e. D/F NPs, are base generated postverbally for structural Case at D-Structure. Adopting a proposal of Bresnan and Grimshaw (1978), Ernst suggests that the preverbal definite adjuncts receive adjunct Case, which is assigned at D-Structure by an empty preposition as in (71).

(71)



As for the indefinite adjunct NPs, they are generated postverbally and structurally Case marked by verbs at D-Structure. Thus a verb may assign more than one structural Cases rightward, i.e. structural Case to an adjunct NP in addition to one or more arguments (cf. Maling 1989, Babby 1991, Yip et al. 1987). Ernst also suggests, as an alternative, the adjunct structural Case for postverbal D/F NPs can be assigned at D-Structure by the highest V' node, sister of Spec of VP. The literature offers similar proposals. For example, Larson (1988) proposes V' assign Case to one object NP in double objects constructions. However, this V' has an unsaturated θ -role and can be finally reanalysed as a verb. This is different from Ernst's V' Case. Ernst's proposal is too powerful. The more powerful the theory, the less explanatory the effect. And more, this theory surely complicates the Chinese X' complement rule. According to Huang's Chinese X' schemas (1982, 1993), only the X⁰ category can be head-initial. This can be illustrated by (72):

- (72) a. XP ----> YP X'
- b. X' ----> X⁰ X'
- c. X' ----> 1. X⁰ YP iff X=[+v]
 2. YP X⁰ otherwise

But in Ernst's treatment not only an X^0 category can be followed by a complement but also an X' category. Thus, the theory needs at least two complement rules rather than one.

Ernst assumes that adjunct structural Case assignment is not subject to the traditional adjacency condition but conforms to an expanded version of Travis' 1984 Domain Adjacency Condition (DAC):

(73) Expanded Version of Domain Adjacency Condition (EVDAC)

...licensing of Cased NPs, complements, adjunct XP's, etc. must proceed with the smallest, least inclusive set, working outward. (Ernst, 1993:13)

The role of this condition is said to account for the contrast between (74a) and (74b) and other postverbal constructions.

(74) a. Jinrong kai dao Niu Yue liang ci.

Jinrong drive to New York two time

'Jinrong drove to New York twice.'

b.*Jinrong kai de hen kuai liang ci.

Jinrong drive DE very fast two time

'Jinrong drove fast twice. (Ernst 1993:16)

According to Ernst, dao Niu Yue in (74a) is a subcategorized PP, so the adjunct liang ci base-generated after it is in the right position for structural Case stipulated by the smallest inclusive set condition. While de hen kuai in (74b) is a resultative expression,

an adjunct generated preverbally, it must be postposed from the left of the verb to the right of liang ci to meet the EVDAC. Though none of them is a complement, the frequency NP is a Case marked element. Compared with the resultative expression de hen kuai, liang ci is the smallest, least inclusive set in this case; therefore the expression de hen kuai must go to the right of the D/F NP adjunct. This is expected to account for the ungrammaticality of (74b). However, even de hen kuai goes to the right of liang ci, the sentence is also wrong as shown in (75). Ernst does not account for the unacceptability of (75)²

(75)*Jinrong kai liang ci de hen kuai.

Jinrong drive two time DE very fast

'Jinrong drove fast twice.'

Besides, there is a technical problem in (74) undermining Ernst's claim (1993) that the directionality of Case assignment takes precedence over the head-directionality parameter. Based on this claim, the PP complement dao New Yue, as a non-Cased element, should be generated preverbally in accordance with the head-final parameter. However, the adjunct NP liang ci in this sentence is a structurally Case-marked element and base-generated at D-Structure, right-adjoined to some projection of V. Therefore, the PP complement would have to move from the preverbal position and insert itself between the verb and the adjunct at S-Structure. This process results in a violation of the Projection Principle.

On the whole, the (74)-(75) contrast does not support Ernst's EVDAC, therefore.

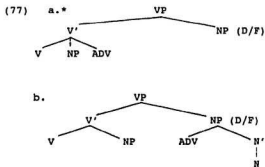
The EVDAC makes the wrong prediction about sentences like (76). The problem here is that the D/F NP appears to be separated from V' by the adverb yijing.

(76) Zhangsān zhào-le wǒ yíjīng liángcǐ le.

Zhangsan look-for-ASP me already twice ASP

'Zhangsan has looked for me already twice.'

There is no explanation for how liángcǐ in (76) gets structural Case. It is unusual for an adverb to separate a verb from an NP that it must Case-mark. There are various VP structures consistent with Ernst's theory, but all fail on general grounds. The Adverb could be under V' as in (77a) but 'already' is not a complement. Or the Adv could be a part of the D/F NP as shown in (77b). Anyway, this kind of constituent is odd since a noun is seldom modified by an adverb or forms a constituent with an adverb.



In addition, under this view, intransitives, passive verbs and so on can assign structural adjunct Case because they carry a feature [+V]. I wonder how this theory would account for the ungrammaticality of the sentences like *The frog was kissed the dog. ('The frog was kissed by the dog.'). since the dog can move to an adjunct

position in VF to acquire structural adjunct Case assigned by [+V].

The goal of Ernst's analysis is not a theory of 'Case for Case's sake', but rather an attempt to predict correct word order. Unfortunately, it still cannot solve the old problem raised by D/F NPs, that is, though this adjunct Case assignment strategy can explain how the Case filter is satisfied for grammatical sentences like (78b), it cannot explain the ungrammaticality of the sentences like (75) and the following (78a).

(78) a. *Ta kan bingren liangtang.

he visit patient twice

'He visited a patient twice.'

b. Ta kan laolao liangtang.

he visit grandma twice

'He visited Grandma twice.'

(78a) and (78b) have the same structure, with the same Case assignment.

3.2. A New Proposal for Chinese Adjunct Case

I have shown that there are difficulties assigning structural Case to D/F NPs in Section 3.1., I would like to consider inherent Case to adjunct NPs. Since there is no θ -role assigned from the verb to the adjunct NP, the adjunct NP cannot get inherent Case from the verb. Inherent Case for adjunct NPs must originate somewhere else. Larson's (1985) analysis offers an appropriate mechanism.

3.2.1. Larson's Proposal (1985)

Larson (1985) proposes an analysis of 'bare-NP adverbs' as in (79) in which

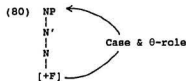
certain NPs are able to appear in adverbial positions because of a special feature of their head nouns: "The ability of an NP to occur as a bare-NP adverbial depends crucially on the specific noun that appears as its head. Bare-NP adverbs have the internal form of NPs, but the function and distribution of 'adverbial categories' such as PP, AdvP, and S'" (Larson 1985:599).

- (79) a. John arrived yesterday.
 b. He has been here several times.
 c. They called me that way.
 d. We were headed that direction.

The underlined expressions and a number of other nouns have lexical entries containing a special feature [+F] that allows them to assign oblique Case as well as a thematic role to NPs of which they are the head.

3.2.2. Chinese Adjunct Case

Following Larson, I propose that Chinese bare-NP adjuncts are assigned oblique Case and θ -roles by the [+F] feature of the head noun:



That the Chinese bare-NP adjuncts are assigned Case this way rather than by an empty PP is for the following reasons. First, in Chinese, PPs almost always precede the verb; the postverbal prepositions are limited to *gei* 'to', *dao* 'to' and *zai* 'at or in'. They

are either analyzed or reanalysed as verbs or part of verbs in Chinese by some scholars (see Chao 1968; Li and Thompson 1974, 1981; Hsueh 1983; Li 1990) or as Case markers (Sun & Saxon 1989) in terms of the distribution. Even if phrases containing these elements are treated as postverbal PPs, they are complements rather than adjuncts, or in Mulder and Sybesma's terms (1992) they are predicative complements having a closer relation with the verb than the preverbal PPs. It follows that they are different from the four non-subcategorized postverbal adjuncts, i.e. D/F NPs, resultative and descriptive expressions. This is demonstrated by the contrast among the following sentences.

(81)a. Ta zhu zai Beijing.

he live in Beijing

'He lives in Beijing.'

b.* Ta zhu le.

he live ASP

c. Ta zai wu-li ku le.

he at room-inside cry ASP

'He cried in the room.'

d.*Ta ku zai wu-li le.

he cry at room-inside ASP

'He cried in the room.'

e. Ta ku le.

he cry ASP.

'He cried.'

f. Ta ku-le sange xiaoshi.

he cry-ASP three-CL hour

'He cried for three hours.'

The verb zhu subcategorizes for a complement. The complement can be PPs, locative NPs or D/F NPs¹. In contrast the intransitive verb ku does not subcategorize for a PP complement; so the postverbal PP appeared as a complement renders (81d) ungrammatical. When the same PP appears preverbally as an adjunct in (81c), the sentence is correct. The examples in (81) show that all the postverbal PPs in Chinese are subcategorized complements rather than adjuncts. Only pure adjuncts rather than subcategorized complements can occur in the postverbal position of an intransitive verb as shown in (81f). The fact that PPs cannot follow an intransitive shows that Chinese PPs, if they appear postverbally, must be subcategorized complements.

Second, most Chinese adverbs occur preverbally, but the duration expression, hen jiu 'very long (time)', is an exception. It may occur both preverbally and postverbally, as in (82a&b):

- (82) a. Ta henjiu mei lai le.
 he very long not come ASP
 'He has not come very long (for a long time).'
- b. Wo deng-le ta henjiu.
 I wait-ASP him very long
 'I waited for him very long (for a long time).'
- c. Wo langfei-le liang xiaoshi.
 I waste-ASP two hour
 'I wasted two hours.'
- d.* Wo langfei-le henjiu.
 I waste -ASP very long
 'I wasted a long time.'

From (82c&d) we can prove that henjiu is an adverb rather than an NP because it cannot occupy the object position of a verb that takes a duration NP as object. Given that Chinese postverbal bare-NP adverbials have the same distribution as henjiu except for the typical A-positions, we can conclude that functionally these bare-NP adverbials behave more like an adverb rather than a postverbal PP in Chinese. Therefore, I adopt a version of Larson's theory and treat the Chinese equivalents as bare-NP adverbials rather than objects of empty prepositions in view of this consideration.

The Chinese bare-NP adverbials are restricted mainly to time, frequency and manner NPs, e.g. zuo tian 'yesterday', liang ci 'twice', ze yang 'this way', etc. The

membership is not determined purely by semantic considerations but by their syntactic distribution as well. In other words, as in English, not all NPs that designate the meaning of time, frequency or manner are bare-NP adverbials, as shown in (83).

(83) a. Ta zai yige qihei de yiewan tao-zou le.

he at one-CL dark DE night flee-go ASP

'He fled at a dark night.'

b. *Ta yige qihei de yiewan tao-zou le.

The contrast between (83a) and (83b) shows though the phrase 'a black night' designates time, it cannot function as a bare-NP adverbial since it must be the complement of a preposition.

It is the lexical meaning of time, frequency, or manner borne by the head nouns plus the syntactic distribution of these NPs that is analyzed as having a feature [+F].

And Case is assigned by the feature [+F].

I assume that bare-NP adverbials get oblique Case in all adjunct positions, preverbally or postverbally. This contrasts with Ernst's (1993) proposal that the preverbal adjunct NPs get oblique Case while the postverbal ones get structural Case. I propose a uniform oblique Case is assigned to bare-NP adverbials in both preverbal and postverbal positions.

In addition, I adopt Larson's proposal of 'Adverbial θ -role Assignment' and assume that Chinese bare-NP adverbials get their θ -roles respectively as: θ -Time, θ -Frequency and so on, from the [+F] feature of their head noun (see Larson 1985 for

detail).

3.2.3. Case Clash

I have proposed that Chinese bare-NP adverbials receive oblique Case through the lexical properties of their own heads. However, because of the dual status of these constructions, with both NP and adverbial features, there exists a potential Case clash between the oblique Case assigned this way to these bare-NP adverbials and the possible structural Case, when these NPs are used as arguments as illustrated in (84).

(84) a. Jintian guode zhen kuai.

today pass very fast

'Today passed very fast.'

b. Ta yong-le san xiaoshi cai zuo-wan gongke.

he use-ASP three hour only finish homework

'He spent three hours finishing that homework.'

c. jintian de baozhi

today 's newspaper

The [+F] NP jintian occurs as the subject of the tensed clause (84a) and san xiaoshi as the object of the transitive verb in (84b). If we assume that jintian and san xiaoshi receive Oblique Case inherently and given that nominative and objective Case are assigned to the subject and object positions respectively, we would expect these examples to be ungrammatical according to Case clash (Stowell 1981). However, these sentences are well-formed. The same is true with the [+F] NP within a phrase as in (84c), where

jintian is in [Spec, NP] and gets genitive Case. The problem is how to avoid a Case clash in such constructions.

To resolve this problem, I again follow Larson and assume that Case-assigned by a [+F] feature is optional. Oblique Case assigned by [+F] is a 'default' Case. It comes into being only when there is no structural Case available. 'Case clash' can be avoided by a principle:

(85) Structural Case takes priority to Oblique Case associated with a [+F].

Oblique Case assigned this way comes into being only when there is no structural Case available.

On the whole, the [+F] feature is an optional Case assigner. It can be concluded that the Case assigned this way is the default mechanism for case assignment to adjunct NPs.

3.3. Adjunct Case Assignment and Word Order

Following Government & Binding conventions, I assume that in Chinese, a Case assigner assigns one Case. I also suggest that indefinite D/F phrases are base-generated postverbally in accordance with the Definiteness Effect of the language and the Thematic Hierarchy (Larson 1988). The Thematic Hierarchy establishes the foundation for a complex VP structure at the D-Structure. The surface structure is derived by move- α (see Chapter 5).

This assumption allows us to replace Ernst's EVDAC with a simpler set of constraints. I propose the Postverbal Construction Constraints in (86), which can also prevent such ungrammatical sentences as those in Ernst (1993:17), repeated here in (87):

(86) Postverbal Construction Constraint (PCC)

- a. Cased (both structural and inherent) constituents precede non-Cased non-complement constituents.
- b. Complements take precedence over non-complements.
- c. Cased complements take precedence over non-Cased complements.

(87)* Jingrong kai de hen kuai liangci.

Jingrong drive DE very fast two time

'Jingrong drove fast twice.'

(87) violates (86a), with the non-Cased non-complement element de hen kuai preceding the Cased element liangci. Postverbal Construction Constraints cannot account for (75) directly. For the convenience, (75) is repeated here:

(75) *Jinrong kai liangci de hen kuai.

Jingrong drive two time DE very fast

'Jinrong drove fast twice.'

However, it can be ruled out by other reason if we assume that DE phrase should be cliticized to the preceding verb, but blocked by liangci in (75). The fact that two postverbal adjuncts compete for the precedent position results in the ungrammaticality of the sentence.

Thus, this approach can prevent the construction * [V + DE Phrase + D/F NP]. PCC can also account for the ungrammaticality of the word order * [V + DE Phrase + Object NP] in the same manner.

PCC is quite similar to Ernst's EVDAC. It differs from Ernst's version slightly in the definition. Since Ernst treats D/F NPs ambiguously as both Cased element and adjunct, this makes it difficult to apply the definition (73), quoted here for convenience:

... licensing of Cased NP's, complements, adjunct XP's, etc., must proceed with the smallest, least inclusive set, working outward. (Ernst 1993:13).

It is obvious if a D/F NP is treated this way as both Cased NP and adjunct, the expanded version of DAC cannot apply. Therefore, it is not clear how to account for the ungrammaticality of (88a).

(88)a. *Jingrong kai liangci dao Niu Yue.

Jingrong drive two time to New York

'Jingrong drove to New York twice.'

b. Jingrong kai dao Niu Yue liangci.

Jingrong drive to New York two time

'Jingrong drove to New York twice.'

If we take liangci as a Cased NP which should precede other non-Cased elements, then (88a) should be correct. In contrast, (88a) can be explained by (86b) since dao Niu Yue is a complement, which must precede the non-complement liangci.

3.4. Summary

In this chapter I have discussed several issues in Case theory as it pertains to D/F NPs. I have proposed that adjunct NPs get inherent oblique Case via the [+F] feature of the head noun. I have shown that this type of adjunct Case may be useful in dealing

with some problems of word order. The idea of an oblique Case assigned to D/F NPs may pave the way in terms of Case theory to solving the problem raised by two postverbal constituents.

Notes:

1. The subcategorized elements of zhu can be PPs, and D/F adverbials, locative NPs as well:

a. Ta zhu Meiguo.

he live the USA

'He lives in the USA.'

b. Ta zhu-le santian/ sancì.

he live-ASP three days/ three time

'He lived for three days/three times.'

2. Actually, both (74b) and (75) can be ruled out by the New Information Hierarchy (Ernst 1988). According to NIH, both (74b) and (75) are unacceptable no matter which postverbal positions the resultative expression goes, since these two postverbal elements, i.e. jiang ci and de hen kuai have already surpassed 10 of the NIH.)

Chapter Four

Object Case Assignment in Chinese

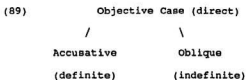
As has been mentioned before, nominative Case is assigned by Agr in this thesis. The external argument NP must move out of VP to the Spec of AgrP to get the nominative Case. In Chapter Three, I proposed a new mechanism for Case assignment to adjunct NPs. In this chapter, I propose a Case assignment mechanism for postverbal argument NPs. The proposal is expected to be compatible with the Case assignment to adjunct NPs and resolve the old problem of the postverbal two constituents in terms of Case theory as shown in (1)-(3). The Case theory will allow me to explain the problems discussed in the previous chapters.

4.1. Objective Case

According to the standard assumption in GB theory, structural Case is assigned by [+v] categories. In Chinese, verbs and prepositions are possible Case assigners. The objects of transitive verbs and prepositions follow their heads to get accusative Case¹.

4.1.1. Cases associated with Transitives and Ditransitives

The modification I propose to the standard Case theory is that transitive verbs may assign either accusative Case or oblique Case to direct objects. Thus the (direct) objective Case in Chinese is realized by two sub-Cases, an Accusative Case (structural) and an Oblique Case (inherent). Accusative Case is assigned by the verb only to definite NPs under government, while oblique Case is assigned to the indefinite counterparts²:



In other words, an indefinite object NP only gets oblique Case from the transitive verb rather than accusative Case. A definite NP in the object position gets accusative Case'. The actual Case assignment by a verb is further illustrated by the following examples:

(90) Ta zai kan shu.

he ASP read book-Obl
'He is reading some book.'

(91) Ta zai kan yiben shu.

he ASP read one-CL book-Obl (or -Acc)
a. 'He is reading a certain book.' (specific reading)
b. 'He is reading some book.' (non-specific reading)

(92) Ta zai kan neiben shu.

he ASP read that-CL book-Acc
'He is reading that book.'

The object NP in (90) gets oblique Case from the verb since the unmarked postverbal NP shu is indefinite (or more accurate non-referential)*. (91) is ambiguous with a specific reading or a non-specific reading. With the specific reading, yiben shu gets the accusative Case; with the non-specific reading the oblique Case. Neiben shu in (92) gets accusative Case.

As is usual in other languages, such as the German example (93a), the indirect object of double object construction, i.e. [V IO DO], receives dative Case, though Chinese dative Case has no morphological reflex. The direct object gets either accusative Case or oblique Case, according to the definiteness as in (93b & 93c).

(93) a. Er gab dem Mann das Buch.

he-Nom give the-Dat man the-Acc book

'He gave the man the book.'

b. Ta gei nage ren naben shu.

he give that-CL man-Dat that-CL book-Acc

'He gave the man the book.'

c. Ta gei yige ren yiben shu.

he give one-CL man-Dat one-CL book-Obl

'He gave a man a book.'

4.1.2. Cases with Prepositional Complements

As for NPs within prepositional phrases, they also conform to this system: the definite NP complements of prepositional phrases get accusative Case; the indefinite ones get oblique Case.

In fact, the Cases assigned to the complements in preverbal prepositional phrases are not important to my analysis since they have no effects on the postverbal structure of a sentence. What counts is the objects of postverbal prepositional phrases. I claim that they get the same set of Cases as the object of a transitive verb does. Because

Chinese prepositions come from verbs, the same Case theory must apply. Thus, postverbal prepositional objects get the same set of Cases as the object of a transitive verb does:

(94) a. Ta jingchang da dianhua gei wo.

he often hit phone-Obl to me-Acc

'He often phones me.'

b. Ta jingchang da dianhua gei pengyou.

he often hit phone-Obl to friend-Obl

'He often phones some friends.'

The definite complement of the preposition gei in (94a) gets accusative Case in contrast to the complement of gei in (94b), which gets the oblique Case.

The Cases to prepositional objects parallel the set of Cases assigned by transitive verbs.

4.1.3. The Status of the Objective Oblique Case

In this system, the only difference between the two objective Cases assigned by transitive verbs lies in the definiteness of the object NP. Conventionally, an inherent Case is usually tied to a particular θ -role. In contrast, under this analysis, the oblique Case assigned by the verb is not strictly tied with a fixed θ -role as a preposition usually does. However, it does get theta roles from the verb. According to Chomsky's (1986b) theory of syntactic Case, an inherent Case is a Case assigned by a lexical head to the NP it governs and to which it assigns a θ -role. In this sense, the proposed oblique Case can

be considered as an inherent Case. In Chomsky (1986b:195), we find the following examples, in which the genitive Case is realized on the subject of the noun phrases:

(95) a. [John's story] disturbed me

b. [John's reading the book] disturbed me (Chomsky's (275))

Chomsky explains that reading the book in (95b) θ -marks John and John is the agent of the action. In the Case of (95a), although, no lexical head θ -marks John, we can follow Gruber (1976) and M. Anderson (1983) in supposing that a 'possessional θ -role' is assigned in this structural position, by the concrete noun story. More examples can be found in the following sentences, too (Chomsky 1986b: 195):

(96)a. John's reconstruction(s) of an eighteenth-century village

b. John's reconstruction of the crime (Chomsky's (276))

In (96a), the head noun is concrete and the semantic role of John ranges over the possibilities that fall under the category 'possession'; in (95b) John is the agent. From these examples we can infer that the theta roles assigned to the subjects of the noun phrases in these examples may not be unique. This shows that an inherent Case may not be strictly tied to a particular theta role.

Belletti (1988) also distinguishes two kinds of inherent Case. She states that the most typical instance of an inherent Case is one where a particular Case is associated with a particular θ -role. However, the partitive Case that she refers to in her 1988 paper is associated with Chomsky's (1986b) definition of an inherent Case, rather than with a θ -linked inherent Case.

Another potential problem which may complicate the Case assignment is the question, of which Case is assigned to the subject NP of the small clause in 'ECM' construction. Conventionally, an 'ECM' verb can only assign a structural Case to the following object NP, i.e. the subject of a small clause, because the verb does not assign a θ -role to this NP. The split between the Case and θ -role assignment entails that this objective NP can only get structural Case, i.e. accusative Case. Though it is controversial whether there are ECM verbs in Chinese or not, we find in Chinese the word want is perhaps closest to ECM verbs (see Li 1990 for detail). However, whatever Case the verb want assigns is not important in this system. Because in Chinese all the subject NPs must be definite, the same is true with the subject of the small clause. It is definite by nature, which entails that either accusative Case or nominative Case but not oblique Case is associated with the NP at issue as shown in (97).

(97) Wo xiwang [ta lai].

I want him(or he) come

'I want him to come.'

The accusative Case is associated with the subject NP of the small clause if we assume the small clause is an infinitive construction and the subject is Case marked by raising to the object position of the matrix clause; the nominative Case would be associated with a CP structure. Since the structure issue of the Chinese 'ECM' verbs is not the concern for this thesis, I do not discuss it in detail. Anyway, no matter what Case is assigned in 'ECM' structures, it does not cause any problem since the NP at issue is definite and

cannot get oblique Case.

The objective oblique Case is assigned at D-Structure in conjunction with a θ -role assignment. It differs from the oblique Case assigned to adjunct NPs in that the former is assigned by a verb, the latter by the [+F] feature of the head noun.

4.1.4. Evidence for the Assumption

This approach can be supported by the evidence from other languages with a morphologically richer Case system. In these languages, accusative is not the only Case for which an object NP can be marked. As has been pointed out by Belletti (1988), for example, in Finnish a transitive verb like *put* may assign either accusative or partitive Case to an object NP. The following examples are taken from Belletti (1988:1):

- (98) a. Han pani kiriat poydalle.
 he put the book-Acc on the table
- b. Han pani kirjoja poydalle.
 he put (some) books-Part on the table

Belletti claims that the Case difference overtly manifested by the morphology in examples like (98) is an option available universally, also in languages where the morphology does not make any distinction.

A similar multiple Case-assigning property for individual verbs can be found in Turkish and in Hebrew where verbs can assign both accusative and partitive Case. The accusative Case in Turkish, for instance, is associated with a specific object and partitive Case with a non-specific object. The following example is taken from Enç (1991):

(99) a. Ali bir piyano-yu kiralamak istiyor

Ali one piano-Acc to-rent wants

'Ali wants to rent a certain piano.'

b. Ali bir piyano kiralamak istiyor

Ali one piano to-rent wants

'Ali wants to rent a (nonspecific) piano.'

Based on this observation, it seems to me that it is possible for Chinese to accept a similar Case assignment strategy in order to account for its idiosyncratic VP structures or word order. Since Chinese has no overt Case morphology and the Case system is completely abstract. This fact allows us to adopt this Case system to Chinese, that is, a transitive verb can assign accusative and oblique Case as well. It all depends upon the definiteness of the object NP.

4.2. Case Associated with One-argument Verbs

Before the analysis proper, we first look at some properties of the one-argument verbs in Chinese. The one-argument verbs are those that have either an external argument or an internal argument but not both.

4.2.1. Chinese One-argument Verbs

The one-argument verbs can be classified into intransitives and ergatives (unaccusatives). The definitions of these terms are as follows:

An intransitive verb is a verb which has only an external argument, such as work (which assigns the external theta role of agent).

According to Burzio's (1986) generalization verbs of this kind lack an internal argument, so they do not assign Case. For example, in Chinese, *ku* 'cry' is a typical intransitive, which cannot take an object either in the object position as in (100a) or in BA construction as in (100b).

(100) a. *Wo kule Lisi.

I cry-ASP Lisi

b. *Wo ba Lisi kule.

I BA Lisi cry-ASP

c. Wo kule.

I cry-ASP

Ergative/unaccusative verbs are defined in terms of their lack of external theta-role (Burzio 1986:29):

(101) [Ergative verbs] refer to verbs which are subcategorized for a direct object and which do not assign a subject θ -role.

According to Burzio, a verb assigns accusative Case to a VP internal position if and only if that verb assigns an external θ -role, thus (101) amounts to saying that the subcategorized direct object cannot get Case since the verb lacks an external argument and therefore cannot assign accusative Case to the complement-NP. In order to satisfy the Case Filter the object can move to the subject position and get the nominative Case from INFL; or it may remain in object position to be Case marked by forming a chain with an empty expletive (in Italian) or an overt expletive (such as there in English). The

Chinese existential/presentative verbs are similar to the ergative/unaccusative verbs discussed by Burzio. However, since Chinese does not have expletives covert or overt (Li, 1990) the object cannot get the nominative Case from INFL by forming a chain with the expletive at [NP, IP]. Therefore, there is a language-specific Case assignment strategy to Chinese ergative/unaccusative verbs.

4.2.2. Case assignment of Ergative/Unaccusative Verbs.

Though by definition unaccusative verbs do not assign accusative Case to their logical direct objects, several analyses do allow these verbs to optionally assign Case to an argument which they govern (see Travis 1984, Belletti 1988, among others).

I assume that the objects of Chinese ergative/unaccusative verbs can get two kinds of Case, depending on their definiteness. If the object NP is definite, in the form of either a bare-NP with a definite reading or a marked definite NP, it must move to the subject position to get the nominative Case from INFL, because it cannot get Case from the verb, which can only assign an oblique Case to an indefinite NP. In contrast, an indefinite NP must stay 'in situ' and get the oblique Case from the ergative/unaccusative verb. This can be illustrated by the following examples:

(102) a. Keren lai le.

guests-Nom come ASP

'(The)guests came.'

b. Lai le keren.

come ASP guest-Obl

'There came (some) guests.'

c. Lao Zhang lai le.

Old Zhang-Nom come ASP

'Old Zhang came.'

d. You yige ren lai-le.

have one-CL man come-ASP

'There came someone.'

e. *Lai le Lao Zhang.

come ASP Lao Zhang

Keren as a bare-NP in (102a) gets nominative Case because it requires a definite reading and cannot get oblique Case in the postverbal position. In contrast, Keren in (102b) gets oblique Case with an indefinite reading. The contrast in (102c) and (102d) shows keren as the object NP of the ergative/unaccusative verb must be indefinite. Alternatively, the indefinite object can be fronted only under the condition that there exists an auxiliary verb you in the higher position. Like an affix, the verb you must attach to an indefinite NP. This morphological requirement enables the object NP with oblique Case to move to the front position as illustrated by (102d). (102e) is ungrammatical because the definite NP Lao Zhang cannot get Case postverbally.

Due to the definiteness effect of postverbal NPs of the ergative/accusative verbs, the indefinite NPs get oblique Case in our Case system. This analysis is similar to Belletti's (1988), in which the object NP of an ergative/unaccusative verb receives an

inherent 'partitive Case' from the verb. In a like manner, the Chinese ergative/unaccusative verbs lack the capacity of assigning structural Case but still have the ability of assigning inherent Case. Thus the indefinite object NPs receive oblique Case from the verb. Under this analysis, the Case assignment capacity of ergative/unaccusative verbs is optional since the definite ones must move to the subject position to be Case marked. The movement of such NPs from the postverbal position to the subject position is motivated by Case. As the postverbal oblique Case bearer must have an indefinite reading, an NP which needs a definite reading cannot get oblique Case postverbally. It must therefore move. The movement is an A-movement. As the indefinite ones can get Case postverbally, they do not need to move. In a sense, the proposed Case assignment strategy conforms with the general framework of Minimalism (Chomsky 1992), in which Chomsky argues that all movement needs a driving force. The Case requirement under consideration is a good reason for the movement.

There is another evidence to show that this oblique Case is necessary, because a temporal or a locative NP can fill the subject position and receive the nominative Case in Chinese. In this circumstance, the object NP gets the oblique Case, but it must be indefinite as in (103).

(103) a. Jia-li lai-le keren.

home-in come-ASP guest-Obl

'There came guests to the home.'

b. *Jia-li Zhangsan lai-le.

home-in Zhangsan come-ASP

c. *Jia-li lai-le Zhangsan.

home-in come-ASP Zhangsan

'Zhangsan came to the home.'

d. Jintian xia yu le.

today fall rain-Obl ASP

'It rained today.'

If the subject position is filled, any movement to this position for reasons of Case is impossible as is shown in (103b), for there is only one nominative Case to assign in that position. Therefore, there must be some other means to assign Case to the postverbal NP, such as keren in (103a), in order to maintain the Case Filter. From this we can see that nominative Case is not always available for the object NP at issue; therefore the postverbal NP needs a Case from the verb.

Next, I will argue for an oblique Case rather than an accusative Case for the postverbal NP. Since this oblique Case can only be assigned to an indefinite NP in my proposal, this can account for the ungrammaticality of (103c), in which the definite NP Zhangsan cannot get Case. The definiteness effect manifested by the object NPs of the unaccusative verbs requires a different kind of Case rather than accusative Case (cf. Li 1990). If we chose the accusative Case, we could not explain why a definite object NP that can get accusative Case postverbally from the verb must move to the preverbal position. We must conclude that oblique case is necessary for the object NPs of the

Chinese unaccusative verbs.

The common ergative/unaccusative verbs in Chinese are identical with the existential/presentative verbs (Teng 1978):

(104) a. Presence

you 'have', zuo 'sit', jang 'lie', gua, 'hang', etc.

b. Appearance

lai 'come', chu 'come out', xia 'fall', jin 'enter', dao 'arrive', etc.

c. Disappearance

qu 'go', si 'die', pao 'run', lao 'escape', guo 'pass', etc.

In summary, sentences containing these verbs may involve NP-movement (cf. Burzio 1986): the postverbal object NP moves to preverbal subject position only if it is definite in Chinese and gets nominative Case. If the object NP is indefinite, it must stay at the postverbal position and get the oblique Case but not accusative in Chinese.

4.3. Double Oblique Case Constraint (DOCC)

The purpose of this study is to provide a Case-theoretic account of possible Chinese VP structures and word order. In order to do so, I have proposed a new Case assignment mechanism for Chinese adjuncts (see Chapter 3), comparable with the Case assignment to argument NPs. The essence is that adjunct NPs get inherent oblique Case in Chinese. Since the Chinese VP is sensitive to referentiality or definiteness and nearly immune to overt morphological Case markings, the new mechanism of Case assignment to argument NPs and adjunct NPs allows us to account for more postverbal problems in

Chinese. To make this system complete, we also need a special Case Constraint:

(105) Double Oblique Case Constraint (DOCC)

Adjacent NPs bearing oblique Case are not allowed unless licensed by special licensors.

This Constraint is intended to prevent the ungrammatical sentences in (106):

(106) a. *Tang-le yige ren santian.

lie-ASP one-CL man-Obl three day-Obl

'There lay a man for three days.'

b. *Ta kan-le shu sange zhongtou.

he read-ASP book-Obl three-CL hour-Obl

'He read books for three hours.'

c. Ta kan-le neiben shu sange zhongtou.

he read-ASP that-CL book-Acc three-CL hour-Obl

'He read that book for three hours.'

The ungrammaticality in (106 a&b) follows from the DOCC, since in each of these two sentences, there are two adjacent postverbal NPs that bear oblique Case, violating DOCC. While (106c) satisfies DOCC, with only one oblique Case bearing element, i.e. sange zhongtou. The object NP neiben shu gets the accusative Case.

4.4. Tests

I have proposed that D/F NPs like other bare-NP adverbials are assigned oblique Case in all adjunct positions. And there is a Double Oblique Case Constraint to bar

unacceptable two postverbal constituents. In this section, I will first illustrate the effects on different postverbal structures, involving intransitive verbs, unaccusative verbs and transitive verbs. Second, I will discuss some problems with this proposal and licensors associated with D/F NPs.

4.4.1. DOCC and Ergative/Unaccusative Constructions

This analysis accounts for the ungrammaticality of the object NP cooccurring with a D/F NP in an ergative construction as in (107).

(107) a. *Tang-le ren santian.

lie-ASP man-Obl three day-Obl

'There lay (some) persons for three days.'

b. *Tang-le santian ren.

lie-ASP three day-Obl man-Obl

'?For three days people (came one by one) and lay (there).'

c. Ren tang-le santian.

man-Nom lie-ASP three day-Obl

'(The) men lay for three days.'

d. Tang yige ren tang le santian.

lie one man-Obl lie ASP three day-Obl

'There lay a man (at some place) for three days.'

In (107a), the object NP *ren* gets oblique Case from the verb and the D/F NP *santian* also gets an inherent oblique case from its head noun. When the two oblique

Case assignees meet each other without anything in between, the sentence is bad by violating DOCC. The same is true with (107b). In (107b), 'men' and 'three days' behave as two independent postverbal constituents bearing oblique Case. The result is a DOCC violation. Note if santian ren can form one constituent with santian bearing genitive Case and becoming the specifier of the head noun: ren, the DOCC violation can be avoided. However this process (relativization) is conditioned by the verb's aktionsart, the semantics of the subject, the aspects of the sentence and so on. Generally speaking the structure: [Duration NP + (DE) + NP] can only modify a process rather than a result, which contributes to the unacceptability of (107b) out of semantic reason. In (108b), the verb 'lang (lie)' here has an accomplishment reading, which contradicts with the meaning of the duration NP 'santian (three days)'.

In order to make a correct sentence bearing the same proposition, (107c) is often constructed with the object NP moving to the subject position and being Case marked by INFL. Then the D/F NP can be alone in the postverbal position. Alternatively, verb reduplication sometimes can be used in such case as in (107d) (modelled on Li's 1990 (58c)). This idiosyncratic property gives rise to the alternatives: the oblique Case to the indefinite object NP and the nominative Case to the definite object NP at the subject position. When there is an object NP bearing oblique Case at the postverbal position, a D/F NP cannot cooccur with it because of a potential DOCC violation. Thus this system works well in sentences with ergative/unaccusatives.

4.4.2. DOCC and Transitive Constructions

In this section, I will test the proposal in transitive constructions. The potential postverbal constituents with D/F NPs are shown in (108):

- (108) a. V NP D/F NP
 b. V NP NP D/F NP
 c. V PP D/F NP
 d. V NP PP D/F NP

A D/F NP usually can follow an object NP as in (108a), only if there is no DOCC violation:

- (109)a. Ta kan laolao santang.
 he visit grandma-Acc three time-Obl
 'He visited his grandma three times.'
- b.*Ta kan bingren santang.
 he visit patient-Obl three time-Obl
 'He visited (some) patients three times.'

In (109a) laolao is definite, referring to the agent's grandma, so it gets accusative Case. There is no DOCC violation. Whereas in (109b) bingren is indefinite, it is assigned oblique Case. Since two oblique Case bearers occur in adjacent positions, this is a violation of DOCC and not preferred by the grammar.

Sentences with the pattern in (108b) is acceptable but marginal. The following sentence is from Ernst (1988:28).

- (110)? Ta gei wo neige qiu hen duo ci.

S/he give me-Dat that-CI ball-Acc very many time-Obl

'S/he gave me that ball many times.'

Though there is no DOCC violation, (110) may not be accepted by all native speakers for other reasons. Perhaps the grammar does not prefer more than two postverbal constituents.

Sentences with the pattern in (108c) are generally acceptable since the complements of the prepositions are all locative NPs bearing accusative Case (Locative NPs are definite).

(111) Lao Li zhu zai nar shi duo nian.

Old Li live at there-Acc ten more year-Obl

'Old Li lived there for more than ten years.'

Sentences like (112) with the pattern in (108d) are marginal since there are three postverbal constituents involved even though there is no DOCC violation. (112c) is unacceptable because of the DOCC violation.

(112) a. Wo song pengyou dao jichang hen duo ci.

I send friend to airport-Acc very many time-Obl

'I took my friends to the airport many times.'

b. Ta da dianhua gei wo hen duo ci le.

he hit phone to me-Acc very many time-Obl ASP

'He called me many times.'

c. *Ta da dianhua gei pengyou hen duo ci le.

he hit phone to friends-Obl very many time-Obl ASP

'He called some friends many times.'

As we have seen, the Case assignment mechanisms proposed, together with the DOCC can account for a wide range of phenomena. But there remain sentences that seem initially to violate the DOCC, but which are legitimated by special licensors. The problem is: what are the special licensors of D/F NPs. This will be discussed in the next section.

4.5. Licensors of Postverbal D/F NPs

Hudson (1986) makes a generalization that each occurrence of indefinite NPs in Chinese must be licensed. Hudson's 'licensors' can be verbs or adverbs (e.g. already, at least, do, etc.). This observation in a way supports DOCC. Since D/F NPs are indefinite, they must be licensed. It turns out some licensors actually function to block the occurrence of two adjacent oblique Case bearers. However, the licensors include not only verbs and adverbs but also definite object NPs, time-aspect markers and so on. For instance, (112c) can be made acceptable by separating the two adjacent NPs by an adverb or a verb (e.g. you or verb reduplication). Equally one could change the indefinite object NP into a definite one as shown in (113e). The adverbs, verbs, or definite object NPs license the postverbal D/F NPs.

(113) a.* Ta da dianhua gei pengyou henduo ci le.

he hit phone to friend very many time ASP

'He called some friends many times.' (112c)

b. Ta da dianhua gei pengyou yijing henduo ci le.

he hit phone to friends already very many time ASP

'He has called some friends already many times.'

c. Ta da dianhua gei pengyou you hendou ci le.

he hit phone to friends have many time ASP

d. Ta da dianhua gei pengyou da-le henduo ci le.

he hit phone to friends hit-ASP many time ASP

e. Ta da dianhua gei wo henduo ci le.

he hit phone to me many time ASP (112b)

In (113b), the original VP structure is unchanged. (113c&d) involve structural change.

However, they all express the same meaning.

Le as a sentence final time-aspect marker can license duration NPs in combination with accomplishment or achievement verbs. Since there is a conflict between the aktionsart of these verbs and duration NPs, sentence final le is necessary for licensing the latter. In this case, the duration NP indicates the time from the result of the action to the speech time.

(114)a. Ta si-le santian le.
 he die-ASP three day ASP
 'He died three days ago.'

b.*Ta si-le santian.
 he die-ASP three day
 **He died for three days.'

The licensors discussed in example (113) support the idea of DOCC. Thus Case assignment may play a role in forming VP structures. However, our discussion cannot be exhausted without considering other special licensors, such as stylistic or pragmatic ones. The special licensors may allow DOCC violation, which is an unusual phenomenon. DOCC still holds as a general principle.

4.6. Special Licensors of Postverbal D/F NPs

The special licensors of postverbal D/F NPs are not associated with a single verb or an adverb but a larger construction. For example, DOCC may be violated in a contrastive clause.

(115)[Ta qingke sanci] [_∞ hua-le sanbai yuan].
 he invite guest-Obl 3 time-Obl spend-ASP \$300.
 'That he invited guests to dinner three times cost him \$300.'

(116) *Ta qingke sanci.
 he invite guest-Obl three time-Obl

We can find another example that has the same implication.

(117) [,Nianzhong jiezhang yici]

year-end settle account-Obl once-Obl

[, faxian you kui-le].

find out again lost-ASP

'At the end of the year when settling the accounts once,

[people] found out that they were in debt again.'

I have no explanation for this stylistic effect.

4.7. The Scope of Postverbal D/F NPs

Finally, it is worth mentioning that postverbal D/F NPs have scope within VPs as in (118a). If a D/F NP modifies the matrix verb instead of the verb in the clause, the matrix verb must be reduplicated as shown in (118b).

(118)a. Ta shuo Lisi bing-le sanci.

he say Lisi ill-ASP three time

a. 'He said that Lisi fell ill three times.'

b. *'He said three times that Lisi was ill.'

b. Ta shuo [,Lisi bing-le] shuo-le sanci.

he say Lisi ill-ASP say-ASP three time

'He said three times that Lisi was ill.'

4.8. Summary

In this chapter I have proposed a new Case assignment mechanism to argument

NPs in Chinese. Intransitive verbs do not assign Case; ergative/unaccusative verbs optionally assign oblique Case; transitives assign accusative Case or oblique Case to direct objects according to definiteness. In addition, ditransitives assign dative Case to indirect objects. This mechanism matches the Case assignment strategy for adjunct NPs and resolves some problems in postverbal constructions via DOCC. The implication of this approach shows that Case theory can be well applied to the explanation of postverbal constructions in Chinese.

Notes:

1. If adopting Huang's (1993) VP-shell structure, we need not stipulate the directionality of Case assignment and θ -role assignment.
2. Actually the term 'definite' or 'indefinite' is not so accurate here in this thesis and in Chinese linguistics as well. Instead a more general term 'determinate' or 'indeterminate' given by Tang (1988) may be more plausible. 'Determinate' seems to be a hypernym including the following terms 'definite', 'generic' and 'specific'. While 'indeterminate' refers to 'indefinite' and 'non-referential'. However, for the convenience of this thesis, I prefer to use 'definite' and 'indefinite' in that they are conventionally used and roughly equal to 'determinate' and 'indeterminate'.
3. If relating this Case assignment with Checking Theory, I assume that transitive verbs may optionally lack accusative Case features. This is not a wild stipulation. With clausal complements to verbs like 'say' or 'believe', there is no Case assigned to the

clause, although the same verbs assign Case to NP objects.

4. Unmarked postverbal subjects as in (b) and unmarked postverbal objects as in (c) are indefinite; unmarked preverbal subjects (a) and objects at topic position (e), preverbal position (f) or in Ba phrase (d) are rendered definite (see Li & Thompson, 1981: 20).

a. Ren lai le.

person come ASP

'The person(s) has/have come.'

b. Lai- le ren le.

come-ASP person ASP

'Some person(s) has/have come.'

c. Wo zai mai shu le.

I ASP buy book ASP

'I am buying a book.'

d. Wo ba shu mai le.

I BA book buy asp

'I bought the book.'

e. Shu wo mai le.

book I buy ASP

'The book, I bought it.'

f. Wo shu mai le.

I book buy ASP

'I bought the book.'

Therefore, all the postverbal bare-NPs are indefinite in Chinese.

Chapter Five

D/F NPs and Chinese X' Structure

The previous two chapters show that Case plays a significant role in forming Chinese postverbal constructions. In this chapter, I will first discuss Huang's (1982) proposal on Chinese X' structure and his Postverbal Structure Constraint. Second, I will examine Huang's (1993) VP-shell proposal. Third, I try to apply Huang's (1993) proposal to all the possible structures with postverbal D/F NPs in Chinese. Finally, I will combine Chomsky's (1993) checking theory with the VP-shell structure and show how the proposed

multiple-Case assignment mechanism integrates with this X' structure.

5.1. Mandarin X' Structure (Huang 1982)

As discussed in Chapter Two, in Chinese only the category N(oun) is strictly head-final (in the surface string) while all other categories have a head-medial structure. Based on this fact, Huang (1982) states that Mandarin has the following X-bar structure:

(119) a. $x_n[X_{n-1} YP^*]$ iff $n=1$ and X is not N

b. $x_n[YP^* X_n]$ otherwise

(119a) says at the X^0 level all the categories except N are head-initial. (119b) says that at all other cases, Chinese phrase structures are head-final. (119) can be schematized as (120)-(122) with the same effect.

(120) $XP \rightarrow YP X'$

(121) $X' \rightarrow YP X'$

(122) $X' \rightarrow$ a. X^0 YP iff $X=[+v]$

b. YP X^0 otherwise

Huang further states that (119) serves as a surface structure filter (hereinafter the Postverbal Structure Constraint, or the PSC), which allows a verb to be followed by its subcategorized complements, or by an expression of frequency, duration, result, or manner (i.e. an FDRM element), but not by both.

(123) a. * Wo qi-le ma de hen lei.

I ride-ASP horse COMP very tired

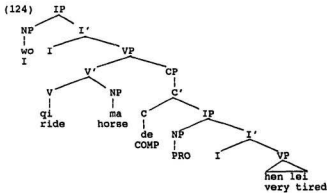
'I went horse-back riding and I got very tired.'

b. * Ta kan shu le liangge zhongtou.

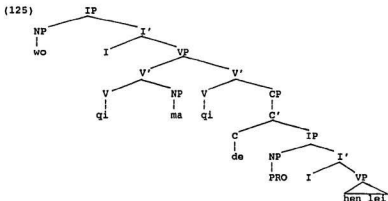
he read book ASP two-CL hour

'He read for two hours.'

In (123), the verb is followed by two constituents, an NP argument and an adjunct phrase. The structure for (123a) is illustrated as:



In (124), the V' under VP branches to the left with a head-initial structure, thus violating (121). Under this circumstance, the verb is often reduplicated or other structural rearrangement is employed to satisfy the PSC. According to Huang (1982), when the verb is reduplicated, (124), for example, has the structure as in (125).



Huang (1982) also suggests that the new, rightmost V' is the head of the VP and the original V' behaves like a manner adverbial. Thus, (125) conforms with the X-bar constraint stated in (119).

However, as shown in the preceding chapters, the PSC is too strong since it filters out grammatical sentences as well.

(126) wo qi-le nabi ma santian le.

I ride-ASP that-CL horse three day ASP

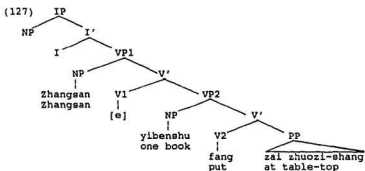
'I rode that horse for three days.'

Sentence (126) has exactly the same structure as the sentences in (123), with postverbal two constituents, an object NP and an FDRM expression, violating PSC but acceptable.

It turns out that PSC does not apply when the verb is followed by a definite object and an D/F expression. The consensus in the more recent literature is that PSC cannot function as a constraint on Chinese phrase structure, but 'simply a statement of effects of the head-initial rule (122a) and the binary-branching hypothesis' (Huang 1993:12).

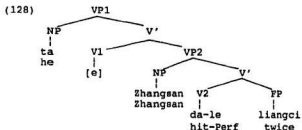
5.2. A New Proposal (Huang 1993)

In view of the inadequacy of PSC, Huang (1993) offers a new proposal which integrates (119) with Larson's (1988) VP-shell structure. This proposal allows the occurrence of postverbal two constituents only if the postverbal object NP is referential. The basic idea is that the arguments of a verb are organized in a hierarchy based on the prominence relations within the theta-grid: {Agent > Experiencer > Theme > ... > Obliques}. This ranking is directly preserved in D-Structure by the VP-shell. The VP-shell structure is based on the Single Complement Hypothesis (SCH) (see Larson 1988). Under the SCH, only the last of a string of XP arguments of a multiargument verb is a D-Structure complement of the verb. The other phrases are in the specifier position of any number of higher "shell" VPs with empty head verbs, and the verb is raised to the highest V at S-Structure. Thus there is a parallel relationship between thematic hierarchy and syntactic structure, which serves as the foundation of the surface word order. The analysis can be illustrated by the structure of the sentence 'Zhangsan fang-le yibenshu zai zhuozi-shang. (Zhangsan put a book on the desk.)' as in (127) from Huang (1993:14).



The location phrase 'zai zhuozhi-shang' belongs to the 'obliques' category and ranks lower than the theme 'yibenshu'. In turn, the theme is lower than the agent in the hierarchy. Therefore, in the D-Structure representation the locative PP occurs as the complement of the embedded VP, the theme NP as the Spec of that VP, and the Agent as the Spec of the higher "VP-shell" headed by the empty V1. The surface structure is derived by the verb 'fang' raising from the original position V2 in the lower VP to the position of V1. The empty head of the VP shell is said to be a 'light verb' or an 'eventuality predicate' (Do, Cause, etc.), so the surface form of the verb is taken to be the result of semantic and morphological composition following adjunction of V2 to V1.

The same analysis can be applied to the structure composed of postverbal referential object NPs followed by a D/F NP. The following example is given by Huang (1993:15):



After the verb raises to [e], it is followed by both the object NP in the Spec of VP2 and the frequency phrase, as in (129):

(129) ta da-le Zhangsan liangci.

he hit-Perf Zhangsan two time

'He hit Zhangsan twice.'

Thus, the combination of Huang's Chinese X' structure and the VP-shell enable us to account for (129).

5.3. A Modification of Huang's Proposals

In this section, I modify Huang's proposals for the three types of VP structures with D/F NP involved. These three VP types are:

(130) a. Verb + object NP + D/F NP

[+ definite]

b. Verb + object NP + reduplicated Verb + D/F NP

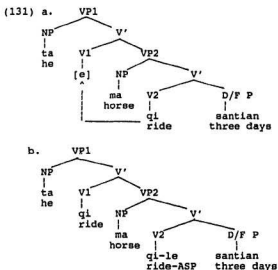
c. Verb + D/F NP object NP (D/F NP as Specifier)

Based on Baker's (1987) Uniformity of Theta Assignment Hypothesis (UTAH), I assume that the D-Structure of these three surface forms are identical; the D-Structures of each

of (130b&c) resemble the one in (128), i.e. the D-Structure of (130a). The S-Structures are derived by move- α from the D-Structure of (130a). Since the D-Structure of (130a) is the basic form (see (128)), I now focus on (130b&c). For the convenience of the discussion, I call (130b) a 'Verb Reduplicated Structure', and (130c) a 'D/F NP as Specifier Structure'.

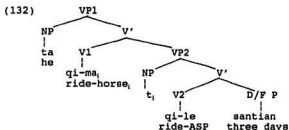
5.3.1. Verb Reduplication Structure

I propose that the verb raises to [e] under VP1, leaving the original position to be filled by the reduplicated verb. The first step in the derivation of the S-Structure of the reduplicated verb construction in the sentence 'Ta qi ma qi-le santian.' (He rode a horse for three days.) is illustrated in (131).



After the verb raises to V1, it incorporates the following indefinite object NP 'horse' (cf.

Huang 1982) and becomes 'deverbalized' as shown in (132). The reduplication of V2 is necessary to avoid a DOCC violation¹. V2 disrupts the adjacency between two would-be adjacent NPs bearing oblique Case.



There is a division of labour between V1 and V2. V1 takes the responsibility of theta-role assignment and Case assignment; while the reduplicated verb V2 carries the aspectual information as is indicated by the Asp marker le and adjuncts. This division of labour shows that V1 and V2 are not different verbs but one.

This analysis is consistent with Huang's Chinese X' structure in (119). The question remains open how the reduplicated verb checks its aspect inflection since it is far from the I. (The same is true of Huang's (1982) theory, too (see (125)).) I will not address this question in this work.

5.3.2. D/F NP as Specifier Structure

In (130c), the postverbal D/F NP and the object NP are juxtaposed in this structure. The two NPs appear to form a constituent, with the D/F NP as the Spec of the object NP. This apparent structure is supported by the fact that the possessive marker de can be inserted between the two NPs, yielding the string: D/F NP + (DE)

+ Object NP. For example:

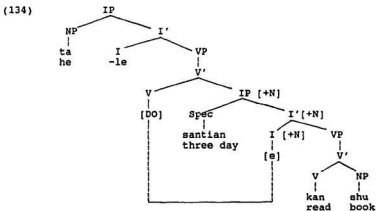
(133) Ta kan-le santian (de) shu.

he read-ASP three day DE book

'He read books for three days.'

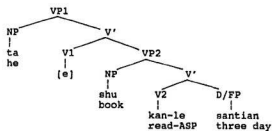
*'He read three days worth of books.'

But such a structure is incompatible with the meaning expressed by (133), as the D/F NP modifies the verb and not the object. Thus, Huang (1993) proposes that (130c) actually has the following D-Structure, with the verb raised out of a gerund VP into the higher eventuality VP as shown in (134). And the D/F NP is generated as the Spec of the gerund IP, modifying the gerund phrase 'reading book'.

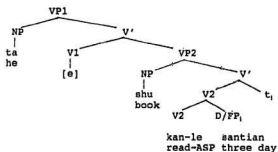


As I see it, there is no need for employing two IPs. The surface structure of (134) can be directly derived from a general structure along the lines with Larson's VP-shell and with the Thematic Hierarchy. The derivation is illustrated in (135):

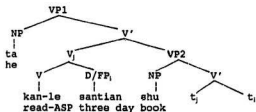
(135) a.



b.



c.



(135a) is the D-Structure. I assume that V2 has undergone a reanalysis during the derivation as shown in (135b), with the duration NP incorporated into V2. Then V2 raises to the eventuality position, i.e. V1, yielding the S-Structure as shown in (135c). In this analysis, the D/F NP is a modifier of the verb rather than that of the object NP².

Semantically, this analysis is well-founded in that the quantification expressed by the D/F NP modifies the event rather than the object NP, as it would if it were truly

object. (It is plausible to treat it as the specifier of the gerund IP as in Huang's version, but this treatment does not consistent with Huang's latter claim (1993) about the relation between syntactic configurations and the Thematic Hierarchy.) Therefore, I prefer this unified syntactic analysis for the semantically identical sentences.

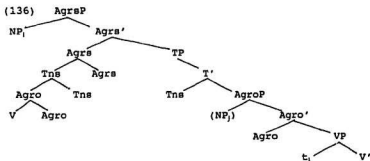
5.4. Minimalist Case Theory and the Proposed Case System

A recent development in generative syntax has been a 'minimalist' program initiated by Chomsky (1992). The central idea of this framework is that derivations and representations must obey an 'economy' principle demanding that they be minimal.

Since the Case theory of minimalism may shed new light on the issues, I devote the remainder of the chapter to the discussion of how to integrate my proposal with the minimalist Case theory.

5.4.1. Minimalist Case Theory

Minimalist Case Theory is characterized by its Case checking process. According to Chomsky, the LF representation of a full clause must have a configuration like the following:

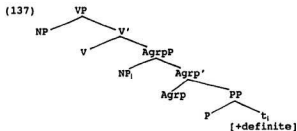


The theory requires that the structural Cases be checked by a certain functional heads during the derivation. In other words, the Case feature of an NP must be licensed by checking via Spec-head agreement, at a certain time during the derivation. An NP with an unchecked Case feature is an ill-formed LF object. For structural Case checking, a subject NP must raise to AgrSP to check the nominative Case. Similarly, an object NP must raise to AgroP to check the accusative Case.

5.4.2. Integration

I assume that like English, the nominative Case of the subject NP in Chinese must be checked at Spec of AgrSP by a combination of finite Tense and Agrs in overt syntax.

If there is a direct object (definite) it will raise to Spec of AgroP to check accusative Case by a combination of an accusative verb and Agro at LF. Regarding inherent Case checking, I concur with Lasnik (1992, 1993) that inherent Case is checked 'in situ', but in my system it may be done not only under the head-complement relation with the verb but also by the prepositions, because the indefinite complement NP of a PP also stays 'in situ' and Case is checked by the preposition; the definite complement of a PP raises in the following configuration as shown in (137).



In addition, the inherent Case for adjunct NPs is checked by the head noun. DOCC is compatible with the checking theory, given the formulation: (138).

(138) DOCC

At LF, if there are adjacent oblique NPs, the string is ill-formed³.

5.5. Conclusion

The thesis is an attempt to resolve the descriptive problem posed by D/F Nps with the theoretical question of the VP structure appropriate for a language like Mandarin Chinese. I show that the descriptive problem can be resolved by a particular implementation of the Case theory. I also integrate the proposed Case system into a larger theoretical literature. Along the lines of Larson (1988), I propose that Chinese adjunct NPs, like English adjunct NPs, are assigned optional oblique Case. Following Belletti, I assume that a transitive verb assigns either accusative Case or oblique Case. The accusative Case is assigned to a definite object NP; while the oblique Case is assigned to an indefinite object NP. There is a Double Oblique Case Constraint underlying the Chinese VP structure. Problems of postverbal two constituents caused by Duration and Frequency NPs are explained with the proposed Case system. The relationship between definiteness and Case system may raise new questions to structural and inherent Case within the framework of Minimalism.

I have settled an issue of VP in Chinese in a way which offers support for Huang's decompositional approach to verb phrases. The combination of the proposed Case system with the Chinese VP structure may shed new light on some empirical

problems which have long existed in the literature.

Notes:

1. The indefinite NP incorporates into the higher verb and the reduplication of the verb is necessary to avoid a DOCC violation. However, the incorporation and the verb reduplication is optional for a transitive verb followed by a definite object NP and a D/F NP, a resultative or a descriptive expression. For example, the following sequence is allowed:

i. ta qi napi ma qi-le santian.

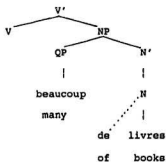
he ride that-CL horse ride-ASP three days

'He rode the horse for three days.'

In this case, even though there is no DOCC violation, verb reduplication is also allowed.

2. D/F NPs may be connected with the following object NP by a particle de. I will assume that this is inserted by a transformation rule like that which introduces de in French NPs like i. (Milner, 1978).

i.



3. DOCC does not affect the sentence with inherent Cases assigned by ditransitive verbs:

- i. Ta gei-le xuesheng henduo shu.
 he give-ASP student-Dat many book-Obl
 'He gave many books to some students.'

The sentence is grammatical though at LF, there are adjacent in-situ NPs realized by the inherent Cases borne by both the indirect object and the direct object. Under this circumstance, DOCC cannot apply. However, if we assume that the verb incorporates with the indirect object and the complex verb assigns two kinds of Cases to the direct object according to the definiteness of the NP, the complexity can be avoided. In this way, a ditransitive verb only assigns two associated Cases to the direct object. It is unnecessary to assign Case to the incorporated indirect object. Therefore, the modified version of DOCC is safe, too.

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